SMK

CONSULTANTS

surveying – irrigation – environmental – planning

ENVIRONMENTAL ASSESSMENT
Flora and Fauna

"STRATHEDEN PROJECT"

777 and 815 Manilla Road, Tamworth NSW 2340

March 2024

SMK

CONSULTANTS

surveying – irrigation – environmental – planning

ABN 63 061 919 003

DOCUMENT CONTROL

Project Name	*Environmental Assessment – Flora and Fauna Impacts*
Proponent	Bath Stewart Associates
Project Reference	18/231
Report Number	18/231 – Preliminary Constraints Assessment
Prepared for	Gerard Maher C/- Bath Stewart Associates 239 Marius Street Tamworth, NSW 2340 Contact: David Lord david@bathstewart.com.au
Prepared by	SMK Consultants 39 Frome Street Moree, NSW 2400
Contact	Peter Taylor Ph: (02) 6752 1021 E: ptaylor@smk.com.au

Author	
Name *Position* *Company*	*Peter Taylor* Peter Taylor BSc MEIANZ CIAg LAA Environment & Resource Consultant SMK Consultants

Revision History			
Version Number	Date	Authority	Details
0	January 2019	Peter Taylor	Initial Issue
1	November 2022	Peter Taylor	Additional Land included
2	March 2024	Peter Taylor	Additional land included

TABLE OF CONTENTS

1. Introduction

1.1 Development Background

SMK Consultants were engaged by Bath Stewart Associates to undertake a range of assessments associated with the development of land associated with the property of Stratheden, 777 and 783 Manilla Road in Oxley Vale. The following provides a list of Lots included in the proposed development footprint.

Table 1: Land included in this investigation.

Lot	Deposited Plan
1, 2, & Part 3	997767
341	622077
12	245544
3 & 5	209387
Part Lot 4	212658
Part Lot 708	1252037
Part 3	DP212658
777	1158251

The development proposal involves a re-zoning of part of the properties associated with the above Lots. The land is located on the northern edge of Tamworth along the Manilla road and is within surrounding areas of rural residential and primary production land. A locality plan of the development site is presented in Figure 1.

Figure 1: Locality Plan

1.2 Scope and Purpose of Investigation

The scope of this report is to assess the environmental impact of the proposal in relation to flora and fauna.

This assessment can then be utilised to plan the development in a format that will consider the environment as part of the development process in accordance with appropriate legislation. In this case, the most relevant legislation is the Biodiversity Conservation Act 2016. The principles of this Act involve a process that follows the following steps:

- Avoid the loss of biodiversity if the project can be developed so that no native habitat is lost;
- Minimise the loss of biodiversity if some native vegetation is to be cleared or removed;
- Provide biodiversity offsets in the form of like for like native vegetation if the loss of biodiversity is considered significant, by a process of establishing an area of land to be conserved in perpetuity to offset the loss of biodiversity.

1.3 Landuse history

The Stratheden project area has been historically cleared and farmed for grazing and production of a range of crops. Records and advice from the Client and farm management indicated that clearing for agricultural purposes occurred prior to 1990. The 1976 aerial image show that most of the land was cleared and farmed.

Clearing involved removal of most trees and all ground cover for the purpose of cultivation. Selected mature trees were retained and additional tree corridors have been planted around the boundaries and within the land.

Cultivation and production of a range of crops for hay, cereals and grazing pastures is undertaken on a rotational basis.

The eastern more elevated section of the original Stratheden area supports a range of planted pasture species and common weeds associated with intensive grazing of horses. Stratheden has an extended history of horse breeding which commenced some 50-years ago. Part of the facilities in this eastern section of the property include a shed and stable complex for breeding and horse management. Paddocks around these sheds have been fenced into small paddocks to support the breeding enterprise.

Operation of the horse stud has included seasonal sowing of various crops such as oats and improved grasses to maintain pasture production to provide for the horses. The regularity of sowing is dependent on soil moisture and the number of horses held on the farm. During periods where a lot of horses have been kept on the farm, the sown pasture has degraded and fodder is supplemented with hay imported onto the property or grown in the lower western paddocks which can be irrigated. When opportunities to sow new pastures and crops occur (soil moisture is available), the paddocks have been cultivated and cropped to replace the degraded pasture.

The lower part of Stratheden which is outside of the area subject to the development proposal, has access to groundwater and the Peel River for irrigation water. A system of below ground pipes has been installed for spray irrigation across most of the property. This water also supplies stock water for the horse and cattle enterprise.

The property at 783 Manilla Road appears to have extended through to the river at some stage. An old irrigation pipe line is present on this property which is now contained within Lot 777 DP1158251. The land is now utilised for pasture production and residential use. The pasture supports several horses. Two mature Eucalypts have been retained within the house paddock. The remainder of the property has been planted with a range of native and non-native species as part of the garden and a northern windrow.

The property at 777 Manilla Road remains subject to cultivation for production of hay as well as cereal crops. Approximately 15 isolated Eucalypts remain on the property. Ground cover beneath these tree includes some native species. Farm crops and weeds have invaded some of these area.

1.4 Development Footprint

Figure 1 provides an aerial image with a preliminary subdivision layout included on the plan.

The development footprint is advised to be above flood levels along the Peel River to enable construction of houses out of flooded areas.

The northern half of the development has been occupied by a horse enterprise which commenced in the early 70's. The paddocks were cleared prior to the horse production. The farm is now divided into many smaller paddocks for horse breeding.

A range of trees were planted in the paddocks for shade purposes. The driveway to the Stratheden house was planted with a line of trees for landscaping purposes. Over time, the southern fence line of 815 Manilla Road was planted with rows of trees to reduce the visual impact of adjoining landuse (cultivation) on the adjacent horse paddocks which were being used for mothers and foals.

The southern part of the development consists of part of Lot 708 in DP1252037 and Lot 777 DP1158251 . Lot 708 consists of a farm that includes dryland cultivation for production of hay and cereal. The lower western part of Lot 708 is partly irrigated by a centre pivot and also includes dryland farming. It contains a few remnant paddock trees which have grown since the original clearing. The watercourse corridor along the Peel River has been retained with its native vegetation. Lot 708 includes a grassed waterway to carry overland flow from upslope land and some contour banks for erosion control purposes within the dryland cultivation paddocks. The land is cropped on a seasonal basis.

Lot 777 is presently utilised for a residence. This includes an extensive garden supporting mainly lawn species and non-native shrubs. The western section of this property has an area of approximately 2.5 hectares which is utilised for grazing of horses. The 2022 aerial image shows that the property also supported what appears to be a trotting track which remains visible in 2024. The paddock also contained a small motocross type track. This land formed part of the farming operation associated with the adjoining land as it still contains an irrigation line and hydrant outlets.

The proposed development will aim to preserve all trees that have been planted in addition to the isolated paddock trees. Some of the tree corridors will be disturbed to allow for road construction.

1.5 Existing Vegetation

Stratheden (815 Manilla Road) supports a range of ground cover including summer grass (*Digitaria sanguinalis*), safflower thistle (*Carthamus tinctorius*), variegated thistle (*Silybum marianum*), mallow (*Malva Parviflora*) and Paterson's curse (*Echium plantagineum*). Other

species were present but too desiccated for identification. The following image shows a typical paddock that is cultivated and supporting a sown pasture.

Figure 2: Typical vegetation after planting of pastures without herbicide control of non-grazing species.

A row of trees has been planted through a natural depression across this paddock. Trees include *E. blakelyi* and *E. leucoxylon.* These have been planted to stabilise a waterway generated as a result of water flowing down Browns Lane.

Lucerne and oats provide the dominant groundcover which is planted and managed for pasture production. The trees to the immediate east of the hay shed located in the centre of Stratheden are remnant isolated paddock trees and greater than 50-years in age. These trees have been identified as E. *blakelyi* and *E. camaldulensis.* These trees have hollows with signs of habitat. Galah have been observed to nest in the few hollows available in these trees. No tracks or scats were present to indicate the presence of possums or gliders.

The Stratheden homestead area and horse stables support a planted garden with a row of planted trees along the driveway to Manilla Road. Trees include Ironbark, Pepperina and Silky Oak. Ground cover varies from mown lawn species where irrigation is occurring through to similar ground cover as described above in the adjoining paddocks.

Figure 3: Landscaped driveway entrance to Stratheden homestead.

Vegetation around the Stratheden horse stables varies considerably. The area is mown and maintained as part of the landscaping associated with the homestead and shed complex. The area receives more water and therefore supports a range of species not present in the paddocks.

Tree corridors have been planted along the northern, eastern and southern boundary of the Stratheden to provide a visual buffer for horses. The trees include a range of eucalypts, pepperina, cedar and other decorative trees. Some are native to the area.

Figure 4: Planted tree buffer along southern perimeter of study area.

Lot 708 is managed as an active cultivation farm. Infrastructure on the property includes a range of hay, machinery and storage sheds. Ground cover is managed by cultivation as well as herbicide application. The use of herbicides is limited as a result of the proximity of adjoining residential development which presents a risk if spray drift occurs.

Figure 5: Southern section of Lot 708 with centre pivot and hay shed in background.

The paddocks are utilised for a range of crops through rotations. The dominant crops include a mix of rye grass and lucerne which is grown for the purpose of hay production in the summer. Crop rotations include cereal for production of both grain and hay.

The land at 783 Manilla Road supports a mix of pastures in the western section of the land. Two mature trees remain within this paddock. The area has an extended history of cropping and therefore a mix of non-native species dominate the paddock. The paddock is heavily grazed by horses.

Figure 6: Horse paddock at 783 Manilla Road.

Figure 7: Residence at 783 Manilla Road.

The residence at 783 Manilla Road has an extended garden area which is landscaped and mown. The property does not have an extensive lawn watering system other than an AWTS system is utilised for watering of the lawn on the western side of the house.

The northern boundary supports a planted tree line. This is dominated by Ironbark species.

2. Flora and Fauna Legislative Context

2.1 Statutory Review of Existing Landuse

The Biodiversity Conservation Act 2016 (BCA) regulates the protection of flora, fauna and ecological communities and aims to achieve no net loss of biodiversity in NSW. This is the governing legislation that defines the steps to be followed when clearing native vegetation in NSW. It should be noted that clearing includes the removal of any native vegetation by various means.

The BC Act applies to developments that require development consent under the Environment Planning and Assessment Act.

Rural land is also subject to the Local Land Service Act (LLS Act) and Regulation. This Act and Regulation includes a range of provisions for:

- Allowable activities;
- Code-based clearing; and
- Clearing that requires approval by the Native Vegetation Panel and/or Local Land Services (LLS).

The LLS Act defines different land categories as follows:

- Category 1 – exempt land; and
- Category 2 – regulated land.

Category 1 land is defined as follows under Part 5A of the LLS Act:

1) *Land is to be designated as category 1-exempt land if the Environment Agency Head reasonably believes that:*
    a) *the land was cleared of native vegetation as of 1 January 1990, or*
    b) *the land was lawfully cleared of native vegetation between 1 January 1990 and the commencement of this Part.*
2) *Land is to be designated as category 1-exempt land if the Environment Agency Head reasonably believes that:*
    a) *the land contains low conservation value grasslands, or*
    b) *the land contains native vegetation that was identified as regrowth in a property vegetation plan referred to in section 9 (2) (b) of the Native Vegetation Act 2003, or*
    c) *the land is of a kind prescribed by the regulations as category 1-exempt land.*

It is noted that aerial imagery shows that the Stratheden Project area has been lawfully cleared prior to 1990 and has been subjected to ongoing regular disturbance in the form of cropping, grazing and pasture management since the 70's. Given the extent of the disturbance to the site, it is considered that most of the site is consistent with Category 1 – exempt land, being low conservation value grasslands.

Advice provided by the NSW Office of Environment and Heritage (OEH) states that:

"Clearing of native vegetation on land that meets the definition of Category 1 land (under the Local Land Service Act) does not require assessment or offsetting under the Biodiversity Assessment Method (under the Biodiversity Conservation Act 2016). In practice, this means that native vegetation on Category 1 land is not included in any area clearing calculations when deciding whether a biodiversity development assessment report should be prepared.

"A development on Category 1 land may involve other biodiversity impacts for which a biodiversity development assessment report will still be required:

- *the development will have a prescribed impact on land mapped on the biodiversity values map (prescribed impacts are listed in clause 6.1 of the Biodiversity Conservation Regulation 2017), not including native vegetation clearing associated with the prescribed impact;*

- *a test of significance finds that a significant impact on threatened species, ecological communities or their habitats is likely to result from the proposed development." (OEH 2018).*

Under the BCA, three triggers for a BDAR have been established. These include the following:

1. Is there native vegetation clearing or a prescribed biodiversity impact on land mapped on the Biodiversity Values Map, or
2. Does the clearing of native vegetation exceed the area threshold, or
3. Is it likely to significantly affect threatened species, ecological habitats or the habitats, according to the threatened species test of significance (5-part test)

The proposed development will involve further disturbance of farmed paddocks and potentially a small number of planted trees which form part of the landscaping on the property which will be required to construct works associated for development of the site.

Disturbance of this site constitutes an activity requiring development consent under the Environmental Planning and Assessment Act 1979 and will therefore be considered under the BC Act to determine whether the disturbance to the site triggers a requirement for a Biodiversity Development Assessment Report (BDAR).

2.2 Preliminary Assessment under the BC Act

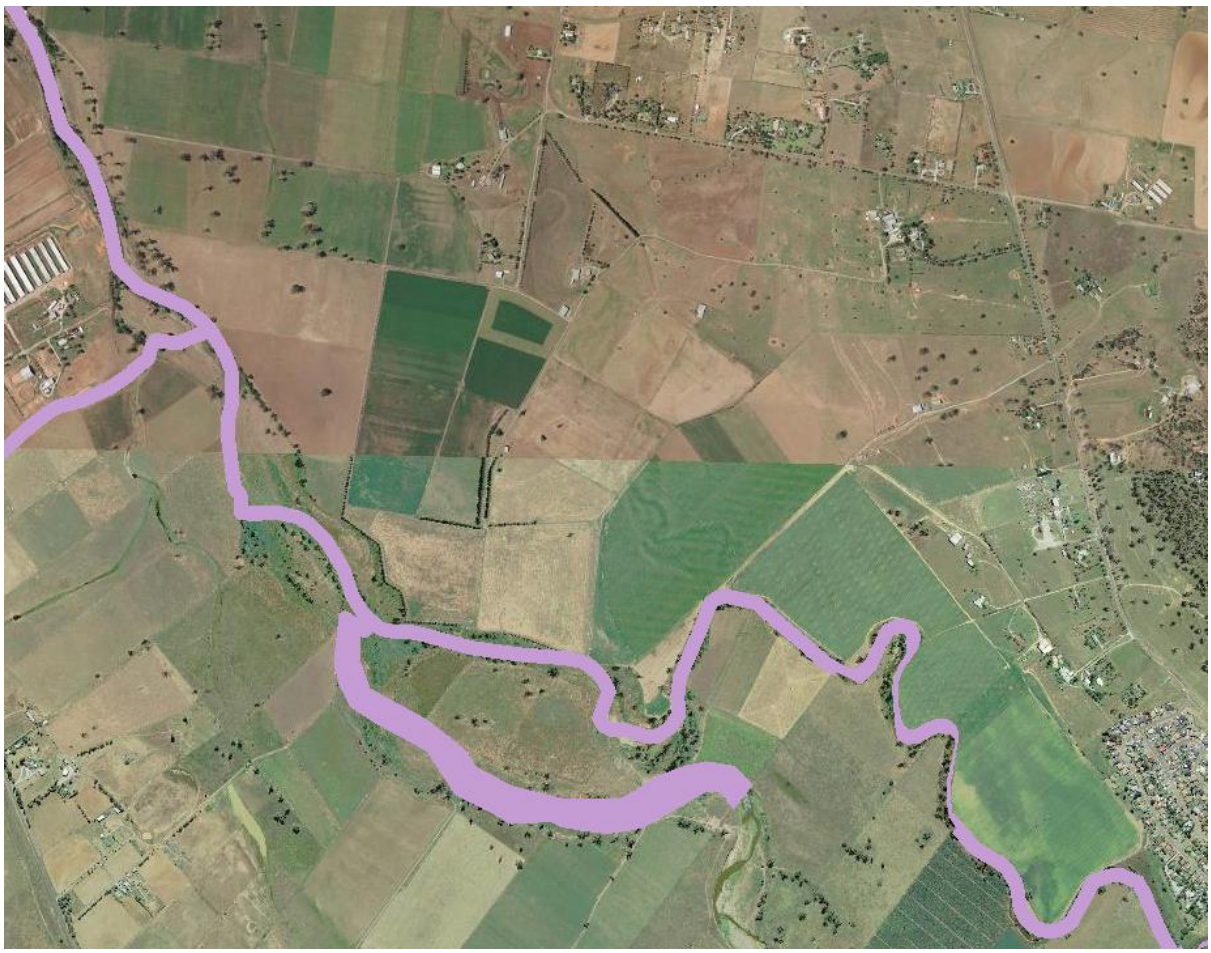
The BCA and guidelines aid in preliminary assessment of a proposed development to determine whether the development triggers various thresholds and provisions within the BCA. The initial step in this process involves determining whether the proposal triggers a requirement for a BDAR and/or exceeds minimum clearing thresholds. These preliminary assessments relate to the clearing of land under the assigned categories.

2.2.1 Biodiversity Values Map

The Biodiversity Values Map is an online tool which shows areas of high biodiversity values. This map was reviewed on several occasions to assess the presence of high value areas. A biodiversity values map was generated on 1 April 2024 to assess current high value area mapping. The BMAT is presented in appendix 1 of this report. The purpose of the map is to determine whether any areas of high biodiversity value are present within the area o subdivision. The land does not include any areas of high value biodiversity. The only area of high biodiversity value is the Peel River corridor.

The following image provides an aerial image from the Biodiversity Values Map showing the purple colour outlining the areas of high biodiversity value. The proposed development will not extend into this area. No other watercourses or gullies are located within the development that are considered to have high biodiversity value.

Figure 8: Excerpt from Biodiversity Values Map



2.2.2 Biodiversity assessment and approvals navigator

The Office of Local Government developed the Biodiversity assessment and approvals navigator which is an online tool to determine the appropriate pathway for determining the level of assessment required under the BCA. This tool was used to assess the proposed development on Stratheden project. The results of this assessment are presented in appendix 2.

The land to be impacted by the development proposal is cultivated land subjected to seasonal cropping. This seasonal cropping has been occurring prior to 1990 and therefore the cultivated land retains an existing use right for ongoing cultivation and production of a range of crops. These crops may include native and non-native species. The crops can be ploughed out or harvested at any stage by the landowner and the land can be returned to bare cultivation by either spray application of herbicides or physically cultivated. The land is managed for cropping and not native vegetation.

2.2.3 Biodiversity Offset Scheme Thresholds (BOS)

The BOS Threshold outlines the maximum area of land supporting native vegetation which may be cleared without requiring a more detailed assessment and calculation of offset habitat and species credits through a Biodiversity Development Assessment Report (BDAR). The BOS is based on the minimum lot size of the land in question.

The lot was assessed using the online BOS Entry Tool, which determines whether the proposed area of native vegetation to be cleared exceeds clearing area thresholds. The following excerpt from Guidelines presents the BOS thresholds.

As outlined in the BOSET report presented in appendix 1, the native vegetation clearing threshold for this area is at present 1 Hectare. This is based on a minimum lot size of 40,000 hectares.

Based on the BCA, a BDAR is not required on the basis that the land to be disturbed in cropping land supporting a range of cultivated crops used for pasture and cereal production. The whole area had been previously cleared and is now used for seasonal cultivation.

The retained native vegetation on this property consists of isolated Eucalypts. These are to be retained. Fence line tree plantings have been undertaken. These include some natives. These trees are to be retained other than minor clearing for road crossings.

The only remnant areas of native vegetation that is not subject to regular cultivation and production of managed crops is a long the Peel River. The Peel River corridor is outside of the footprint of the proposed development. No clearing along this corridor is involved in the project and as the corridor is significant, many other provisions in a range of legislation would prevent clearing of this corridor.

2.2.4 Test of Significance

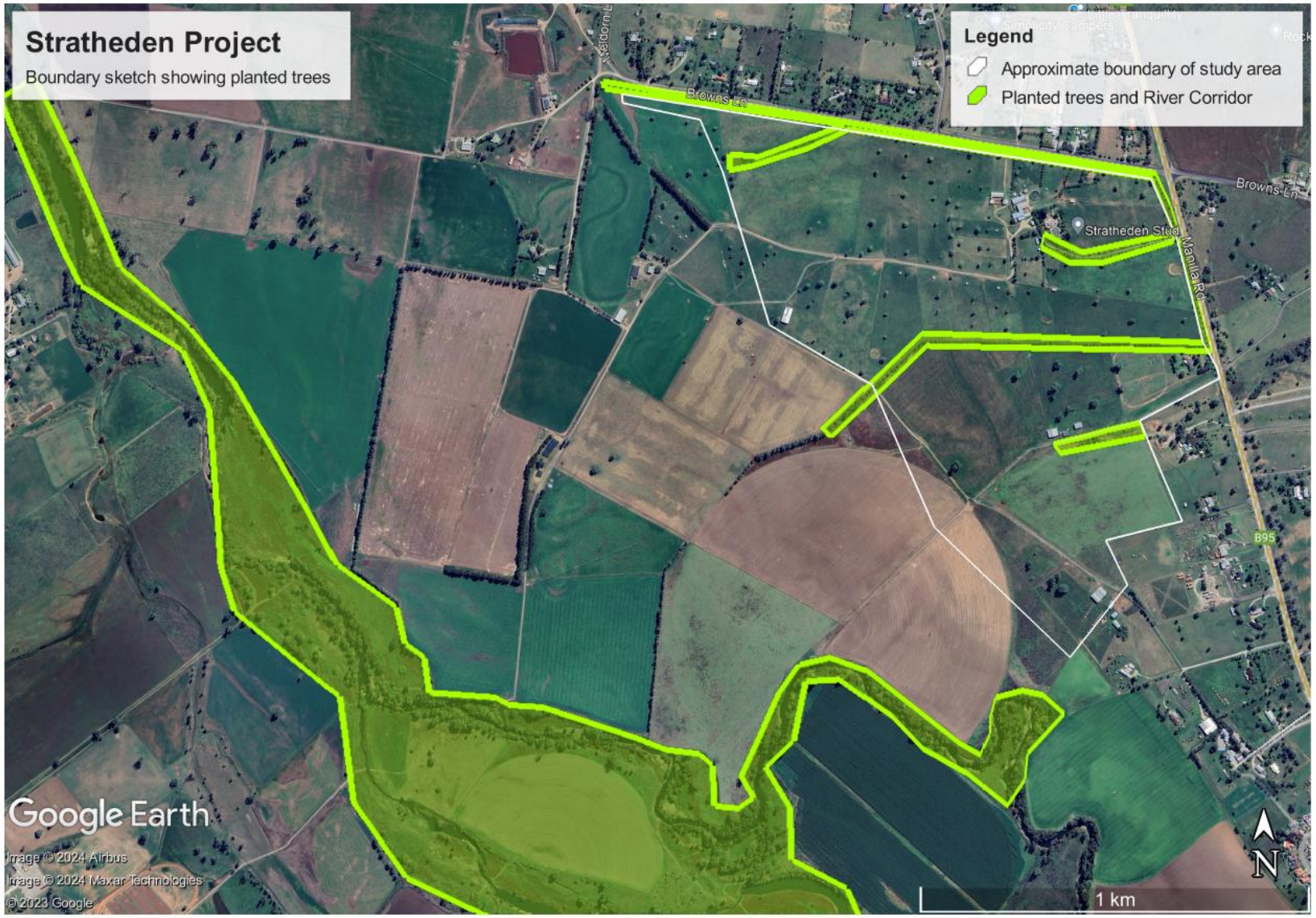
When it is determined that the proposed development will not exceed the limitations presented in the above two questions referred to as the BOS entry requirements under the BCA, the statutory process involves determining whether the ground disturbance required for the proposed development is “likely to significantly affect threatened species”. The aim of this test is to determine whether the development is considered to exceed an acceptable impact under the test presented in section 7.3 of the BC Act. If a development is considered “likely to significantly affect threatened species” under the BCA, then a Biodiversity Development Assessment Report (BDAR) is required.

Several searches of the NSW BioNet database were undertaken for this report to identify threatened species and ecological communities which are predicted to be present within the region. The result of these searches, including comments on identified species and an assessment of their potential to be present at the site is presented in Annexure 1. The list includes a range of threatened species that are likely to be present on the property. The assessment includes some ground truthing of flora species and assessment of potential for fauna species to utilise the available habitat.

The 5-part test presented in appendix 3 indicates that the land supports vegetation that is cropped and managed for the purpose of crop production on a regular basis. The presence of native vegetation is limited to fence lines and planted species. The planted species in the form of tree lines planted for landscaping purposes will be retained where possible. Further disturbance to this land that would be associated with development of a subdivision is not considered to be an action that would significantly impact threatened species.

The following plan provides a 2022 aerial image (Google Earth) of the project area. The boundary of the project is sketched only. The mapping shows the Peel River corridor which is outside of the footprint. Isolated paddock trees that have mostly been planted are visible. The tree corridors along fence line which will be partly retained are also visible. This reflects the current status of cropping within the project area.

Figure 9: 2023 Aerial mapping showing native vegetation, planted corridors and cultivation land.



2.3 EPBC Act – Federal legislation

The Environment Protection and Biodiversity Conservation Act 1999 (the EPBC Act) is the Australian Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places defined in the EPBC Act as Matters of National Environmental Significance (MNES). Some of the species and communities are common with NSW protection measures but some are not. For a development proposal, matters under the EPBC Act must also be considered in relation to protection of species and communities.

The EPBC Act provides guidelines for a self-assessment process to determine whether a development needs referral to the Federal Department of Environment and Energy.

A search of the data base under the EPBC Act for MNES includes a list of species and communities that may be present on the property. These MNES have been assessed in accordance with the 'Assessment of Significance' guidelines outlined under the EPBC Act.

The assessment process has been simplified through a series of questions. The assessment is presented in appendix 4.

The assessment has determined that the development does not pose a significant threat to any MNES, and therefore that referral under this Act is not required.

2.4 State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 4 of the *SEPP (Biodiversity and Conservation) 2021* applies to land within each local government area listed in Schedule 2 of the SEPP, with certain exceptions such as land zoned RU1 – Primary Production or land dedicated or reserved under the *National Parks and Wildlife Act 1974*, for example. The Tamworth Regional LGA is included in this schedule, and none of the exceptions listed apply to the site. The proposal is therefore to be assessed pursuant to Chapter 4 of the SEPP.

Clause 4.9 of the SEPP sets out the development assessment process where the proposal has an area of more than 1 Hectare and no approved Koala plan of management has been prepared for the land. These conditions apply to the current proposal.

An excerpt is provided below:

3) *If the council is satisfied that the development is likely to have low or no impact on koalas or koala habitat, the council may grant consent to the development application;*
4) *If the council is satisfied that the development is likely to have a higher level of impact on koalas or koala habitat, the council must, in deciding whether to grant consent to the development application, take into account a koala assessment report for the development;*
5) *However, despite subsections (3) and (4), the council may grant development consent if the applicant provides to the council—*
   (a) information, prepared by a suitably qualified and experienced person, the council is satisfied demonstrates that the land subject of the development application—
      (i) does not include any trees belonging to the koala use tree species listed in Schedule 3 for the relevant koala management area, or
      (ii) is not core koala habitat, or
   (b) information the council is satisfied demonstrates that the land subject of the development application—

(i) does not include any trees with a diameter at breast height over bark of more than 10 centimetres, or
(ii) includes only horticultural or agricultural plantations.

The SEPP provides the following definitions:

- ***Core Koala Habitat*** *means*:
  a) an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable koala habitat and where koalas are recorded as being present at the time of assessment of the land as highly suitable koala habitat, or
  b) an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable koala habitat and where koalas have been recorded as being present in the previous 18 years.
- ***Koala Habitat*** means koala habitat however described in a plan of management under this Chapter or a former Koala SEPP and includes core koala habitat.

If the development site is determined to contain core koala habitat, then a plan of management must be prepared to protect koalas from impacts associated with the development.

This species is discussed in the following section.

3. Flora and Fauna Assessment

3.1 Site Environmental Characteristics

3.1.1 IBRA Bioregions and Subregions

The site is located within the Peel Subregion of the Nandewar Bioregion. A summary of the subregion is provided by the Office of Environment and Heritage (2016) and is outlined in the following table.

Table 2: Peel Subregion of the Nandewar Bioregion (OEH 2016)

Characteristics	Description
Geology	Fine grained Silurian to Devonian sedimentary rocks. Strongly folded and faulted with marked northwest alignment. Areas of sub-horizontal Carboniferous shales and sandstones in the north. Limited areas of basalt cap from the Nandewar and Liverpool Ranges are included. Linear outcrops of serpentinite and scattered bodies of limestone.
Landforms	Low peaked hills with north-westerly alignment. Basalt caps of dissected flows, moderate slopes and flat river valleys with alluvium. Karst landscapes in limestone.
Typical Soils	Shallow stony soils on ridges. Texture contrast soils on almost all slopes shifting in colour from red brown on upper slopes to yellow on lower slopes. Black earths on basalt. Dark, alkaline, pedal clays on limestone. Serpentinites have shallow stony profiles with concentrations of elements that are toxic to many plants. Alluvial loams and clays with moderate to high fertility in alluvium.
Vegetation	White box grassy woodlands, with yellow box and Blakely's red gum on lower slopes. Rough-barked apple and yellow box on flats. River oak and some river red gum along major streams. Patches of red stringybark and red ironbark on steeper slopes in the east. Silver-leaved ironbark on basalt caps, white cypress pine and kurrajong on stony areas in the west and north. Very large grass trees on serpentinite.

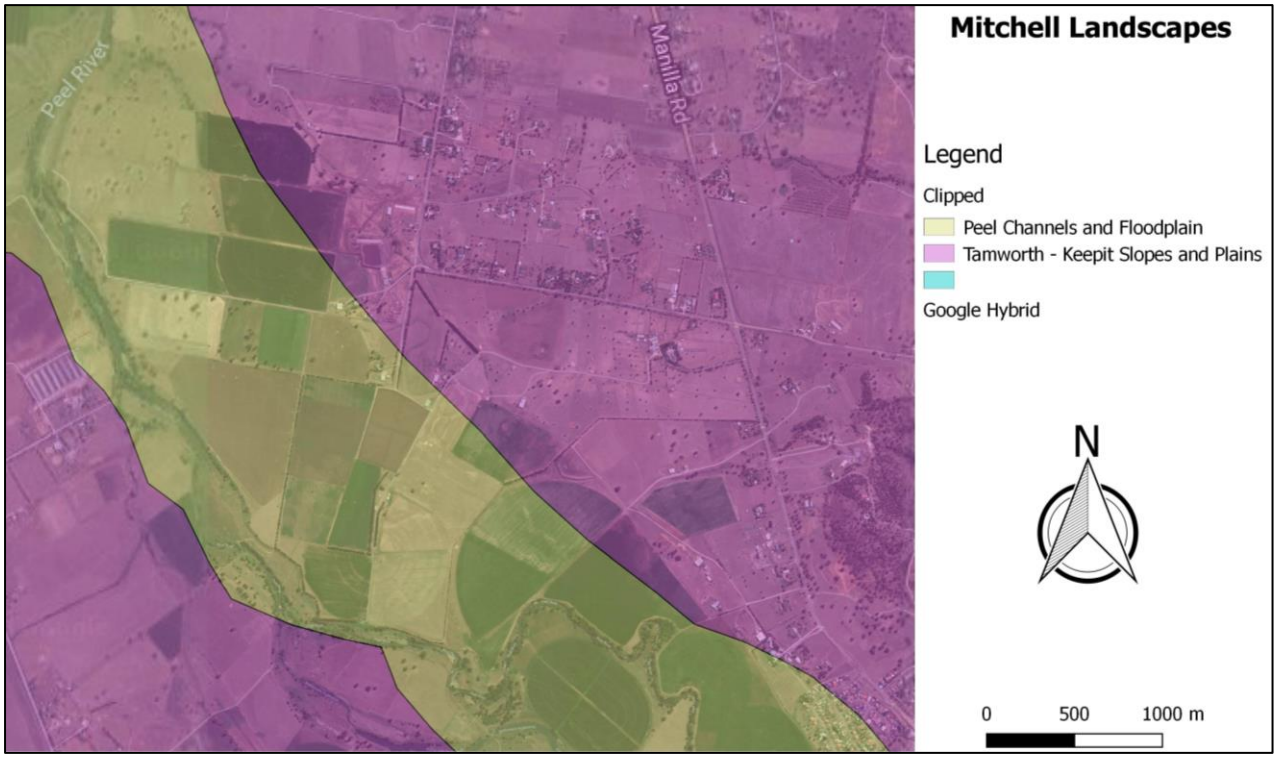
3.1.2 Mitchell Landscape Classification

The Mitchell Landscapes is a data layer derived from a range of input data including land system descriptions, geological mapping and Digital Elevation Models. The descriptions aim to categorise and identify the dominant landscape types across NSW. The Mitchell Landscapes data is used for a variety of purposes by the Office of Environment and Heritage, such as for the determination of over-cleared landscapes.

Mapping of Mitchell Landscapes indicates that the site is located wholly within the Tamworth – Keepit Slopes and Plains land system. The description of this land system is as follows (DECC 2002):

> "*Extensive area of undulating to rolling slopes and plains with low hills and low ranges forming the western fall of the New England plateau. Complex geology of folded and faulted sedimentary and metamorphic rocks with minor interbedded volcanics. Rock types include; Silurian-Devonian chert, slate, phyllite, tuff, schist and Carboniferous conglomerate, sandstone, mudstone, andesite and small areas of limestone. General elevation 500 to 800m, local relief 250m, with some peaks reaching 1100m. Shallow stony soils on ridges. Texture-contrast soils on almost all slopes shifting in colour from red-brown on upper slopes to yellow with harsh subsoils prone to gully development on lower slopes. White box (Eucalyptus albens) grassy woodlands, with yellow box (Eucalyptus melliodora), Blakely's red gum (Eucalyptus blakelyi), cooba (Acacia salicina) and lightwood (Acacia implexa) on lower slopes. Rough barked apple (Angophora floribunda) and yellow box (Eucalyptus melliodora) on flats. River oak (Casuarina cunninghamiana) along major streams with river red gum (Eucalyptus camaldulensis) increasing to the west. Patches of red stringybark (Eucalyptus macrorhyncha) and red ironbark (Eucalyptus sideroxylon) on steeper slopes in the east*."

Figure 10: Mitchell Landscapes Mapping



3.1.3 Threatened Flora and Fauna

A search of threatened flora, fauna and ecological communities with potential to be present using the BioNet online search tool identified a total of 100 threatened species and 9 threatened ecological communities listed under the BC Act 2016. A list of identified threatened species and communities, and associated descriptions, is included in Annexure 1. Approximately 18 of these listed species may utilise or inhabit on the property.

The dominant natural ecological community across the local area is White box Yellow box Blakely's Red Gum woodland, which is a critically endangered ecological community in NSW. This community covers extensive areas in the region but has mostly been cleared for land developed for residential purposes in the Tamworth region. The community has been extensively cleared in areas suitable for cropping. Rural residential development has retained some areas. Small acreage farms in the local areas retain degraded areas of this community as they occupy old farming/grazing land. The subject land has been farmed for an extensive period and therefore this woodland has been removed for the purpose of farming activity. It may have supported this community prior to selective clearing for grazing some 80-years ago or more.

This community includes a diverse range of species which vary in their presence or absence. On Stratheden project area, the community has been cleared and property is developed for cultivation of crops and pasture. Only a few isolated paddock trees remain from the natural woodland. A range of introduced species of trees have been planted in corridors along the boundary fence line areas. Ground cover is limited to cropped cereals and pasture species within the study area in addition to lawn areas that are located near the horse stables and homestead area. The paddocks cannot be defined as White Box Yellow Box Blakely's red gum woodland in its present state. If the paddocks are left undisturbed for a period of more than 4-years, some native species would return and therefore the characterisation of the cultivated paddocks would potentially change from non-native vegetation to degraded native vegetation. As the region is dominated by Grassy White Box Yellow Box Blakely's Red Gum woodland, many species from this community may re-establish in the paddocks.

3.1.4 Koala

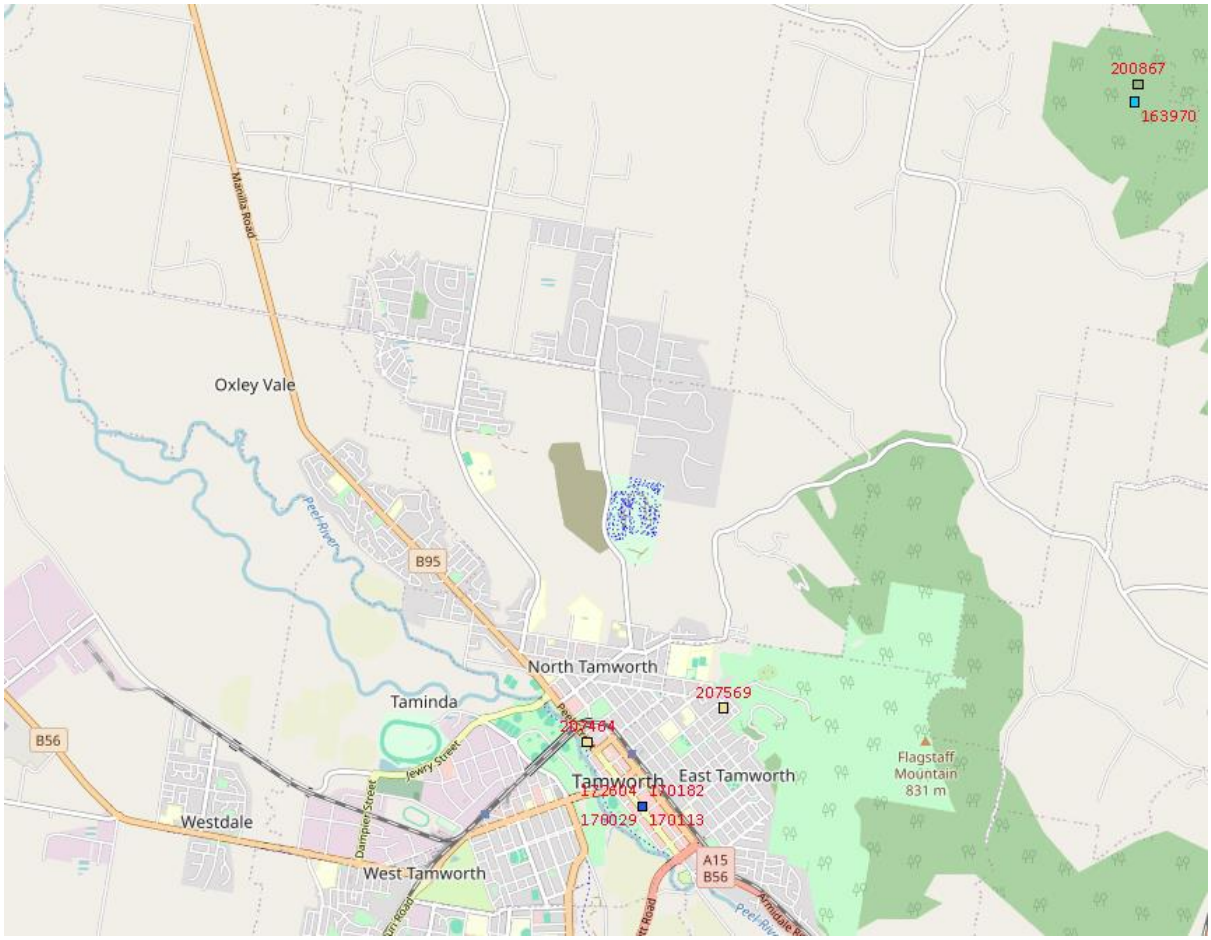
SEPP (Biodiversity and Conservation) 2021 requires that the site be assessed for the presence of Koala. The Tamworth Regional Council area was searched for known records of koalas in the Shire. A map of Koala sightings is presented in the following image obtained from the Bionet mapping tool.

Historical Koala records are indicated by red triangles. Results indicate that koalas are known to be present within the region; however, a low density of records around the vicinity of the development site indicates that the locality is unlikely to support a known important population of koalas.

Figure 11 shows the Koala records north of Tamworth and south of Moore Creek around the proposed development. Records show several sightings in Tamworth and other sightings to the east of the proposed development. No sightings or records show Koala present within the development area.

The reason for this lack of sightings would relate to the availability of suitable habitat. The subject area is mostly cleared and cultivated, thus providing minimal habitat for Koala.

Figure 11: Locations of known Koala Records



A search of the property did not identify any individual Koala or signs of regular habitation such as scats, tracks or scratches on trees that have been left by Koala. Local observation indicated that the species is not common or observed on a regular basis. Some feed tree species are present within the property and therefore the development area is considered to have some potential Koala habitat if Koala can access these isolated paddock trees. No woodland corridor is present to assist this process. The separation distance between trees would not encourage the presence of Koala.

The Peel River corridor may offer a Koala migration corridor. Land to the east of this property in the range associated with Mount Daruka, may support a Koala corridor. This is approximately 6 km or more to the east and the land between is highly developed for rural residential and hobby farms.

In a legislative context, the number of scheduled feed tree species is considered less than 15% of the total tree number.

The absence of Koala on the property and the lack of suitable feed tree species indicates that the property is not considered as potential Koala habitat. The development of the land will therefore not trigger further assessment requirements under SEPP (Biodiversity and Conservation) 2021.

4. Discussion of Clearing Impacts

The Project development area has been cleared for farming purposes. The whole area remains subjected to ongoing cultivation and farming of crops and improved pasture. This has

occurred for a period of 50-years or more. The proposed development will be contained within these cultivated paddocks. The development may involve complete clearing of the remaining ground cover and replacement of such with lawns and landscaped areas associated with residential type development. Only small areas may be retained for preservation and potentially allowed to be remediated back to native species along kerbside areas and parks.

The development will therefore involve a potential return of some native species which have been removed as a result of historical landuse.

Some potential is available to retain the original native mature trees on the property if they are not deemed to be of danger to the intended landuse. The trees are old and have been subject to damage from storms due to their isolation in the open paddocks. The value of the hollows in these trees should be considered; however, field investigations indicated that the hollows are more commonly utilised by common species such as galah rather than threatened species. Some seasonal variations may occur that may allow seasonal inhabitation by microbats. However, the landscape in its present form is not considered preferable for possum or gliders due to the separation distance between trees being a barrier to such species.

The tree corridors planted around the property would provide some value as migratory paths for specific species that are unable to move across the open paddocks.

In relation to overall development of the property, it is recommended that the development is planned around the principles of avoiding clearing of isolated paddock trees and planted trees lines with the objective of:

- Retaining existing mature native trees;
- Retain tree corridors through the subdivision area to enable safe passage of native fauna if they enter the area once development is undertaken.
- Plant parkland with native species in preference to non-native to provide some habitat for fauna.

5. Conclusion

This report presents an investigation of project area which is to be rezoned to allow closer residential development. The overall landuse will change from cultivated paddocks to residential development.

The current landuse within the project footprint involves seasonal cultivation of a range of crops for production of pasture, hay and cereals. The land is fully developed for cultivation with some areas retained isolated paddock trees and some planted tree corridors. The cultivation paddocks may seasonally contain some native species, but these are generally classified as weeds and either sprayed out using selective herbicides or cultivated for production of crops.

The subject area does not include any areas of retained native habitat which provides natural foraging areas for native fauna. Local native fauna when present, target the cropped species as a foraging area.

Two main biodiversity assessments are included with this assessment. The 5-Part test undertaken under the provisions of the BCA indicates a non-significant impact for the development. The test associated with the EPBC Act indicates that the project will not include significant impact on matters of National environmental significance.

In summary, the project area contain land that has been cultivated for 50-years or more and continues to be managed for this purpose. The impact of developing this area for potentially close residential development is not considered a significant impact on the region's Biodiversity or cause any significant loss of native vegetation and native habitat. The development area is not considered to support any significant native habitat value in its current landuse and condition.

Appendix 1: Biodiversity Values Map

NSW GOVERNMENT Department of Planning and Environment

Biodiversity Values Map and Threshold Report

This report is generated using the Biodiversity Values Map and Threshold (BMAT) tool. The BMAT tool is used by proponents to supply evidence to your local council to determine whether or not a Biodiversity Development Assessment Report (BDAR) is required under the Biodiversity Conservation Regulation 2017 (Cl. 7.2 & 7.3).

The report provides results for the proposed development footprint area identified by the user and displayed within the blue boundary on the map.

There are two pathways for determining whether a BDAR is required for the proposed development:

1. Is there Biodiversity Values Mapping?
2. Is the 'clearing of native vegetation area threshold' exceeded?

Biodiversity Values Map and Threshold Report

Date of Report Generation		01/04/2024 11:08 AM
1. Biodiversity Values (BV) Map - Results Summary (Biodiversity Conservation Regulation Section 7.3)		
1.1	**Does the development Footprint intersect with BV mapping?**	no
1.2	**Was ALL BV Mapping within the development footprinted added in the last 90 days?** (dark purple mapping only, no light purple mapping present)	no
1.3	**Date of expiry of dark purple 90 day mapping**	N/A
1.4	**Is the Biodiversity Values Map threshold exceeded?**	no
2. Area Clearing Threshold - Results Summary (Biodiversity Conservation Regulation Section 7.2)		
2.1	**Size of the development or clearing footprint**	753.9 sqm
2.2	**Native Vegetation Area Clearing Estimate (NVACE)** (within development/clearing footprint)	133.0 sqm
2.3	**Method for determining Minimum Lot Size**	LEP
2.4	**Minimum Lot Size** (10,000sqm = 1ha)	400,000 sqm
2.5	**Area Clearing Threshold** (10,000sqm = 1ha)	10,000 sqm
2.6	**Does the estimate exceed the Area Clearing Threshold?** (NVACE results are an estimate and can be reviewed using the Guidance)	no
REPORT RESULT: Is the Biodiversity Offset Scheme (BOS) Threshold exceeded for the proposed development footprint area? (Your local council will determine if a BDAR is required)		**no**

Page 1 of 4

NSW GOVERNMENT Department of Planning and Environment

What do I do with this report?

• If the result above indicates the BOS Threshold has been exceeded, your local council **may require** a Biodiversity Development Assessment Report with your development application. Seek further advice from Council. An accredited assessor can apply the Biodiversity Assessment Method and prepare a BDAR for you. For a list of accredited assessors go to: https://customer.lmbc.nsw.gov.au/assessment/AccreditedAssessor.

• If the result above indicates the BOS Threshold has not been exceeded, you may not require a Biodiversity Development Assessment Report. This BMAT report can be provided to Council to support your development application. Council can advise how the area clearing threshold results should be considered. Council will review these results and make a determination if a BDAR is required. Council may ask you to review the area clearing threshold results. You may also be required to assess whether the development is "'likely to significantly affect threatened species" as determined under the test in Section 7.3 of the *Biodiversity Conservation Act 2016*.

• If a BDAR is not required by Council, you may still require a permit to clear vegetation from your local council.

• If **all** Biodiversity Values mapping within your development footprint was less than 90 days old, i.e. areas are displayed as dark purple on the BV map, a BDAR may not be required if your Development Application is submitted within that 90 day period. Any BV mapping less than 90 days old on this report will expire on the date provided in Line item 1.3 above.

For more detailed advice about actions required, refer to the **Interpreting the evaluation report** section of the Biodiversity Values Map Threshold Tool User Guide .

Review Options:

• If you believe the Biodiversity Values mapping is incorrect please refer to our BV Map Review webpage for further information.

• If you or Council disagree with the area clearing threshold estimate results from the NVACE in Line Item 2.6 above (i.e. area of Native Vegetation within the Development footprint proposed to be cleared), review the results using the Guide for reviewing area clearing threshold results from the BMAT Tool.

Acknowledgement

I, as the applicant for this development, submit that I have correctly depicted the area that will be impacted or likely to be impacted as a result of the proposed development.

Signature: _____ Date: _____

(Typing your name in the signature field will be considered as your signature for the purposes of this form)

01/04/2024 11:08 AM

Page 2 of 4

NSW GOVERNMENT Department of Planning and Environment

Biodiversity Values Map and Threshold Tool

The Biodiversity Values (BV) Map and Threshold Tool identifies land with high biodiversity value, particularly sensitive to impacts from development and clearing.

The BV map forms part of the Biodiversity Offsets Scheme threshold, which is one of the factors for determining whether the Scheme applies to a clearing or development proposal. You have used the Threshold Tool in the map viewer to generate this BV Threshold Report for your nominated area. This report calculates results for your proposed development footprint and indicates whether Council may require you to engage an accredited assessor to prepare a Biodiversity Development Assessment Report (BDAR) for your development.

This report may be used as evidence for development applications submitted to councils. You may also use this report when considering native vegetation clearing under the State Environmental Planning Policy (Biodiversity and Conservation) 2021 - Chapter 2 vegetation in non-rural areas.

What's new? For more information about the latest updates to the Biodiversity Values Map and Threshold Tool go to the updates section on the Biodiversity Values Map webpage.

Map Review: Landholders can request a review of the BV Map where they consider there is an error in the mapping on their property. For more information about the map review process and an application form for a review go to the Biodiversity Values Map Review webpage.

If you need help using this map tool see our Biodiversity Values Map and Threshold Tool User Guide or contact the Map Review Team at map.review@environment.nsw.gov.au or on 1800 001 490.

Page 3 of 4

Biodiversity Values Map

123.0 0 61.48 123.0 Metres

WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

Legend

- Biodiversity Values that have been mapped for more than 90 days
- Biodiversity Values added within last 90 days
- Native Vegetation Area Clearing Estimate (NVACE)
- Development area selected by proponent

01/04/2024 11:08 AM

The results provided in this tool are generated using the best available mapping and knowledge of species habitat requirements.

This map is valid as at the date the report was generated. Checking the Biodiversity Values Map viewer for mapping updates is recommended.

Page 4 of 4

Appendix 2: Biodiversity Assessment and Approvals Navigator

Thank you for using the Biodiversity Assessment and Approvals Navigator. The Biodiversity Assessment and Approvals Decision Support tool assists in navigating the land management and biodiversity conservation framework to figure out which approvals apply to your vegetation clearing.

Please find, below, a copy of the information supplied using the navigator from the OLG website.

Question 1 – Are you carrying out a development that requires development consent from a council (under Part 4 of the Environmental Planning and Assessment Act 1979)?
Yes
Question 6a – Is your proposed development fulfilling the purpose of a subdivision that was approved prior to 25 August 2017 in a R1 to R4, RU5, B1 to B8 or IN1 to IN3 zone?
No
Question 6b – Will any part of your proposed development take place on land included on the Biodiversity Values Map? Note: The “parts” of a proposed development includes any land required for buildings, landscaping, access roads, bushfire asset protection zones, fencing and any associated infrastructure whether temporary or permanent.
No
Question 7a – Will your proposed development involve clearing native vegetation (not including ‘Category 1’ land under the Local Land Services Act 2013) in excess of the area clearing thresholds?
No
Question 8 – Is your proposed development likely to significantly affect threatened species or ecological communities, or their habitats, or being carried out in a declared area of outstanding biodiversity value?
No
Note
You do not need to obtain a Biodiversity Development Assessment Report to submit with your development application. The consent authority (which may be your local council) will consider whether to grant development consent. Your application of the test under section 7.3 of the Biodiversity Conservation Act 2016 and evidence that your proposal does not trigger the offset scheme threshold must be included with your development application.

Appendix 3: Test of Significance

NSW Biodiversity Act 2016 – Test of Significance

Development Background

The proposed development involves a rezoning of the property Stratheden and adjoining land for the purpose of smaller lot subdivision. If the rezoning is permitted, most of the ground within the rezoned area will be subject to clearing and disturbance for construction of roads, houses, and other infrastructure. The vegetation on the property at present would mostly be removed. The proposal development will aim to retain isolated paddock trees and planted fenceline corridors. These are to be incorporated within the subdivision to enhance the landscape in preference to undertaking a clearing and replacement process for trees within a new subdivision.

Inspection of the property identified that the potential area of development has been farmed for production of fodder since the early 70's when horse breeding and production of dryland cereal cropping commenced. All paddocks within the development area continue to be cultivated and cropped to improve fodder production and cereal cropping. Horses are noted to eat most of the ground cover in drier times, leaving bare ground. Management of the horse paddocks involved cultivation and replanting of a range of crops to maintain a ground cover in the paddocks.

The horse paddocks contain isolated paddock trees consisting of a mix of Eucalypts including *E. camaldulensis, E. melliodora* and *E. blakelyi* which are native to the area and possibly *E. leucoxylon*. A review of aerial imagery indicates that the E. leucoxylon has been planted in rows within the fenced horse paddocks. Tree corridors consisting of a range of non-native and native species to the region have been planted around the boundary of the properties to provide a visual barrier for the high value horses that have been bred on the property over the past 50-years.

In summary, landuse of the subject area continues for cropping purposes resulting in the seasonal removal of all native ground cover.

Description of Clearing Impacts

The potential development on this site will involve construction of roads and house pads with Lot sizes may eventually be reduced to 400 square metres or less. If this occurs, most of the ground cover will be removed and replaced with landscaped gardens. Where possible, the existing mature trees will be retained as part of the development proposal. Clearing for this work would involve disturbance of the cultivated grasses and forbs. The intent is however to preserve the majority of existing mature trees and surrounding tree buffers which are present within the proposed development footprint.

Data Base Searches for Flora and Fauna Species

A search of the National Parks and Wildlife Atlas of NSW Wildlife (BioNet) identified the following species with recorded sightings within a 10km radius of the proposed development (Table 1).

The project site is located with the Peel subregion of the Nandewar Bioregion. A broader search for species, populations and communities that may occur within the locality of the development site was therefore conducted through investigating known and predicted species' distributions within the Nandewar Bioregion (Peel subregion). A copy of the search results for listed species is presented in Table 2.

Table 3: Species predicted to occur in the Vicinity of the Proposed Development Site

Scientific Name	Common Name	BC Act Legal Status	EPBC Act Legal Status
Falco subniger	Black Falcon	Vulnerable	
Glossopsitta pusilla	Little Lorikeet	Vulnerable	
Artamus cyanopterus cyanopterus	Dusky Woodswallow	Vulnerable	
Stagonopleura guttata	Diamond Firetail	Vulnerable	
Phascolarctos cinereus	Koala	Endangered	Endangered
Pteropus poliocephalus	Grey-headed Flying-fox	Vulnerable	Vulnerable
Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	Vulnerable	
Falsistrellus tasmaniensis	Eastern False Pipistrelle	Vulnerable	
Miniopterus orianae oceanensis	Large Bent-winged Bat	Vulnerable	
Eucalyptus nicholii	Narrow-leaved Black Peppermint	Vulnerable	Vulnerable
Dichanthium setosum	Bluegrass	Vulnerable	Vulnerable

Table 4: Assessment of Threatened Species Identified by NSW Bionet Database

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
Aves					
Alectura lathami Australian Brush-turkey	BC Act - E	Largely coastal distribution from Cape York south as far as the Illawarra in NSW. Occurs in forested and wooded areas of tropical and warm-temperate districts, particularly above 300 m to at least 1200 m altitude. Usually prefers dry rainforest that is found within the Semi-evergreen Vine Thicket.	251	**Low** The subject site is outside of the species' range and there is no suitable habitat for the species within the subject site - the subject site is therefore not considered important habitat.	No
Anseranas semipalmata Magpie Goose	BC Act - V	The Magpie Goose is still relatively common in the Australian northern tropics, and since the 1980s there have been an increasing number of records in central and northern NSW. The species is mainly found in shallow wetlands (less than 1 m deep) with dense growth of rushes or sedges. Activities are centred on wetlands, mainly those on floodplains of rivers and large shallow wetlands formed by run-off.	K	**Unlikely** The subject site does not contain suitable habitat for this species.	No
Oxyura australis Blue-billed Duck	BC Act - V	The Blue-billed Duck is endemic to south-eastern and south-western Australia. It is widespread in NSW, but most common in the southern Murray-Darling Basin area. 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.	1	**Unlikely** The subject site does not contain suitable habitat for this species.	No
Stictonetta naevosa Freckled Duck	BC Act - V	It breeds in large temporary swamps created by floods in the Bulloo and Lake Eyre basins and the Murray-Darling system, particularly along the Paroo and Lachlan Rivers,	K	**Unlikely** The subject site does not contain suitable habitat for this species.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
		and other rivers within the Riverina. The duck is forced to disperse during extensive inland droughts when wetlands in the Murray River basin provide important habitat. The species prefers permanent freshwater swamps and creeks with heavy growth of Cumbungi, Lignum or Tea-tree. During drier times they move from ephemeral breeding swamps to more permanent waters such as lakes, reservoirs, farm dams and sewage ponds.			
Ephippiorhynchus asiaticus Black-necked Stork	BC Act - E	Black-necked Storks are widespread in coastal and subcoastal northern and eastern Australia, as far south as central NSW. Floodplain wetlands (swamps, billabongs, watercourses and dams) of the major coastal rivers are the key habitat in NSW for the Black-necked Stork. Secondary habitat includes minor floodplains, coastal sandplain wetlands and estuaries.	1	**Unlikely** The subject site does not contain suitable habitat for this species.	No
Botaurus poiciloptilus Australasian Bittern	BC Act - E	Australasian Bitterns are widespread but uncommon over south-eastern Australia. In NSW they may be found over most of the state except for the far north-west. The species favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes (*Typha* spp.) and spikerushes (*Eleocharis* spp.).	K	**Unlikely** There is no suitable habitat for the species in the subject site.	No
Circus assimilis Spotted Harrier	BC Act - V	In New South Wales, this species is widespread from coast to inland, including the western slopes of the Great Dividing Range and farther west. It is sparsely scattered in, or largely absent from, much of the Upper Western region. Primarily inhabits woodlands and dry open sclerophyll forests, usually dominated by eucalypts, including mallee associations. It has also been recorded in shrublands and heathlands and various modified habitats, including regenerating forests; very	14	**Moderate** This species may hunt within the grassland on the subject site.	Yes

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
		occasionally in moist forests or rainforests. Generally, the understorey is open with sparse eucalypt saplings, acacias and other shrubs, including heath.			
Haliaeetus leucogaster White-bellied Sea-Eagle	BC Act - V	The White-bellied Sea-eagle is distributed around the Australian coastline, including Tasmania, and well inland along rivers and wetlands of the Murray Darling Basin. In New South Wales it is widespread along the east coast, and along all major inland rivers and waterways. Habitats are characterised by the presence of large areas of open water including larger rivers, swamps, lakes, and the sea.	7	**Unlikely** The subject site does not contain suitable habitat for this species.	No
Hamirostra melanosternon Black-breasted Buzzard	BC Act - V	The Black-breasted Buzzard is found sparsely in areas of less than 500mm rainfall. The species lives in a range of inland habitats, especially along timbered watercourses which is the preferred breeding habitat. It also hunts over grasslands and sparsely timbered woodlands.	K	**Low** The site is considered unsuitable due to higher rainfall levels than that with which the species is associated. Mean annual rainfall in the locality exceeds 638.5mm (1992-2022). (BOM Station 055325).	No
Hieraaetus morphnoides Little Eagle	BC Act - V	The Little Eagle is found throughout the Australian mainland. Occupies open eucalypt forest, woodland or open woodland. Sheoak or Acacia woodlands and riparian woodlands of interior NSW are also used. Nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter.	61	**Moderate** Potential foraging habitat is available within the subject site.	Yes
Lophoictinia isura Square-tailed Kite	BC Act - V	In NSW, the species is a regular resident in the north, north-east and along the major west-flowing river systems. Found in a variety of timbered habitats including dry woodlands and open forests. Is a specialist hunter of passerines, especially honeyeaters, and most particularly nestlings, and insects in the tree	7	**Moderate** Given its large home range, this species may hunt in grassland on the subject site.	Yes

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
		canopy, picking most prey items from the outer foliage. Appears to occupy large hunting ranges of more than 100km.			
Pandion cristatus Eastern Osprey	BC Act - V	Eastern Ospreys are a coastal species and feeds on fish over clear, open water. They are common around the northern coast, especially on rocky shorelines, islands and reefs. There are a handful of records from inland areas.	1	**Low** The subject site is outside of the species' range.	No
Falco subniger Black Falcon	BC Act - V	The Black Falcon is widely, but sparsely, distributed in New South Wales, mostly occurring in inland regions. In New South Wales there is assumed to be a single population that is continuous with a broader continental population, given that falcons are highly mobile, commonly travelling hundreds of kilometres.	12	**Moderate** Given its large home range, this species may hunt in grassland on the subject site.	Yes
Grus rubicunda Brolga	BC Act - V	Though Brolgas often feed in dry grassland or ploughed paddocks or even desert claypans, they are dependent on wetlands too, especially shallow swamps, where they will forage with their head entirely submerged.	P	**Unlikely** The species is dependent on wetlands, and there is no such habitat in the subject site.	No
Burhinus grallarius Bush Stone-curlew	BC Act - E	The Bush Stone-curlew is found throughout Australia except for the central southern coast and inland, the far south-east corner, and Tasmania. Inhabits open forests and woodlands with a sparse grassy ground layer and fallen timber. The species feeds on insects and small vertebrates, such as frogs, lizards and snakes.	2	**Low** There is no suitable habitat for this species within the subject site and it is therefore not considered important for the species.	No
Irediparra gallinacea Comb-crested Jacana	BC Act - V	The Comb-crested Jacana occurs on freshwater wetlands in northern and eastern Australia, mainly in coastal and subcoastal regions. The species inhabits permanent freshwater wetlands, either still or slow-flowing, with a good surface cover of floating vegetation, especially water-lilies, or fringing and aquatic vegetation.	1	**Unlikely** Comb-crested Jacana is a wetland species, and there are no wetlands within the subject site.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
Rostratula australis Australian Painted Snipe	BC Act - E	The Australian Painted Snipe's preferred habitat is the fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber. In NSW many records are from the Murray-Darling Basin including the Paroo wetlands, Lake Cowal, Macquarie Marshes, Fivebough Swamp and more recently, swamps near Balldale and Wanganella.	1	**Unlikely** This is a wetland species, and there is no suitable habitat for the species in the subject site.	No
Limosa limosa Black-tailed Godwit	BC Act - V	This species is primarily a coastal species. In NSW, the species is most frequently recorded at Kooragang Island (Hunter River estuary), with occasional records elsewhere along the coast and inland. Inland, the species is typically found on mudflats and in water less than 10 cm deep, around muddy lakes and swamps.	P	**Low** Black-tailed Godwit is a coastal species. The subject site is therefore not within this species' range.	No
Callocephalon fimbriatum Gang-gang Cockatoo	BC Act - V	The Gang-gang Cockatoo is distributed from southern Victoria through south- and central-eastern New South Wales. In New South Wales, the Gang-gang Cockatoo is distributed from the south-east coast to the Hunter region, and inland to the Central Tablelands and south-west slopes. The species is found in tall mountain forests and woodlands in spring/summer, particularly in mature wet sclerophyll forests. It moves to lower altitudes in drier more open eucalypt forests and woodlands, particularly box-gum and box-ironbark assemblages.	K	**Low** There is no suitable habitat within the subject site for the species. The subject site predominantly consists of cleared habitat, with a few scattered trees.	No
Calyptorhynchus lathami Glossy Black-Cockatoo	BC Act - V	Inhabits open forest and woodlands of the coast and the Great Dividing Range where stands of sheoak occur. Black Sheoak and Forest Sheoak are important foods. Inland populations feed on a wide range of sheoak. Belah is also utilised and may be a critical food source for some populations. Feeds almost exclusively on the seeds of several species of she-oak (Casuarina and	2	**Low** There is no suitable habitat within the subject site for the species and it is therefore not considered important habitat for the Glossy Black-Cockatoo. No Sheoak was recorded	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
		Allocasuarina species), shredding the cones with the massive bill. Dependent on large hollow-bearing eucalypts for nest sites.		on the subject site or in the study area.	
Glossopsitta pusilla Little Lorikeet	BC Act - V	NSW provides a large portion of the species' core habitat, with lorikeets found westward as far as Dubbo and Albury. Nomadic movements are common, influenced by season and food availability, although some areas retain residents for much of the year and 'locally nomadic' movements are suspected of breeding pairs. 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 higher soil fertility and hence greater productivity. Isolated flowering trees in open country, e.g. paddocks, roadside remnants and urban trees also help sustain viable populations of the species.	384	**Moderate** Potential habitat available. Hollows available in the older trees within the paddocks.	Yes
Lathamus discolor Swift Parrot	BC Act - E	In NSW the species mostly occurs on the coast and south west slopes. On the mainland they occur in areas where eucalypts are flowering profusely or where there is abundant lerp (from sap-sucking bugs) infestations. Favoured feed trees include winter flowering species such as Swamp Mahogany *Eucalyptus robusta*, Spotted Gum *Corymbia maculata*, Red Bloodwood *C. gummifera*, Forest Red Gum *E. tereticornis*, Mugga Ironbark E. *sideroxylon*, and White Box *E. albens*.	15	**Moderate** The presence of flowering eucalypts provides potential habitat for this species.	Yes
Neophema pulchella Turquoise Parrot	BC Act - V	Lives on the edges of eucalypt woodland adjoining clearings, timbered ridges and creeks in farmland. Prefers to feed in the shade of a tree and spends most of	428	**Moderate** Potential foraging habitat may be available within the subject site.	Yes

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
		the day on the ground searching for the seeds or grasses and herbaceous plants or browsing on vegetable matter. Nests in tree hollows, logs or posts, from August to December.			
Ninox connivens Barking Owl	BC Act - V	This species occurs in a wide but sparse distribution in NSW. Core populations exist on the western slopes and plains and in some northeast coastal and escarpment forests. Many populations crashed as woodland on fertile soils was cleared over the past century, leaving linear riparian strips of remnant trees as the last inhabitable areas. It also inhabits woodland and open forest, including fragmented remnants and partly cleared farmland.	10	**Moderate** Potential foraging habitat may be available within the subject site.	Yes
Ninox strenua Powerful Owl	BC Act - V	In NSW, the Powerful Owl is widely distributed throughout the eastern forests from the coast inland to tablelands, with scattered records on the western slopes and plains suggesting occupancy prior to land clearing. The Powerful Owl inhabits a range of vegetation types, from woodland and open sclerophyll forest to tall open wet forest and rainforest. The species requires large tracts of forest or woodland habitat but can occur in fragmented landscapes as well.	6	**Moderate** Potential foraging habitat may be available within the subject site.	Yes
Tyto novaehollandiae Masked Owl	BC Act - V	The distribution of this species extends from the coast where it is most abundant to the western plains. Overall records for this species fall within approximately 90% of NSW, excluding the most arid north-western corner. Its habitat consists of dry eucalypt forests and woodlands from sea level to 1100m. While it is a forest owl, it often hunts along the edges of forests, including roadsides.	14	**Moderate** Potential foraging habitat may be available within the subject site.	Yes

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
Tyto tenebricosa Sooty Owl	BC Act - V	The Sooty Owl occupies the easternmost one-eighth of NSW, occurring on the coast, coastal escarpment and eastern tablelands. Its habitat consists of rainforest, including dry rainforest, subtropical and warm temperate rainforest, as well as moist eucalypt forests.	1	**Low** No suitable habitat for the species within the subject site.	No
Climacteris picumnus victoriae Brown Treecreeper (eastern subspecies)	BC Act - V	The Brown Treecreeper is endemic to eastern Australia and occurs in eucalypt forests and woodlands of inland plains and slopes of the Great Dividing Range. Found in eucalypt woodlands (including Box-Gum Woodland) and dry open forest of the inland slopes and plains inland of the Great Dividing Range; mainly inhabits woodlands dominated by stringybarks or other rough-barked eucalypts, usually with an open grassy understorey, sometimes with one or more shrub species. When foraging in trees and on the ground, they peck and probe for insects, mostly ants, amongst the litter, tussocks and fallen timber, and along trunks and lateral branches. Hollows in standing dead or live trees and tree stumps are essential for nesting.	568	**Low** No preferred habitat is present.	No
Chthonicola sagittata Speckled Warbler	BC Act - V	The Speckled Warbler has a patchy distribution throughout the eastern half of NSW. There has been a decline in population density throughout its range, with the decline exceeding 40% where no vegetation remnants larger than 100ha survive. Typical habitat would include scattered native tussock grasses, a sparse shrub layer, some eucalypt regrowth and an open canopy. The diet consists of seeds and insects, with most foraging taking place on the ground around tussocks and under bushes and trees. The rounded, domed, roughly built nest of dry grass and strips of bark is located in a	508	**Low** The subject site is not considered important habitat for the species, given that key habitat characteristics required by the species (such as the presence of native tussock grasses, a sparse shrub layer) are absent from the subject site.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
		slight hollow in the ground or the base of a low dense plant, often among fallen branches and other litter.			
Anthochaera phrygia Regent Honeyeater	BC Act - E	The Regent Honeyeater mainly inhabits temperate woodlands and open forests of the inland slopes of south-east Australia. There are only three known key breeding regions remaining: north-east Victoria (Chiltern-Albury), and in NSW at Capertee Valley and the Bundarra-Barraba region. In NSW the distribution is very patchy and mainly confined to the two main breeding areas and surrounding fragmented woodlands. 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.	149	**Unlikely** There is no woodland or forest habitat with a high abundance and species richness of birds within the subject site; it is therefore unlikely that Regent Honeyeater would utilise the subject site.	No
Epthianura albifrons White-fronted Chat	BC Act - V	In NSW, it occurs mostly in the southern half of the state, in damp open habitats along the coast, and near waterways in the western part of the state. Along the coastline, it is found predominantly in saltmarsh vegetation but also in open grasslands and sometimes in low shrubs bordering wetland areas. The species is gregarious and is usually found foraging on bare or grassy ground in wetland areas, singly or in pairs.	4	**Low** The subject site is outside of the species range and does not contain suitable habitat for the species.	No
Grantiella picta Painted Honeyeater	BC Act - V	The Painted Honeyeater is nomadic and occurs at low densities throughout its range. The greatest concentrations of the bird and almost all breeding occurs on the inland slopes of the Great Dividing Range in NSW, Victoria and southern Queensland. Inhabits Boree/ Weeping Myall (*Acacia pendula*), Brigalow (*A. harpophylla*) and Box-Gum Woodlands and Box-	6	**Low** The subject site is not considered important habitat for the species due to a paucity of suitable habitat. The species is a specialist feeder of mistletoe fruits, which are absent from the subject site.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
		Ironbark Forests. A specialist feeder on the fruits of mistletoes growing on woodland eucalypts and acacias. Prefers mistletoes of the genus *Amyema*.			
Melithreptus gularis gularis Black-chinned Honeyeater (eastern subspecies)	BC Act - V	The Black-chinned Honeyeater has two subspecies, with only the nominate (*gularis*) occurring in NSW where it is widespread, with records from the tablelands and western slopes of the Great Dividing Range to the north-west and central-west plains and the Riverina. Occupies mostly upper levels of drier open forests or woodlands dominated by box and ironbark eucalypts. Feeding territories are large making the species locally nomadic. Recent studies have found that the Black-chinned Honeyeater tends to occur in the largest woodland patches in the landscape as birds forage over large home ranges of at least 5 hectares.	107	**Low** No preferred habitat is present.	No
Pomatostomus temporalis temporalis Grey-crowned Babbler (eastern subspecies)	BC Act - V	In NSW, the eastern sub-species occurs on the western slopes of the Great Dividing Range, and on the western plains reaching as far as Louth and Balranald. Inhabits open Box-Gum Woodlands on the slopes, and Box-Cypress-pine and open Box Woodlands on alluvial plains. Woodlands on fertile soils in coastal regions. Feed on invertebrates, either by foraging on the trunks and branches of eucalypts and other woodland trees or on the ground, digging and probing amongst litter and tussock grasses.	150	**Moderate** Potential foraging habitat may be available within the subject site.	Yes
Daphoenositta chrysoptera Varied Sittella	BC Act - V	Inhabits eucalypt forests and woodlands, especially rough-barked species and mature smooth-barked gums with dead branches, mallee and Acacia woodland. Feeds on arthropods gleaned from crevices in rough or	107	**Moderate** Potential foraging habitat may be available within the subject site.	Yes

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
		decorticating bark, dead branches, standing dead trees, and from small branches and twigs in the tree canopy.			
Pachycephala olivacea Olive Whistler	BC Act - V	The Olive Whistler inhabits the wet forests on the ranges (above 500m) of the east coast. It has a disjunct distribution in NSW chiefly occupying the beech forests around Barrington Tops and the MacPherson Ranges in the north and wet forests from Illawarra south to Victoria.	P	**Unlikely** No suitable habitat for the species within the subject site.	No
Artamus cyanopterus cyanopterus Dusky Woodswallow	BC Act - V	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 ground-cover of grasses or sedges and fallen woody debris. Primarily eats invertebrates, mainly insects, which are captured whilst hovering or sallying above the canopy or over water. Most breeding activity occurs on the western slopes of the Great Dividing Range.	281	**Low** The subject site does not contain suitable foraging habitat required to support this species and is therefore not considered important habitat for the species.	No
Melanodryas cucullata cucullata Hooded Robin (south-eastern form)	BC Act - V	The south-eastern form (subspecies *cucullata*) is found from Brisbane to Adelaide and throughout much of inland NSW, with the exception of the extreme north-west, where it is replaced by subspecies *picata*. Two other subspecies occur outside NSW. Requires structurally diverse habitats featuring mature eucalypts, saplings, some small shrubs and a ground layer of moderately tall native grasses.	105	**Low** No habitat with sufficient structural diversity is present.	No
Petroica boodang Scarlet Robin	BC Act - V	In NSW, it occurs from the coast to the inland slopes. The Scarlet Robin lives in dry eucalypt forests and woodlands. The understorey is usually open and grassy with few scattered shrubs. This species lives in both mature and regrowth vegetation. Scarlet Robin	21	**Low** The subject site is not considered important habitat due to a paucity of suitable habitat.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
		habitat usually contains abundant logs and fallen timber: these are important components of its habitat.			
Petroica phoenicea Flame Robin	BC Act - V	In NSW, the Flame Robin breeds in upland areas and in winter, many birds move to the inland slopes and plains to drier, more open habitats. It is likely that there are two separate populations in NSW, one in the Northern Tablelands, and another ranging from the Central to Southern Tablelands. The species breeds in upland tall moist eucalypt forests and woodlands, often on ridges and slopes. It prefers clearings or areas with open understoreys, with a ground layer dominated by native grasses.	1	**Low** The subject site is not considered important habitat for this species as the habitat type is not compatible with the species' ecological requirements.	No
Stagonopleura guttata Diamond Firetail	BC Act - V	Found in grassy eucalypt woodlands, including Box-Gum Woodlands. Also occurs in open forest, mallee, Natural Temperate Grassland, and in secondary grassland derived from other communities. Prefers clearings or areas with open understoreys. Feeds exclusively on the ground, on ripe and partly-ripe grass and herb seeds and green leaves, and on insects. Nests are globular structures built either in the shrubby understorey, or higher up, especially under hawk's or raven's nests. Birds roost in dense shrubs or in smaller nests built especially for roosting.	286	**Low** No preferred habitat is present due to absence of understorey layers.	No
Mammalia					
Dasyurus maculatus Spotted-tailed Quoll	BC Act - V	Recorded across a range of habitat types, including rainforest, open forest, woodland, coastal heath and inland riparian forest, from the sub-alpine zone to the coastline. Individual animals use hollow-bearing trees, fallen logs, small caves, rock outcrops and rocky-cliff faces as den sites. Females occupy home ranges of 200-	48	**Low** The species may travel through or rest within the subject site given its very large home range, however it is not considered important habitat for	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
		500 hectares, while males occupy very large home ranges from 500 to over 4000 hectares.		the species. No potential den sites were observed on the subject site.	
Phascogale tapoatafa Brush-tailed Phascogale	BC Act - V	In NSW the Brush-tailed Phascogale is mainly found east of the Great Dividing Range although there are occasional records west of the divide. This species prefers dry sclerophyll open forest with sparse groundcover of herbs, grasses, shrubs or leaf litter. It also inhabits heath, swamps, rainforest and wet sclerophyll forest.	P	**Low** There are no forests within the subject site. There are only occasional records of the species west of the Great Dividing Range, and the subject site is therefore not considered important habitat for the species.	No
Phascolarctos cinereus Koala	BC Act - V	Inhabit eucalypt woodlands and forests. Feed on the foliage of more than 70 eucalypt species and 30 non-eucalypt species, but in any one area will select preferred browse species. Home range size varies with quality of habitat, ranging from less than two ha to several hundred hectares in size.	156	**Unlikely** While there are some feed tree species present within the subject site, these consist of isolated paddock trees only. The separation distance between trees would not encourage the presence of Koala. The subject site is therefore not considered important habitat for the species.	No
Cercartetus nanus Eastern Pygmy-possum	BC Act - V	In NSW the species range extends from the coast inland as far as the Pilliga, Dubbo, Parkes and Wagga Wagga on the western slopes. Found in a broad range of habitats from rainforest through sclerophyll (including Box-Ironbark) forest and woodland to heath, but in most areas woodlands and heath appear to be preferred, except in north-eastern NSW where they are most frequently encountered in rainforest.	P	**Unlikely** The subject site is not considered to constitute important habitat for the species due to a paucity of habitat. Further, there are no known records of the species within the subject IBRA subregion. The species is therefore not considered in this assessment.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
Petaurus australis Yellow-bellied Glider	BC Act - V	This species of Glider occurs in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. It ranges from the eastern coast to the western slopes of the Great Dividing Range, from southern Queensland to Victoria.	1	**Low** The species is not included in this assessment due to a paucity of suitable habitat within the subject site.	No
Petaurus norfolcensis Squirrel Glider	BC Act - V	Squirrel Gliders inhabit 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. They prefer mixed species stands with a shrub or Acacia midstorey.	123	**Low** Historical clearing has removed suitable habitat from the subject site.	No
Petauroides volans Greater Glider	BC Act – Not listed	The distribution of the Greater Glider includes the ranges and coastal plain of eastern Australia, where it inhabits a variety of eucalypt forests and woodlands. Adult Greater Gliders occupy a relatively small home range with an average size of 1 to 3 ha from which they rarely disperse.	43	**Low** Historical clearing has removed suitable habitat from the subject site.	No
Aepyprymnus rufescens Rufous Bettong	BC Act - V	In NSW, Rufous Bettong has largely vanished from inland areas but there are sporadic, unconfirmed records from the Pilliga and Torrington districts.	P	**Low** The species is not known to occur in the locality of the subject site. The subject site is therefore not considered to provide important habitat for the species.	No
Macropus dorsalis Black-striped Wallaby	BC Act - E	Black-striped Wallaby's preferred habitat is characterised by dense woody or shrubby vegetation within three metres of the ground. This dense vegetation must occur near a more open, grassy area to provide suitable feeding habitat. On the north west-slopes of NSW, the species occurs south of Narrabri and is	334	**Unlikely** The subject site does not have habitat characteristics (dense vegetation) known to support Black-striped Wallaby. The subject site is therefore not considered important habitat for the species.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
		associated with dense vegetation, including brigalow, Ooline and semi-evergreen vine thicket.			
Onychogalea fraenata Bridled Nailtail Wallaby	BC Act - E	The species' range has declined dramatically during the last century; it is currently presumed extinct in NSW and for over 30 years the species was believed to be extinct across its range.	1	**Low** The species is presumed extinct in NSW.	No
Petrogale penicillata Brush-tailed Rock-wallaby	BC Act - E	In NSW, the species occurs from the Queensland border in the north to the Shoalhaven in the south, with the population in the Warrumbungle Ranges being the western limit. Brush-tailed Rock-wallaby occupy rocky escarpments, outcrops and cliffs with a preference for complex structures with fissures, caves and ledges, often facing north.	1	**Unlikely** There is no suitable habitat for the species within the subject site.	No
Pteropus poliocephalus Grey-headed Flying-fox	BC Act - V	Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops. 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.	41	**Unlikely** Unlikely to occur due to lack of free water and forage habitat.	No
Saccolaimus flaviventris Yellow-bellied Sheathtail-bat	BC Act - V	Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. When foraging for insects, flies high and fast over the forest canopy, but lower in more open country. Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory.	87	**Moderate** This species forages in most habitats, and therefore may forage within open areas on the subject site, given the availability of roosting habitat in the site vicinity.	Yes
Micronomus norfolkensis	BC Act - V	The Eastern Freetail-bat is found along the east coast from south Queensland to southern NSW. The species occurs in dry sclerophyll forest, woodland, swamp	1	**Low** The site is not within the species' known range.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
Eastern Coastal Free-tailed Bat		forests and mangrove forests east of the Great Dividing Range.			
Chalinolobus dwyeri Large-eared Pied Bat	BC Act - V	It is generally rare with a very patchy distribution in NSW. There are scattered records from the New England Tablelands and North West Slopes. Roosts in caves (near their entrances), crevices in cliffs, old mine workings and in the disused, bottle-shaped mud nests of the Fairy Martin (*Petrochelidon ariel*), frequenting low to mid-elevation dry open forest and woodland close to these features.	620	**Low** The site is not considered important habitat for the species. No suitable roosting habitat was observed in the vicinity of the subject site.	No
Chalinolobus picatus Little Pied Bat	BC Act - V	Occurs in dry open forest, open woodland, mulga woodlands, chenopod shrublands, cypress pine forest and mallee and Bimbil box woodlands. Roosts in caves, rock outcrops, mine shafts, tunnels, tree hollows and buildings. Feeds on moths and possibly other flying invertebrates.	22	**Moderate** There is potential foraging and roosting (tree hollows) within the subject site. The species is therefore considered in this assessment.	No
Falsistrellus tasmaniensis Eastern False Pipistrelle	BC Act - V	The Eastern False Pipistrelle is found on the south-east coast and ranges of Australia, from southern Queensland to Victoria and Tasmania. It prefers moist habitats, with trees taller than 20 m, and generally roosts in eucalypt hollows.	63	**Moderate** There is potential foraging and roosting (tree hollows) within the subject site. The species is therefore considered in this assessment.	No
Nyctophilus corbeni Corben's Long-eared Bat	BC Act - V	Inhabits a variety of vegetation types, including mallee, bulloak and box eucalypt dominated communities, but it is distinctly more common in box/ironbark/cypress-pine vegetation. Roosts in tree hollows, crevices, and under loose bark. Slow flying agile bat, utilising the understorey to hunt non-flying prey - especially caterpillars and beetles - and will even hunt on the ground.	56	**Moderate** There is potential foraging and roosting (tree hollows) within the subject site. The species is therefore considered in this assessment.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
Scoteanax rueppellii Greater Broad-nosed Bat	BC Act - V	In NSW it is widespread on the New England Tablelands, however, does not occur at altitudes above 500 m. The species utilises a variety of habitats from woodland through to moist and dry eucalypt forest and rainforest, though it is most commonly found in tall wet forest. Although this species usually roosts in tree hollows, it has also been found in buildings.	9	**Unlikely** The preferred habitat for this species (tall, wet forest), is not present in the subject site or in its surrounds. The species is therefore not considered in this assessment.	No
Vespadelus troughtoni Eastern Cave Bat	BC Act - V	The Eastern Cave Bat is found in a broad band on both sides of the Great Dividing Range from Cape York to Kempsey, with records from the New England Tablelands and the upper north coast of NSW. A cave-roosting species that is usually found in dry open forest and woodland, near cliffs or rocky overhangs; has been recorded roosting in disused mine workings, occasionally in colonies of up to 500 individuals.	28	**Low** There is no suitable habitat for the species within the subject site. Additionally, no roosting habitat was recorded in the vicinity of the site. It is therefore not considered important habitat for the species.	No
Miniopterus orianae oceanensis Large Bent-winged Bat	BC Act - V	Caves are the primary roosting habitat for this species, but they also use derelict mines, storm-water tunnels, buildings and other man-made structures. Form discrete populations centred on a maternity cave that is used annually in spring and summer for the birth and rearing of young. At other times of the year, populations disperse within about 300 km range of maternity caves. The species forages in grassland and timbered forest.	333	**Low** The site is not considered important habitat for the species. No suitable roosting habitat was observed in the vicinity of the subject site.	No
Reptilia					
Myuchelys bellii Western Sawshelled Turtle, Bell's Turtle	BC Act - E	The main habitat for this species consists of shallow to deep pools in upper reaches or small tributaries of major rivers in granite country. Occupied pools are most commonly less than 3 m deep with rocky or sandy bottoms and patches of vegetation. Most typically uses narrow stretches of rivers 30 - 40 m wide. Most	P	**Unlikely** There is no suitable habitat for the species in the subject site.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
		surrounding habitat has been converted to grazing land. In NSW, it is currently found in four disjunct populations in the upper reaches of the Namoi, Gwydir and Border Rivers systems, on the escarpment of the North West Slopes.			
Uvidicolus sphyrurus Border Thick-tailed Gecko	BC Act - V	Found only on the tablelands and slopes of northern NSW and southern Queensland, reaching south to Tamworth and west to Moree. As implied by another of its common names (Granite Thick-tailed Gecko), this species often occurs on steep rocky or scree slopes, especially granite. Recent records from basalt and metasediment slopes and flats indicate its habitat selection is broader than formerly thought and may have extended into areas that were cleared for agriculture. Favours forest and woodland areas with boulders, rock slabs, fallen timber and deep leaf litter. Occupied sites often have a dense tree canopy that helps create a sparse understorey.	46	**Unlikely** Cultivated paddocks do not provide suitable habitat for this species.	No
Hoplocephalus bitorquatus Pale-headed Snake	BC Act - V	A patchy distribution from north-east Queensland to the north-eastern quarter of NSW. In NSW it has historically been recorded from as far west as Mungindi and Quambone on the Darling Riverine Plains, across the north west slopes, and from the north coast from Queensland to Sydney. Found mainly in dry eucalypt forests and woodlands, cypress forest and occasionally in rainforest or moist eucalypt forest. In drier environments, it appears to favour habitats close to riparian areas.	P	**Unlikely** The species is not considered likely to occur within the subject site due to a paucity of suitable habitat. It is therefore not considered in this assessment.	No
Amphibia					

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
Adelotus brevis Tusked Frog population in the Nandewar and New England Tableland Bioregions	BC Act – E	Tusked Frogs were once found west to the New England Tableland and North West Slopes (Nandewar bioregion) but are now very rare there, and the population in these regions has been listed as an Endangered Population under the Threatened Species Conservation Act. They remain more common in lower elevation coastal areas. The species occurs in rainforests, wet forests and flooded grassland and pasture. They are usually found near creeks, ditches and ponds, and call while hidden amongst vegetation or debris.	P	**Unlikely** The species is very rare in the locality of the subject site. Furthermore, the site does not contain habitat utilised by the species. Tusked Frog is therefore not considered in this assessment.	No
Litoria booroolongensis Booroolong Frog	BC Act – E	The Booroolong Frog is restricted to NSW and north-eastern Victoria, predominantly along the western-flowing streams of the Great Dividing Range. It has disappeared from much of the Northern Tablelands; however, several populations have recently been recorded in the Namoi catchment. The species is rare throughout most of the remainder of its range. It lives along permanent streams with some fringing vegetation cover such as ferns, sedges or grasses.	1564	**Unlikely** There is no suitable habitat for the species within or in the vicinity of the subject site.	No
Litoria daviesae Davies' Tree Frog	BC Act – V	Davies' Tree Frog occurs as a series of small populations along the eastern escarpment of the Great Divide and adjacent tablelands above 400 m elevation. Its habitat is highly fragmented and restricted to the region from Carrai Plateau to the Barrington Tops area. Davies' Tree Frog occurs in permanent, slow-flowing small streams above 400 m elevation, mostly in the headwaters of eastern-flowing streams (although it does occur in the headwaters of the western-flowing Peel River).	6	**Unlikely** There is no suitable habitat for the species within or in the vicinity of the subject site.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
Flora					
Tylophora linearis	BC Act – V	Grows in dry scrubland that may have a eucalypt, *Callitris glaucophylla* and/or *Allocasuarina luehmannii* overtopping the scrub, in the Barraba, Mendooran, Temora and West Wyalong districts.	7	**Unlikely** There is no scrubland within the subject site. The species is therefore not considered in this assessment.	No
Picris evae Hawkweed	BC Act – V	Known in NSW north from the Inverell area, in the north-western slopes and plains regions. It has been collected from Elsmore and Myall Creek (both near Inverell) as well as in Inverell, Oxley Park (Tamworth) and also from Dangar Falls in the Oxley Wild Rivers National Park in the northern tablelands of NSW. Its main habitat is open Eucalypt forest including a canopy of *Eucalyptus melliodora, E. crebra, E. populnea, E. albens, Angophora subvelutina, Allocasuarina torulosa*, and/or *Casuarina cunninghamiana* with a *Dichanthium* grassy understory. Soils are black, dark grey or red-brown (specified as shallow, stony soil over basalt for one collection) and reddish clay-loam or medium clay soils.	P	**Unlikely** The species is not known to occur in the subject site locality. The species described habitat does not occur within the subject site, it is therefore not considered important habitat for Hawkweed.	No
Stenopetalum velutinum Velvet Thread-petal		*Stenopetalum velutinum* is currently distributed in Queensland, Western Australia, South Australia, and the Northern Territory. It is presumed extinct in NSW.	1	**Low** Velvet Thread-petal is presumed extinct within NSW.	No
Acalypha eremorum Acalypha		Though widespread and moderately common in south-east Queensland, in NSW it occurs in only a few localities, including the Chaelundi, Lismore and Burringbar areas. Acalypha is found in Subtropical rainforest, dry rainforest and vine thickets.	1	**Unlikely** The habitat types in which Acalypha typically occurs are not found in or near the subject site. The site is therefore not considered important habitat for the species.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
Monotaxis macrophylla Large-leafed Monotaxis		Large-leafed Monotaxis is recorded from several highly disjunct populations in NSW: eastern edge of Deua NP (west of Moruya), Bemboka portion of South East Forests National Park, Cobar area (Hermitage Plains), the Tenterfield area, and Woodenbong (near the Queensland border). *Monotaxis macrophylla* displays the properties of a fire ephemeral species in many ways. Germination is stimulated by the passage of fire, individual plants have a short life span, a large biomass is produced in a short period of time, flowering occurs shortly after germination, and populations do not persist in the absence of fire.	P	**Low** The species has a very restricted range and is not known to occur in the locality of the subject site. The site is therefore not considered important habitat for the species.	No
Acacia atrox Myall Creek Wattle		Myall Creek Wattle is known from two populations near Delungra and Gurley. Each population occupies less than 5 hectares.	10	**Low** The subject site is outside of the known distribution of the species.	No
Haloragis exalata subsp. Velutina Tall Velvet Sea-berry		This subspecies of Tall Sea-berry occurs on the north coast of NSW and south-eastern Queensland. It grows in damp places near watercourses and in woodland on the steep rocky slopes of gorges.	2	**Low** The subject site is outside of the known distribution of the species.	No
Commersonia procumbens		Endemic to NSW, mainly confined to the Dubbo-Mendooran-Gilgandra region, but also in the Pilliga and Nymagee areas. *Commersonia procumbens* grows in sandy sites, often along roadsides.	P	**Low** The subject site is not considered important habitat for the species due to a paucity of suitable habitat.	No
Callistemon pungens		In NSW the species occurs from near Inverell to the eastern escarpment in New England National Park. It also occurs in the northern tablelands of south-eastern Queensland, mainly in the Stanthorpe area. Habitats range from riparian areas dominated by *Casuarina cunninghamiana* subsp. *cunninghamiana* to woodland and rocky shrubland.	2	**Low** The subject site is outside of the known distribution of the species.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
Eucalyptus mckieana McKie's Stringybark		*Eucalyptus mckieana* is found in grassy open forest or woodland on poor sandy loams, most commonly on gently sloping or flat sites. It is confined to the drier western side of the New England Tablelands of NSW, from Torrington to Bendemeer.	2	**Low** The species was not identified within the subject site.	No
Eucalyptus nicholii Narrow-leaved Black Peppermint	BC Act – V	This species is sparsely distributed but widespread on the New England Tablelands from Nundle to north of Tenterfield, being most common in central portions of its range. Found largely on private property and roadsides, and occasionally in conservation reserves. Planted as urban trees, windbreaks and corridors. Typically grows in dry grassy woodland, on shallow soils of slopes and ridges. Found primarily on infertile soils derived from granite or metasedimentary rock. Tends to grow on lower slopes in the landscape.	6	**Low** The species was not identified within the subject site.	No
Eucalyptus oresbia Small-fruited Mountain Gum	BC Act – V	The species is found at altitudes between 800 m and 1100 m in very steep valleys and deeply incised creek lines with primarily south to southwest exposure (i.e. warm yet moist).	33	**Low** The subject site is outside of the species altitudinal range. Furthermore, the species was not observed during the site inspection and the local topographic characteristics are not consistent with those preferred by Mountain Gum.	No
Eucalyptus rubida subsp. barbigerorum Blackbutt Candlebark	BC Act – V	Known from scattered populations on the New England Tablelands from Guyra to the Tenterfield area. Most populations occur on private property however the species is recorded in Barayamal and Guy Fawkes National Parks. This tree occurs in grassy woodland on medium or high fertility soils.	2	**Low** The species was not observed within the subject site. Furthermore, the subject site is outside of the species' known range.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
Homoranthus prolixus Granite Homoranthus	BC Act – V	Occurs in scattered locations between Inverell and Manilla. *Homoranthus prolixus* grows in heath patches, in skeletal soil among crevices of granite outcrops.	1	**Unlikely** There is no suitable habitat for this species within the subject site.	No
Syzygium paniculatum Magenta Lilly Pilly	BC Act – E	The Magenta Lilly Pilly is found only in NSW, in a narrow, linear coastal strip from Upper Lansdowne to Conjola State Forest.	1	**Low** The subject site is outside of the species' known range.	No
Chiloglottis platyptera Barrington Tops Ant Orchid	BC Act – V	This orchid is found along the eastern edge of the New England Tablelands, from Ben Halls Gap to east of Tenterfield, and also in the Barrington Tops area. It grows in moist areas in tall open eucalypt forest with a grassy understorey, and also around rainforest edges.	P	**Low** The subject site is outside of the species' known range. Furthermore, there is no suitable habitat for the species within the subject site.	No
Prasophyllum sp. Wybong	BC Act – Not Listed	Endemic to NSW, it is known from near Ilford, Premer, Muswellbrook, Wybong, Yeoval, Inverell, Tenterfield, Currabubula and the Pilliga area. Most populations are small, although the Wybong population contains by far the largest number of individuals. Known to occur in open eucalypt woodland and grassland.	1	**Low** The subject site has been highly modified due to historical clearing and agricultural development. As such it is considered unlikely to support any threatened native species. Furthermore, the species is not known to occur in this locality. The species is therefore not considered in this assessment.	No
Euphrasia arguta	BC Act – E	*Euphrasia arguta* was rediscovered in the Nundle area of the NSW north western slopes and tablelands in 2008. Historically, Euphrasia arguta has only been recorded from relatively few places within an area extending from Sydney to Bathurst and north to Walcha.	84	**Low** The species has a restricted distribution and is not known to occur in the locality of the subject site. The subject site is therefore not	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
				considered important habitat for *Euphrasia arguta*.	
Dichanthium setosum Bluegrass	BC Act – V	Bluegrass occurs on the New England Tablelands, North West Slopes and Plains and the Central Western Slopes of NSW, extending to northern Queensland. Associated with heavy basaltic black soils and red-brown loams with clay subsoil. Often found in moderately disturbed areas such as cleared woodland, grassy roadside remnants and highly disturbed pasture.	36	**Moderate** This species was not observed during the site assessment. However, it is known to occur in moderately disturbed areas and the subject site has potential habitat for the species. The species is therefore included in this assessment.	Yes
Digitaria porrecta Finger Panic Grass	BC Act – E	In NSW, the most frequently recorded associated tree species are *Eucalyptus albens* and *Acacia pendula*. Common associated grasses and forbs in NSW sites include *Austrostipa aristiglumis, Enteropogon acicularis, Cyperus bifax, Hibiscus trionum* and *Neptunia gracilis*. Found in native grassland, woodlands or open forest with a grassy understorey, on richer soils.	15	**Unlikely** The subject site is not considered suitable habitat for the species due to a paucity of suitable habitat.	No
Homopholis belsonii Belson's Panic	BC Act – E	Occurs on the northwest slopes and plains of NSW, mostly between Wee Waa, Goondiwindi and Glen Innes. It also occurs in Queensland, mainly in the Brigalow Belt South bioregion. Grows in dry woodland (e.g. Belah) often on poor soils, although sometimes found in basalt-enriched sites north of Warialda and in alluvial clay soils.	3	**Unlikely** The subject site is not considered suitable habitat for the species due to a paucity of suitable habitat.	No
Polygala linariifolia Native Milkwort	BC Act – E	North from Copeton Dam and the Warialda area to southern Queensland. The species has been recorded from the Inverell and Torrington districts growing in dark sandy loam on granite in shrubby forest of *Eucalyptus caleyi*, *Eucalyptus dealbata* and *Callitris*,	10	**Unlikely** The subject site is not considered suitable habitat for the species due to a paucity of suitable habitat.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
		and in yellow podzolic soil on granite in layered open forest.			
Hakea pulvinifera Lake Keepit Hakea	BC Act – E	Lake Keepit Hakea is confined to the North West Slopes of NSW, where it is known from a single population near Lake Keepit, north-east of Gunnedah.	12	**Low** This species is confined to a single location at distance from the subject site.	No
Asterolasia beckersii Dungowan Starbush	BC Act – E	Dungowan Starbush is only known from eleven locations in the local region around Dungowan Dam near Tamworth. The tenure of the locations is varied with five locations within conservation reserves, three locations are in the vicinity of the dam within a restricted-access area and three within state forests.	11	**Low** This species' range is extremely restricted and does not include the subject site's locality.	No
Boronia ruppii Rupp's Boronia	BC Act – E	Rupp's Boronia is restricted to Woods reef, east of Barraba where it occurs on serpentine geology. It grows in dry eucalypt woodland on soils derived from serpentinite rock. Recent extensive surveys indicate over a dozen small subpopulations remain scattered across the local site, but the species does not extend to other regional serpentine areas.	496	**Low** Rupp's Boronia only occurs in Woods reef and its range does not extend to other serpentine areas within the region. The subject site is therefore not considered important habitat for the species	No
Phebalium glandulosum subsp. *Eglandulosum* Rusty Desert Phebalium	BC Act – E	Found in the Torrington district and in Severn River Nature Reserve north-west of Glen Innes, on the New England Tablelands. This species is restricted to granite outcrop country on the New England Tablelands. Favours exposed and heathy granite areas with cracks and depressions of skeletal sandy soil located amongst the boulders. Sites tend to be relatively open, with the shrubs forming a spreading habit over the bare rocks.	1	**Unlikely** There is no granite outcrop in the subject site.	No
Zieria odorifera subsp. *copelandii*	BC Act – E	Widely scattered but not common in north-east NSW and in Queensland. It is known from several locations on the NSW north coast and a few locations on the New	P	**Unlikely** There is no suitable habitat for the species within the subject site. The	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
		England Tablelands and North West Slopes, including near Torrington and Coolatai. Found in moist eucalypt forest or sheltered woodlands with a shrubby understorey, and occasionally along creeks.		species is therefore not considered in this assessment.	
Thesium australe Austral Toadflax	BC Act – V	Austral Toadflax is found in very small populations scattered across eastern NSW, along the coast, and from the Northern to Southern Tablelands. Occurs in grassland on coastal headlands or grassland and grassy woodland away from the coast. It is often found in association with Kangaroo Grass (*Themeda australis*).	26	**Moderate** There is broadly suitable habitat for this species within the subject site.	No
Dodonaea stenophylla	BC Act – V	Dodonaea stenophylla is known to be widespread across central Queensland and into the Northern Territory. Within NSW, the species has a highly restricted geographic distribution within the Bingara area. The species was considered extinct in NSW until being rediscovered in 1994 which was confirmed in 2010. In NSW, this species is found on very steep slopes on unconsolidated and loose stony metasedimentary soils on mid to upper slopes and crests on crests facing NE to NW between 400 and 600 m altitude.	57	**Unlikely** There is no suitable habitat for this species in the subject site.	No
Cadellia pentastylis Ooline	BC Act – V	Occurs along the western edge of the North West Slopes from north of Gunnedah to west of Tenterfield. Ooline typically forms a closed or open canopy mixing with eucalypt and cypress pine species. The total area occupied by Ooline is only about 1200 hectares, with remaining populations in NSW still threatened to various degrees by clearing for agriculture and grazing pressures.	12	**Unlikely** The species was not observed within the subject site. The species is therefore not considered in this assessment.	No
Communities					

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
Brigalow within the Brigalow Belt South, Nandewar and Darling Riverine Plains Bioregions	BC Act – EEC	The Brigalow community is a low woodland or forest community dominated by Brigalow (*Acacia harpophylla*), with pockets of Belah (*Casuarina* cristata) and Poplar Box (*Eucalyptus populnea* subsp. *bimbil*). The canopy tends to be quite dense and the understorey and ground cover are only sparse.	K	**Low** This EEC does not occur on the site, and the site is thus not considered important habitat.	No
Cadellia pentastylis (Ooline) community in the Nandewar and Brigalow Belt South Bioregions	BC Act – EEC	The Ooline community is an unusual and distinctive forest community with the canopy dominated by the tree Ooline (*Cadellia pentastylis*). The understorey is made up of a range of shrubs, such as Wattles (*Acacia* spp.), and grasses. This community has been extensively cleared and now known from only seven main locations on the North West Slopes in NSW, between Narrabri and the Queensland border, and also in Queensland.	K	**Low** This EEC does not occur on the site, and the site is thus not considered important habitat.	No
Carbeen Open Forest Community in the Darling Riverine Plains and Brigalow Belt South Bioregions	BC Act – EEC	This was previously an open forest community of flora and fauna that may now exist as woodland or as remnant trees. Characteristic tree species are Carbeen (*Corymbia tessellaris*) and White Cypress Pine (*Callitris glaucophylla*).	K	**Low** This EEC does not occur on the site, and the site is thus not considered important habitat.	No
Howell Shrublands in the New England Tableland and Nandewar Bioregions	BC Act – EEC	The Howell Shrublands are a community usually dominated by low shrubs, particularly *Babingtonia densifolia* and Granite *Homoranthus Homoranthus prolixus*, with a range of other shrubs, forbs and grasses also present. The mix of species at a site changes over time, and occasionally all the shrubs may be absent, giving the community a grassland structure, or various	P	**Low** This EEC does not occur on the site, and the site is thus not considered important habitat.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
		eucalypts and cypress pine may be present, giving a low open shrubby woodland structure. This community is confined to areas of extensive granite outcropping.			
Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions	BC Act – EEC	Inland Grey Box Woodland occurs on fertile soils of the western slopes and plains of NSW. The community generally occurs where average rainfall is 375- 800 mm pa and the mean maximum annual temperature is 22-26°C. Inland Grey Box Woodland includes those woodlands in which the most characteristic tree species, *Eucalyptus microcarpa* (Inland Grey Box), is often found in association with *E. populnea* subsp. *bimbil* (Bimble or Poplar Box), *Callitris glaucophylla* (White Cypress Pine), *Brachychiton populneus* (Kurrajong), *Allocasuarina luehmannii* (Bulloak) or *E. melliodora* (Yellow Box), and sometimes with *E. albens* (White Box). Shrubs are typically sparse or absent, although this component can be diverse and may be locally common, especially in drier western portions of the community. A variable ground layer of grass and herbaceous species is present at most sites. At severely disturbed sites the ground layer may be absent.	K	**Low** This EEC does not occur on the site, and the site is thus not considered important habitat.	No
Mount Kaputar high elevation and dry rainforest land snail and slug community in the Nandewar and Brigalow Belt South Bioregions	BC Act – EEC	The Mount Kaputar snail and slug Endangered Ecological Community (EEC) is an assemblage of 11 native land snails and one slug known from high elevation and dry rainforests of the Mount Kaputar region. The EEC is restricted to higher altitudes (above about 1000 m) and dry rainforest (including semi-evergreen vine thicket) areas at lower elevations (above 500 m) in and around Mount Kaputar.	K	**Low** This EEC does not occur on the site, and the site is thus not considered important habitat.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
Native Vegetation on Cracking Clay Soils of the Liverpool Plains	BC Act – EEC	Native Vegetation on Cracking Clay Soils of the Liverpool Plains is mainly a native grassland community which includes a range of small forb and herb species. The main grass species include Plains Grass (*Austrostipa aristiglumis*), Queensland Bluegrass (*Dichanthium sericeum*) and Eucalypts Grass (*Panicum queenslandicum*). This community is located around Coonabarabran, Gunnedah, Murrurundi, Narrabri, Tamworth and Quirindi, on the North West Slopes and Plains. Most surviving remnants of the community are on Travelling Stock Routes.	K	**Low** This EEC does not occur on the site, and the site is thus not considered important habitat.	No
Semi-evergreen Vine Thicket in the Brigalow Belt South and Nandewar Bioregions	BC Act – EEC	A low, dense form of dry rainforest generally less than 10 m high, made up of vines and rainforest trees as well as some shrubs. This community often occurs on rocky hills, in deep, loam, high nutrient soils derived from basalt or other volcanic rocks, in areas which are sheltered from frequent fire.	K	**Low** This EEC does not occur on the site, and the site is thus not considered important habitat.	No
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	BC Act – EEC	White Box Yellow Box Blakely's Red Gum Woodland is an open woodland, in which the most obvious species are one or more of the following: White *Box Eucalyptus albens*, Yellow Box *E. melliodora* and Blakely's Red *Gum E. blakelyi*. Intact sites contain a high diversity of plant species, including the main tree species, additional tree species, some shrub species, several climbing plant species, many grasses and a very high diversity of herbs. Characterised by the presence or prior occurrence of White Box, Yellow Box and/or Blakely's Red Gum. Shrubs are generally sparse or absent, though they may be locally common. Remnants generally occur on fertile lower parts of the landscape	K	**Low** This EEC does not occur on the site, and the site is thus not considered important habitat.	No

Species Name	Status	Habitat Description and Locally Known Populations	Local Records	Potential to Occur and Importance of Habitat Present	Assessment of Significance
South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner		where resources such as water and nutrients are abundant.			

Assessment of Eligibility for Consideration under the Biodiversity Conservation Act 2016 Five Parameter Test

Species were considered in regard to their known distribution and habitat requirements, to assess whether the site is likely to serve as suitable habitat, and subsequently whether/how the development is likely to impact upon the species. Only species that have the potential to be present within the available habitat, as listed in Table 2 are assessed in this test of significance.

The following species, populations and communities have the potential to occur within the local area and have been considered in this Test of Significance.

Table 5: Results of BioNet Atlas Search

Scientific Name	Common Name	Legal Status	Records
Circus assimilis	Spotted Harrier	BC Act: V, P	14
Lophoictinia isura	Square-tailed Kite	BC Act: V, P	7
Hieraaetus morphnoides	Little Eagle	BC Act: V, P	
Falco subniger	Black Falcon	BC Act: V, P	12
Glossopsitta pusilla	Little Lorikeet	BC Act: V, P	384
Lathamus discolor	Swift Parrot	BC Act: E, P	15
Neophema pulchella	Turquoise Parrot	BC Act: V, P	428
Ninox connivens	Barking Owl	BC Act: V,P	10
Ninox strenua	Powerful Owl	BC Act: V, P	6
Tyto novaehollandiae	Masked Owl	BC Act: V, P	14
Pomatostomus temporalis temporalis	Grey-crowned Babbler (eastern subspecies)	BC Act: V, P	150
Daphoenositta chrysoptera	Varied Sittella	BC Act: V, P	107
Saccolaimus flaviventris	Yellow-bellied Sheathtail-bat	BC Act: V,P	87
Falsistrellus tasmaniensis	Eastern False Pipistrelle	BC Act: V, P	63
Chalinolobus picatus	Little Pied Bat	BC Act: V,P	22
Nyctophilus corbeni	Corben's Long-eared Bat	BC Act: V, P	56
Dichanthium setosum	Bluegrass	BC Act: V	36
Thesium australe	Austral Toadflax	BC Act: E, P	26

[1]Number of BioNet Atlas records in selected area. Status Abbreviations: Vulnerable (V), Endangered (E), Protected (P)

Test of Significance – The Five Parameter Test

The Test of Significance outlined under Section 7.3 of the *Biodiversity Conservation Act 2016* includes the assessment of the development against five parameters to determine whether there is likely to be a significant effect on the threatened species recorded at or likely to occur at the site. The test aims to determine whether a development or activity is likely to significantly affect threatened species or ecological communities, or their habitats:

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,

Woodland Species

Little Lorikeet, Swift Parrot, Turquoise Parrot, Grey-crowned Babbler, Varied Sittella

Habitat loss and/or degradation as a result of clearing, increased weed invasion, under-shrubbing and "tidying up", are all significant threats for these species.

It is noted that no permanent population of the above-listed species are predicted to rely upon the subject site for foraging. Their range would be more extensive and significantly seasonal. The crop land which will be disturbed by construction is considered to have the potential to offer marginal foraging habitat. The lorikeet and parrots may be attracted to the area with grass seed. Grass will continue to be present if development proceeds. A small number of hollow-bearing trees are present, hollows were observed to be occupied by Galahs during the site inspection. The smaller Lot subdivision will tend to push these species to larger areas of native vegetation such as the Peel River corridor. Direct impacts to these species are therefore considered to be limited.

The risk to these woodland species is therefore limited to indirect impacts such as noise disturbance. Noise disturbance is not expected to be significant, and noise levels would remain similar to current levels, as the area is bordering a road and there are several rural residences in the area already.

Weed control measures would be implemented during any construction works to prevent the introduction of new weeds onto the site and their spread to adjoining areas.

As a result of more than 50-years of intense landuse for cultivation and cropping across the area to be impacted by the proposal it is considered unlikely that a viable population of woodland bird species will be placed at risk of extinction.

Birds of Prey

Spotted Harrier, Square-tailed Kite, Little Eagle, Black Falcon, Barking Owl, Powerful Owl, Masked Owl

Species such as Square-tailed Kite and Black Falcon typically display a preference for tree-lined watercourses. Little Eagles nest in trees within remnant patches. Owls typically roost/nest in areas with higher tree density. The subject site is considered to provide sub-optimal foraging habitat for most of these species. There is potential roosting and breeding habitat for Spotted Harrier within the paddock trees in the subject site, but none are present.

On occasion, large owls and birds of prey may fly across the area looking for rats or similar sized prey. This prey may be more common in the closer subdivision proposed. The proposed development area may offer a small part of a home range for owls as owls are considered to have an extensive home range area of up to 10 km from their preferred nest site.

The possible removal of crops is unlikely to result in a significant adverse impact to any of the above-listed species, given the availability of higher-quality habitat in the vicinity of the subject

site, in particular areas of open woodland within 500m of the proposal, to the south-east. Similarly, the loss of sub-optimal foraging habitat (improved non-native grassland/cropland) is unlikely to have an adverse impact on these species due to the availability of alternative habitat. Furthermore, given the large home ranges (typically >200 Ha) and high degree of mobility of the above-mentioned species, should any displacement or disturbance be incurred, there would not be a significant impact to these species as sufficient alternative similar- and higher-quality is present in the locality.

The proposed development is therefore deemed not to pose a risk to viable local populations of the above-mentioned species. There is therefore no risk of a viable population being placed at risk of extinction.

Bats

Yellow-bellied Sheath-tail Bat, Eastern False Pipistrelle, Little Pied Bat, Corben's Long-eared Bat

The above-listed bat species may forage and roost in mature trees within the subject site, however given the lack optimal foraging/roosting habitat (woodland habitat) within the subject site and the availability of higher-quality native woodland habitat in the locality, it is unlikely that the subject site is regularly or heavily utilised by the above listed species. Despite the removal of this area of potential habitat, the proposal is considered unlikely to significantly affect any occurring local population of the above-listed species as only a relatively small area of habitat would be impacted relative to the extent of available habitat in the study area.

It is therefore considered that no viable local population of any of the above-listed threatened species will be placed at risk of extinction as a result of the proposed development.

Flora

Bluegrass, Austral Toadflax

None of the above-listed species were recorded on the site. Such species would have been removed as a result of the regular cultivation practices for the past 50-years. The cryptic nature of some threatened species is such that the species may not have been visible during the time of the site visit, and therefore it must be assumed that viable populations of threatened flora species may be present within the region in accordance with the precautionary principle.

Potential habitat for these species is present within the subject site, however larger areas of similarly habitat are present all around the subject site. It is noted that extensive subdivision in occurring in the local area. The earlier development mostly involved complete removal of all vegetation. Newer development includes the retention of native vegetation corridors within creek areas and retention of some areas of native grassland. This development proposal is occurring on land which has been completely modified as a result of cultivation and cropping. Only minor areas of ground cover have been unmanaged and therefore may contain a mix of native and non-native species. These areas occur in mostly waterways which carry local stormwater. Such areas will be preserved as they generally cannot be developed due to slope and erosion issues.

The proposed development is therefore not considered to risk the local extinction of viable populations of threatened species if it was present outside of the cultivated area to be occupied by the proposed development.

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,**

The subject site has been cleared of native vegetation, and therefore does not support any endangered or critically endangered ecological communities. No direct impacts to any EECs are therefore predicted.

In the event of construction works, erosion and sediment control measures would be implemented to minimise off-site impacts of the proposal. A number of weed control measures would need to be implemented to reduce the potential introduction and spread of weed species to and from the subject site.

Provided weed control measures are implemented, the development proposal is considered unlikely to impact on the extent or composition of any potentially occurring EEC in the vicinity of the proposed project footprint.

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 area of the proposed development consists of paddocks that are cropped to support an intense grazing regime and seasonal cropping of mainly winter cereals and hay. This has occurred for approximately 50-years. The proposal would result in the removal of approximately 100 Ha of this cropland, with the possible removal of some section of planted tree corridors along existing fence lines. The habitat value of this land for threatened species is considered limited. The few remaining tree hollows may support several individuals, but it is noted that the trees are mainly occupied by galah nests. Available habitat within the subject site is not considered to be of importance to threatened native species.

The remaining habitat in the local area has been highly fragmented for a period of more than 50-years. The exception to this is the watercourse corridor along the Peel River. Some larger remnants of native vegetation have been retained along the river. The river provides a corridor more than a larger habitat area for all species other than aquatic species. The river is outside of the subject site.

The study area does not support a threatened ecological community at present.

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 Peel River which forms the western boundary of the subject land, but outside of the area of this proposal, is declared as vulnerable land. Land to the immediate north of the subject land (north of Browns Lane) is land excluded from the LLS Act and is to be solely assessed under the BC Act. NSW mapping of biodiversity is relatively limited at present.

The area identified for potential development consists of cropped paddocks. A few natural isolated paddock trees remain. The most extensive trees that remain in the subdivision area are trees that have been planted along fence lines.

The study area has minimal biodiversity value as it has been farmed and cropped for an extensive period. A large part of the area is utilised for horse grazing. Horses tend to keep the grass extremely short and require other fodder to support the pasture diet.

The development proposed will involve closer subdivision. Properties in rural residential type development to the immediate north of the land support considerably more native and non-native vegetation, other than landscaped areas associated with the homestead. It is expected that houses on smaller lots would landscape the whole properties once the houses are established. This will secure the soil and eliminate any potential impact that agricultural activities (spraying, cultivation) would have on the surrounding areas of higher biodiversity value, mainly the Peel River.

The development is therefore not considered to pose a risk to declared areas of outstanding biodiversity value within the wider region.

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 total of 38 key threatening processes are listed under the BCA. The following Table 4 presents a list of these processes and comment. Based on the number identification in the list, the following discussion is presented to assess the process.

Several of the key threatening processes involve invasion by plant species. Some of the listed species are declared as noxious weeds and therefore managed by programs of weed control, including weed programs enforced by Local Council under direction orders or funded weed control programs. The property has utilised a wide range of hay and imported fodder to feed horses over the past 50-years. Numerous species of weed have been brought with the hay, however, cropping programs and spot spraying have limited the spread of some weeds. It is noted that Tiger Pear (*Opuntia aurantiaca)* is present along Browns Lane. LLS and other weed authorities are encouraging biological control of this species.

Figure 12: Tiger pear (Opuntia aurantiaca) along Browns Lane – A weed of National significance.

The specific species identified in processes 20, 22 and 24 were not observed during field inspections. A range of improved pasture species have been planted in the past 50-years to improve productivity for grazing. The remainder of the land is maintained as minimal till cultivation which includes control of weed species by herbicide application. This process minimises the regeneration of any areas of native species that would grow through a process of recolonising the cropped land if it was abandoned and allow to regrow. Species of concern in NSW such as Buffel grass, have not been included in the planted pasture species.

Process 30 for loss of hollow bearing trees has already occurred. Only a limited number of mature trees remain within the development area that have hollows. Most trees have been planted and are not of an age to support hollows. The opportunity exists to retain the larger trees that have hollows; however, the age and potential isolation of these trees would be of concern for their longevity.

Several threatening processes relate to introduction of feral animals include dogs, foxes, cats, and pigs. Domesticated dogs in the wild are not identified as a significant issue in the local area, however, stock losses occur as a result of stray domesticated dogs on occasions. This is a matter for Council to manage under existing policy.

Feral cats in the wild are an issue and again this is a matter of local Council policy and management. Cats are noted to kill an extensive amount of fauna including birds and various small native marsupials.

The stray and feral animals represent a threat to native species of birds and mammals, as well as reptiles. The number of these stray and feral animals mostly decline as a result of closer subdivision. The proposed development will potentially increase population density in the area and therefore feral animals tend to move away into more secluded areas.

Conclusions

The proposed development is to occur on land which has previously been cleared of all native vegetation and is currently used for crop production. Whilst the site may serve as marginal habitat for several threatened species within the region, the site would not function as ecologically important habitat for any identified species and therefore alteration of the site is not predicted to pose a risk to threatened flora and fauna within the wider locality. The development would result in a change of use from seasonal cultivation with managed lawns around the residences to landscaped and managed lawns within a residential area.

All core habitat that could support a wide range of native species has been removed from the area for a period of up to 50-years.

The above assessment was conducted under the provisions of the *Biodiversity Conservation Act 2016* and determined that the proposal would not have a *significant* impact on any listed threatened species or their habitat and as such further assessment is not required. The study area has been highly modified for more than 50-years.

Prepared by: *Peter Taylor*

Peter Taylor BSc MEIANZ CIAg LAA
Environment and Resource Consultant

References

Atlas of NSW Wildlife (accessed 2022). NSW Government Department of Environment and Heritage Website: http://www.bionet.nsw.gov.au/

NSW Department of Primary Industries, NSW WeedWise, https://weeds.dpi.nsw.gov.au/Weeds

NSW Environment and Heritage, Key Threatening Processes, https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/about-threatened-species/key-threatening-processes

Table 6: Key Threatening Processes Listed for Nandewar-Peel IBRA region.

Key Threatening Process	Comment
Aggressive exclusion of birds from woodland and forest habitat by abundant noisy miners, Manorina melanocephala	Not applicable
Alteration of habitat following subsidence due to longwall mining	Not applicable
Alteration to the natural flow regimes of rivers and streams and their floodplains and wetlands	Not applicable
Anthropogenic climate change	Not applicable
Bushrock removal	Not applicable
Clearing of native vegetation	Not applicable
Competition and grazing by the feral European rabbit, Oryctolagus cuniculus	Not applicable
Competition and habitat degradation by feral goats, Capra hircus	Not applicable
Competition from feral honey bees, Apis mellifera	Not applicable
Death or injury to marine species following capture in shark control programs on ocean beaches	Not applicable
Entanglement in or ingestion of anthropogenic debris in marine and estuarine environments	Not applicable
Forest eucalypt dieback associated with over-abundant psyllids and bell miners	Not applicable
Herbivory and environmental degradation caused by feral deer	Not applicable
High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition	Not applicable
Importation of red imported fire ants, Solenopsis invicta	Not applicable
Infection by psittacine circoviral (beak and feather) disease affecting endangered psittacine species and populations	Not applicable
Infection of frogs by amphibian chytrid causing the disease chytridiomycosis	Not applicable
Infection of native plants by Phytophthora cinnamomi	Not applicable
Introduction and establishment of exotic rust fungi of the order Pucciniales pathogenic on plants of the family Myrtaceae	Not applicable
Introduction of the large earth bumblebee, Bombus terrestris	Not applicable
Invasion and establishment of exotic vines and scramblers	Not applicable
Invasion and establishment of scotch broom, Cytisus scoparius	Not applicable
Invasion and establishment of the cane toad, Bufo marinus	Not applicable
Invasion of native plant communities by African olive, Olea europaea subsp. cuspidata	Not applicable
Invasion of native plant communities by Chrysanthemoides monilifera	Not applicable
Invasion of native plant communities by exotic perennial grasses	Cropped land
Invasion of the yellow crazy ant, Anoplolepis gracilipes into NSW	Not applicable
Invasion, establishment and spread of Lantana, Lantana camara	Not applicable
Loss and degradation of native plant and animal habitat by invasion of escaped garden plants, including aquatic plants	Not applicable
Loss of hollow-bearing trees	Not applicable
Loss or degradation (or both) of sites used for hill-topping by butterflies	Not applicable
Predation and hybridisation by feral dogs, Canis lupus familiaris	Not applicable
Predation by Gambusia holbrooki (plague minnow or mosquito fish)	Not applicable

Key Threatening Process	Comment
Predation by the European red fox, Vulpes vulpes	Not applicable
Predation by the feral cat, Felis catus	Discussed above
Predation by the ship rat, Rattus rattus on Lord Howe Island	Not applicable
Predation, habitat degradation, competition and disease transmission by feral pigs, Sus scrofa	Not applicable
Removal of dead wood and dead trees	Not applicable

Appendix 4: MNES Database Search Results and Assessment

EPBC Protected Matters Assessment

Under the environmental assessment provisions of the EPBC Act, the following matters of national environmental significance and impacts on the Commonwealth land are required to be considered to assist in determining whether the proposal should be referred to the Australian Government Department of Agriculture, Water and Environment.

Table 1: EPBC Protected Matters Assessment

Factor	Impact
a) Any impact on a World Heritage property? No impact. There are no World Heritage properties in the study area.	Nil
b) Any impact on a National Heritage place? No impact. There are no National Heritage properties in the study area.	Nil
c) Any impact on a wetland of international importance? No impact. There are no wetlands of international importance in the study area.	Nil
d) Any impact on a listed threatened species or communities? The proposed development footprint offers potential sub-optimal habitat for threatened species such as Swift Parrot and Corben's Long-eared Bat. The majority of the vegetation to be impacted consists of improved non-native grassland, and few mature trees may be impacted for the development of roads. Given the small zone of impact to native vegetation, the dominance of non-native habitat present within the proposal footprint, and the presence of alternative habitat in the locality, the proposal is not considered likely to have a significant impact on threatened species and ecological communities which occur, or may occur, in the locality of the proposal.	Low
e) Any impacts on listed migratory species? Overall, the subject site is not considered to incorporate important habitat for migratory species, as the site is infrequently used by such species, and does not offer key habitat features such as permanent fresh water which may be utilised by these species en route during migration. The subject site is not considered to constitute important habitat for migratory species.	Nil
f) Any impact on a Commonwealth marine area? No impact. There are no Commonwealth marine areas in the study area.	Nil
g) Does the proposal involve a nuclear action (including uranium mining)? No impact. The proposal does not involve a nuclear action.	Nil
h) Additionally, any impact (direct or indirect) on the environment of Commonwealth land? No impact. There are no Commonwealth lands in the study area.	Nil