



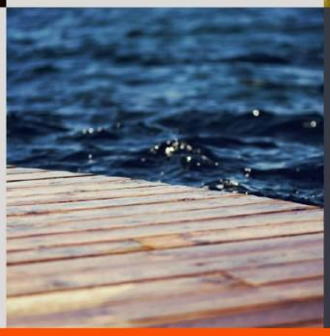

TERRESTRIAL FLORA AND FAUNA ASSESSMENT

DINGO LANE SOLAR FARM PROJECT @ 1 DINGO LANE, MYOCUM

PREPARED FOR BYRON SHIRE COUNCIL

DECEMBER 2021
Job No. J6558



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Project Details

Project Name	Dingo Lane Solar Farm Project
Client	Byron Shire Council
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1 INTRODUCTION

This Terrestrial Flora and Fauna Assessment supports a Development Application for the Dingo Lane Solar Farm Project at 1 Dingo Lane, Myocum (the subject site). The proposed 5MW solar farm forms part of Council's Net Zero Emissions and Renewal Energy Strategy and includes the construction of a solar array on the flat, northern portion of the site, a viewing platform, inverter, substation and site security and screening (fencing and landscaping).

This report outlines the results of flora and fauna investigations and describes vegetation types, habitat associations and ecological values of the proposed works envelope and surrounding areas. The assessment has included the following:

- Survey, ground truthing and mapping of vegetation community types
- Survey for fauna species including an assessment of the site's habitat value
- Survey for threatened flora and fauna species and ecological communities
- Providing an ecological site assessment report identifying development constraints, potential impacts and mitigation methods for proposed activities
- Addressing statutory requirements associated with Section 7.3 of the *Biodiversity Conservation Act 2016* and *SEPP (Koala Habitat Protection) 2020*

The flora survey has identified and mapped five vegetation community types (VTs) and also resulted in the recording of above 200 species of flora. The VTs encountered include:

- VT1: Tall Closed Pasture/Grassland with Scattered Trees/Paddock Mosaic
- VT2: Eucalypt Plantation Open Forest [OF]
- VT3: Low Closed to Closed Camphor Laurel Forest [LCF/CF] (Camphor 81-100%)
- VT4: Closed Camphor Laurel Forest (Camphor 51-80%) with Emergent Eucalyptus spp [CF]
- VT5: Closed Paperbark Swamp Forest [CF] Swamp Sclerophyll Forest

Of these communities, VT5 is considered to be reflective of state endangered ecological community (EEC) Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions. The Solar Panel Farm proposal ensures that this EEC is avoided.

Additionally, the flora survey resulted in the recording of 8 stems of three threatened flora species all of which will be retained in association with the Solar Farm proposal:

- Scrub Turpentine (*Rhodamnia rubescens*)-Critically Endangered
- Durobby (*Syzygium moorei*)-Vulnerable
- Macadamia Nut (*Macadamia integrifolia*)-Vulnerable (Protected only in NSW)

The fauna survey conducted within the site (and adjacent areas) resulted in the recording of 87 species of bird, 8 reptiles, 7 amphibians and 13 mammals. Of those recorded three (Southern Myotis, Rose-crowned Fruit Dove, Grey Headed Flying-fox) are listed as endangered or vulnerable within the *Biodiversity Conservation Act 2016.*

Consolidation of the Solar Farm within the historically grazed pasture grassland/paddock is considered sufficient to ensure the proposal avoids any significant impact to the recorded threatened fauna species. A Section 7.3 of the *Biodiversity Conservation Act 2016* ('Test of Significance') was conducted for the recorded threatened fauna species which concluded that the impacts of the proposed development are unlikely to threaten the viability of any local populations. A species impact is therefore not required.

A SEPP (Koala Habitat Protection) 2020 assessment was conducted which, although noting that the land does not represent 'potential koala habitat', recommends compliance with the Byron Comprehensive Koala Plan of Management. A review of this assessment notes that no 'core koala habitat' occurs, no koala activity was recorded and the site is located outside of a defined Koala Management Precinct. Regardless, the Solar Farm development footprint has been carefully located to be setback a minimum of 50 metres from any vegetation communities which contain preferred koala food trees or koala use trees. An assessment of the proposal against the Koala Habitat Provisions of DCP 2014: Chapter B1 Biodiversity has also been performed.

In light of the above, the Solar Farm proposal is considered unlikely to significantly affect native, flora, fauna and associated habitat.

Whilst re-iterating that no significant impacts are anticipated and no offset works are required as a result of the proposal, as the landowner, Council may choose to explore the subject site opportunity to improve ecological value of the land and contribute to the wider ecological corridors of the subregion. Such rehabilitation/restoration could be designed to provide future habitat in the medium to long-term for a variety of threatened species/communities by:

- Establishing and rehabilitating endangered floodplain communities (Swamp Sclerophyll, Subtropical Forest, Lowland Rainforest) in areas currently occupied by pasture or degraded vegetation communities over portions of the land not required for the Solar Panel Farm
- Increasing refuge/nesting opportunities within areas which currently display limited structural habitat diversity (i.e. by improving ground and mid-strata vegetation, installing fauna boxes)
- Propagating and replanting threatened flora species which occur on the land
- Increasing native vegetation cover and associated habitat within degraded areas of Byron Shire Council's modelled wildlife corridor which is mapped over the locality

In summary, the surveys and assessments documented in this report establish that the Solar Panel Farm proposal complies with the biodiversity/ecological provisions of the *Biodiversity Conservation Act 2019* and provides recommendations that, if implemented, can deliver ecological benefit to the site and the broader locality for Council's broader land management consideration.

2 SITE DESCRIPTION & LOCATION

The Dingo Lane Solar Farm site is currently utilized as buffer land for the Myocum Resource and Recovery Centre (RRC) and is bounded by the Myocum RRC and quarry immediately to the east and agricultural grazing land to the north, south and west. Myocum Road is located approximately 1km to the west with site access provided by a connecting unsealed roadway (Dingo Lane).

The northern half of the site is flat in nature, with the majority of the ground surface levels ranging from 1 – 6m AHD. The site is situated within a floodplain and has largely been cleared and historically been used (and currently is used) for agricultural grazing. There is one (1) residential dwelling on the site in the southwestern corner which is occupied under a rental agreement with Byron Shire Council.

CHARACTERISTIC	SITE DETAILS
Current use	Buffer land
Lot on Plan No	Lot 15 DP1178892
Address	1 Dingo lane, Myocum
Land tenure	Freehold
Total area - hectares	38.4 Ha
Potential area available for solar farm (Ha)	16 Ha
Zoning	RU2 –Rural Landscape
Adjoining land use	Landfill Quarry Agricultural (cattle grazing)
Distance to sensitive receptors (m from boundary)	Residential property (15//DP1178892) – Within site boundary (Council owned) Residential property (1//DP730825) - 221m Residential property (1//DP874062) – 631 m Residential property (14//DP1178892) – 503m Residential property (1//DP602917) – 801 m

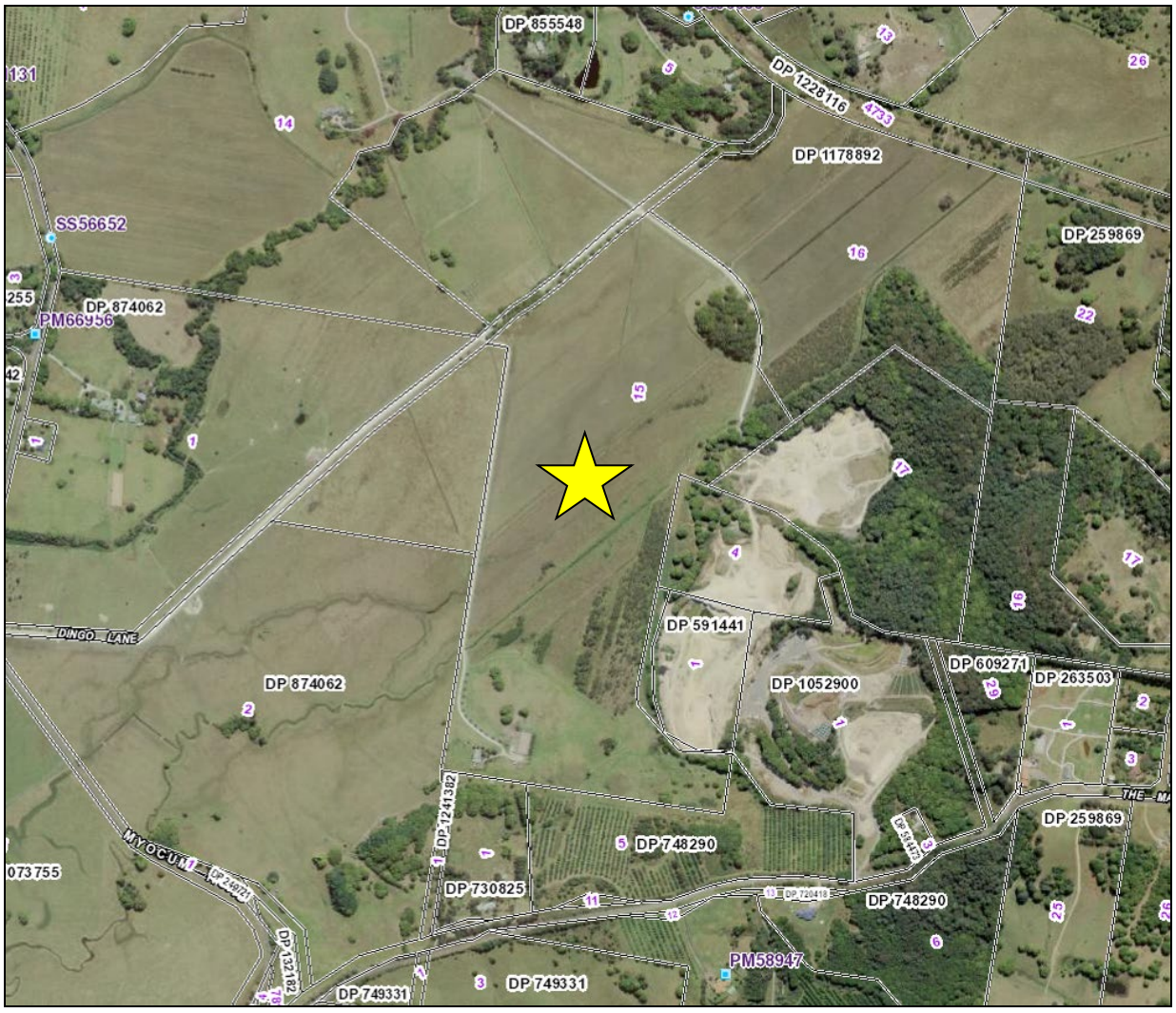


FIGURE 1: AERIAL PHOTOGRAPH (SOURCE: NSW SIX MAPS)

Whist the majority of the site is mapped as being devoid of distinct vegetation communities (due to an absence/paucity of woody vegetation within the grassland/pasture areas) small areas are nominated as follows on Byron Shire Council vegetation maps:

- Eucalyptus spp and/or Brush Box + Camphor Laurel [small patch in NE corner ~1 hectare)
- Camphor Laurel 51-80% [small component of mostly offsite patch within quarry/resource recovery site in NE and SE ~0.5ha)
- Paperbark [small component of mostly offsite patch within quarry site in NE ~0.43ha]

The existing local/regional vegetation mapping was ground truthed to be mostly accurate, however those areas in the east and south east mapped as 51-80% camphor laurel are considered to be more reflective of 81-100% camphor laurel with native canopy trees scarce.

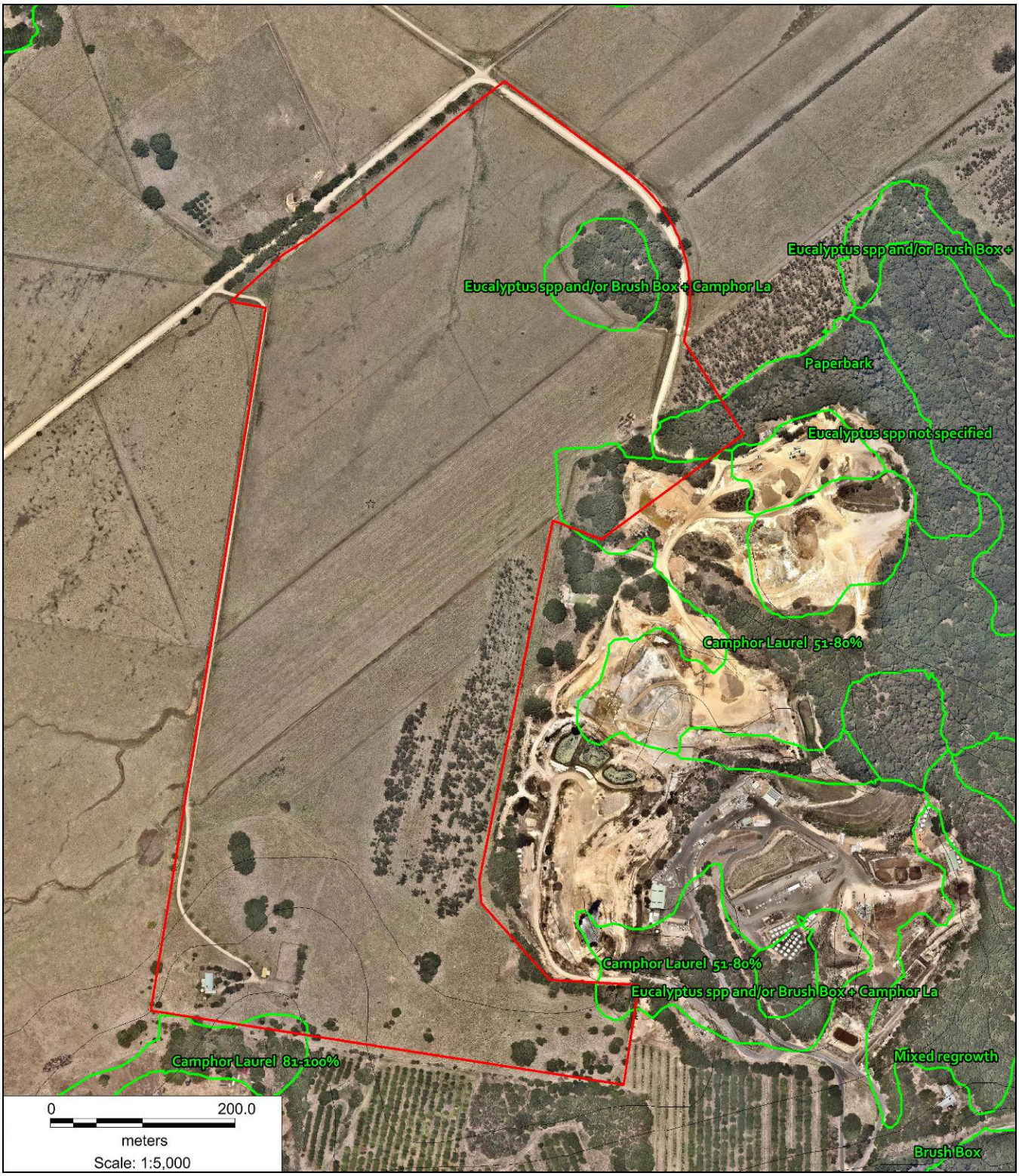


FIGURE 2: EXTRACT FROM UPDATING VEGETATION MAPPING - STAGE 2 (PRODUCTION OF A DIGITAL REMNANT VEGETATION LAYER) FOR BYRON SHIRE LOCAL GOVERNMENT AREA VIS_ID 6

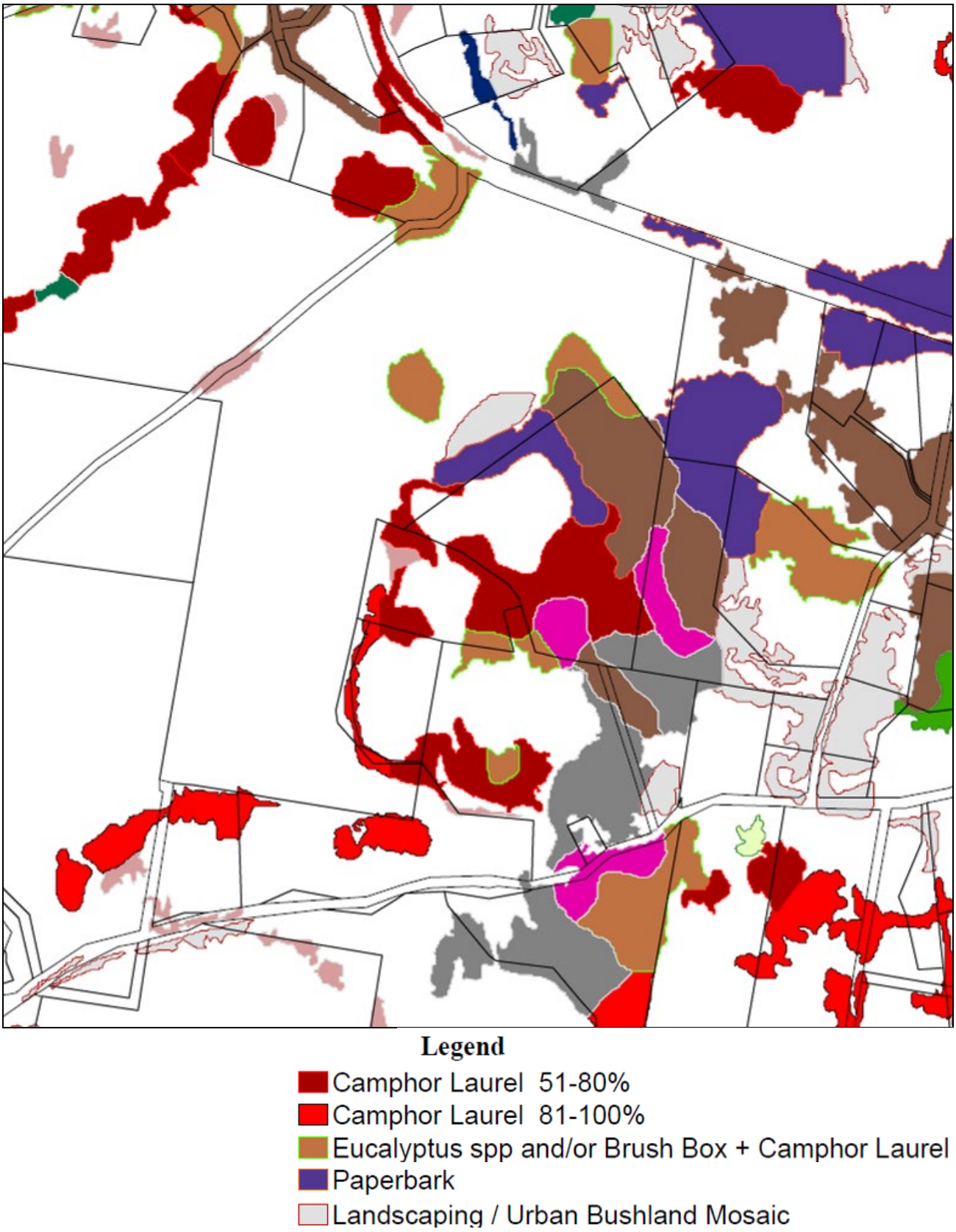


Figure 3: BYRON SHIRE VEGETATION MAP 2012 EXTRACT

2.1 PROJECT DESCRIPTION

In May 2019, Byron Shire Council committed to carrying out a detailed feasibility assessment for the solar farm project.

Once built, the Dingo Lane Solar Farm will generate enough electricity to:
- reduce Council's carbon emissions;
- offset Council's power usage; and
- send additional renewable power back into the grid.

The solar panels will be ground-mounted and occupy 11 hectares of the ~38-hectare property.

A site feasibility assessment of the site identified it is suitable for a photo-voltaic solar farm up to seven-megawatt capacity. The proposed solar farm is 4.95 megawatt. The site is:
- currently buffer land for the Resource Recovery Centre and unavailable for other land use purposes;
- close to the local electricity grid;
- bound by the quarry immediately to the east and agricultural grazing land to the north, south and west;
- flat in nature (northern half), with ground surface levels ranging from 1 – 6m;
- situated within a floodplain, and
- largely cleared, historically used for agricultural grazing.

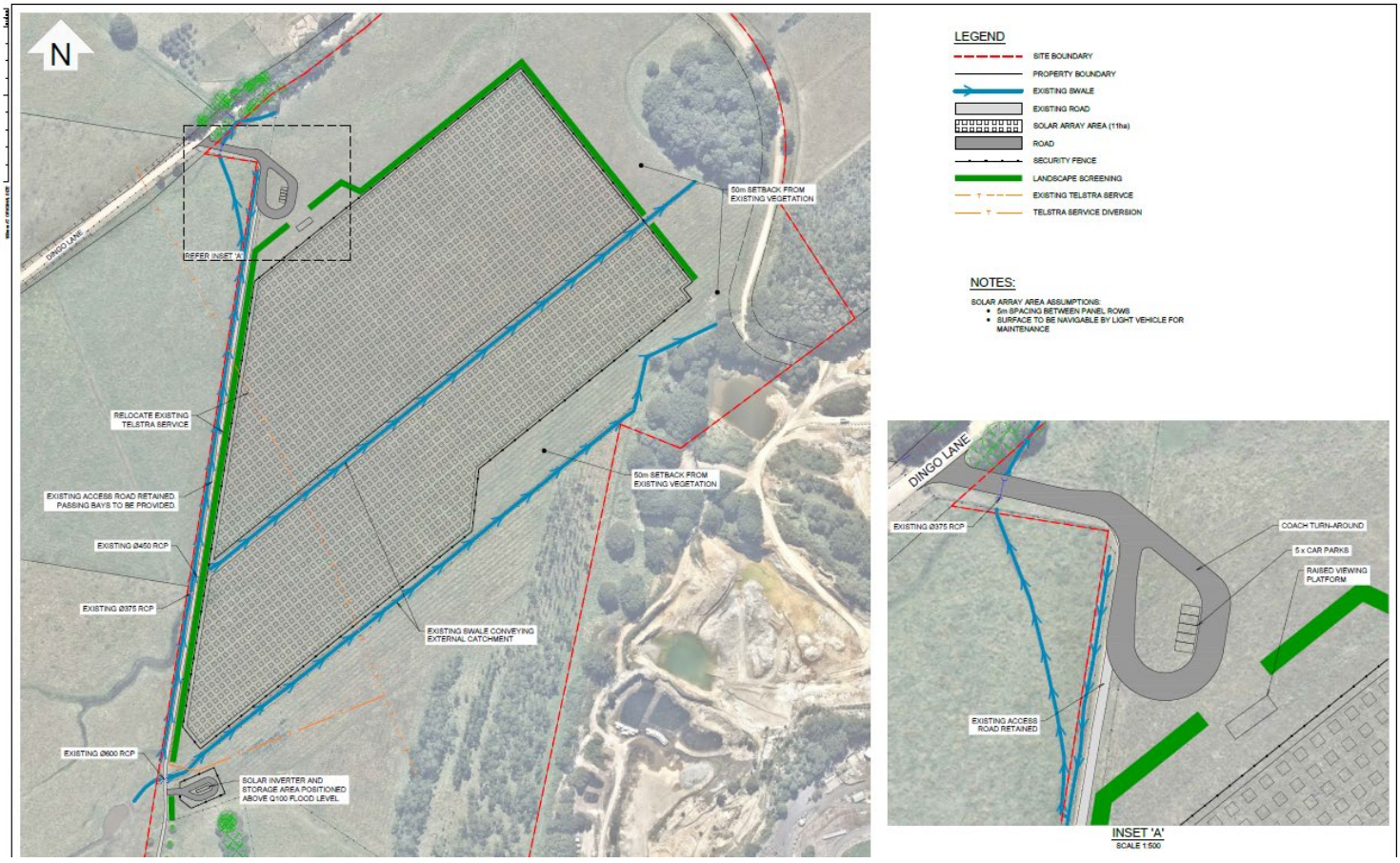


FIGURE 4: PROPOSED LAYOUT

2.2 GEOLOGY AND TOPOGRAPHY

A review of the Soil Landscapes of the Lismore-Ballina and eSpade Soil Landscapes mapping indicates three soil landscapes over the site (refer Figure 5):

- Myocum Transferral Landscape (TRmy) which occupies the majority of the site
- Ewingsdale Residual Landscape (REew) restricted to the southern boundary
- Billinudgel Erosional Landscape (ERbi) minor areas in the NE and SE

Figure 5: SOIL LANDSCAPE MAP (NSWDECCW, 2010)

Such areas are described in detail within Morand (1994) as follows:

Myocum Transferral Landscape (TRmy)
Location: Drainage plains and backplains stretching in a south-easterly arc from near Mullumbimby to Ewingsdale. This soil landscape lies between the Alstonville Plateau and the Tweed-Byron Coast.

Geology: Quaternary alluvium: alluvium, sand, clay. Predominantly fine-grained sediments from the Lismore Basalts, though sediments of the Nimbin Rhyolites and Neranleigh-Fernvale Group also contribute.

Topography: Extremely low, level to very gently inclined drainage plains and backplains which appear to have been formed by the infilling of drowned Pleistocene valleys behind sand barriers. Sediment from erosion of the surrounding hills has contributed to the filling of these valleys. Slopes rarely exceed 2% and relief is <5 m. This soil landscape is generally narrow to broad (100–1 000 m). The stream pattern on the Myocum soil landscape is alluvial, slowly migrating and tributary and is characterised by frequent meandering. In some locations streams are incipient and at times reticulated.

Ewingsdale Residual Landscape (REew)
Location: Very low basalt hills west of Byron Bay centred around the Pacific Highway-Byron Bay intersection (Ewingsdale) and the Alstonville Plateau.

Geology: Lamington Volcanics: Lismore Basalts—Tertiary basalts, with bole and minor agglomerate.

Topography: Very low to low undulating rises and hills. Slopes are generally simple but can be waxing. Slope angles are 3–10% and slopes are moderately long (100–300 m). Relief is 10–30 m.

Billinudgel Erosional Landscape (ERbi)
Location: Low hills on the metasediments of the Neranleigh-Fernvale Group. Occurs on the edges of the Burringbar Hills and on the flanks of the Alstonville Plateau. Also occurs as headlands at Cape Byron and Broken Head.

Geology: Neranleigh-Fernvale Group. Thinly bedded fissile shales, siltstones and sandstones with occasional more massive units such as greywacke, volcanic tuffs, agglomerates, sandstones and massive cobble conglomerates (Chesnut 1980). These were previously known as the Fitzroy Beds. Also quartzite, slate and phyllite

Topography: Low rolling hills that abut the higher and steeper Burringbar (bu) soil landscape. Relief is 50–100 m and slopes range from 10–20%, with some localised steeper (>33%) areas. Elevation is 60–100 m. Slope length is generally moderate (200–300 m) and slope shape is simple and occasionally waning. Ridges and crests are narrow (100–150 m). Sideslopes, rather than distinct hills, are common on the southern part of the sheet near Uralba.

The majority of the site is flat and has been historically utilised as cropping/pasture as a result with several dams and drainage channels constructed.

2.3 AIMS OF STUDY

The aim of this report is to describe the terrestrial flora and fauna habitat of the site and adjoining areas and to examine the potential for the occurrence of threatened species, populations, their habitats or endangered ecological communities. In order to provide this information, the following specific objectives are to:

- Determine and describe the existing flora, vegetation communities, fauna assemblage and associated habitats of the Solar Farm development footprint and adjoining areas,

- Determine the occurrence, or likely occurrence, threatened species, populations, their habitats or endangered ecological communities as a result of field survey and literature review,
- Undertake the 'test of significance' pursuant to Section 7.3 of the *Biodiversity Conservation Act 2016*,
- Undertake SEPP (Koala Habitat Protection) 2020 and Byron DCP 2014: Biodiversity assessments,
- Describe the potential direct and indirect impacts of the proposal on existing terrestrial ecological values,
- Propose amelioration measures to avoid, manage or mitigate potential impacts upon the ecological values of the site.

2.4 DEFINITIONS, TERMINOLOGY AND NOMENCLATURE

For the purposes of this flora and fauna assessment the following definitions apply:

Site: refers to the extent of the lands forming the boundaries of this development application as described in Section 2.0

Solar Farm Works Envelope/Development Envelope: refers to those areas of the site which will be occupied by the Solar Panel Array footprint and ancillary uses (i.e. access tracks).

Study Area: refers to the works envelope and additional areas which could be potentially affected by the development directly or indirectly. In this case the study area is considered to be the development footprint buffered by a zone of approximately 50m.

Locality: refers to a 2km radius surrounding the site

Additional terminology associated with significance assessments (i.e. threatened species, populations, communities, threatening process, direct impacts, indirect impacts etc.) and the factors of such assessments (i.e. test of significance) are taken to be those existing within the *Biodiversity Conservation Act 2016*, *Environmental Planning and Assessment Act 1979*, and OEH documents entitled *Guidance to assist a decision-maker to determine a serious and irreversible impact* (OEH 2017) and *Threatened Species Test of Significance Guidelines (OEH 2018*). Additional terms within the report which warrant the source of the definition have been specifically referenced in the text.

Nomenclature for all plant species contained within this document follow Harden (1992, 1993, 2000 & 2003) The Flora of NSW Volumes 1-4. Scientific names for plants are used primarily in the document to avoid any confusion associated with use of common or descriptive plant names.

Nomenclature for all animal species contained within this document follows those utilised by the Office of Environment and Heritage/National Parks and Wildlife Service (2020) in association with the Bionet/Atlas of NSW Wildlife. Scientific names for fauna are used primarily in the document to avoid any confusion associated with use of common or descriptive animal names.

2.5 CONTRIBUTORS

Contributors to this report and their roles are tabulated below:

Table 1: Report Contributors

NAME	ORGANISATION	ROLE
Graham Dart	Planit Consulting	Report preparation, flora/fauna survey and assessment

All work was performed under the appropriate licences which are summarized within Section 4.4.

3 VEGETATION ASSESSMENT

To identify and classify vegetation species and communities which occur on site, the following methodology was applied over the 7th, 18th, 27th February and the 12th March 2020:

- Desktop analysis including:
  i. Review of Council's Planning Scheme Mapping & Associated Reporting (i.e. Byron Shire LEP 2014 Maps)
  ii. Review of existing vegetation community documentation to confirm dominant elements, forest descriptions and conservation status of mapped forested remnants/ecosystems including:
    - Forestry Commission NSW (1989) Research Note 17: Forest Types in NSW.
    - National Parks and Wildlife Service (1999) Forest ecosystem classification and mapping for the upper and lower north east cra regions. CRA Unit-Northern Zone.
    - DECC (2008) BioMetric: Terrestrial Biodiversity Tool for the NSW Property Vegetation Planning System: Definitions of Vegetation Types for CMA Areas (online @ http://www.environment.nsw.gov.au/projects/Biometric Tool.htm)
    - Keith, D. (2004) *Ocean Shores to Desert Dunes*. The native vegetation of NSW. DECC, Hurstville.
    - Sheringham, P.R., Dr. Benwell, A., Gilmour, P., Graham, M.S., Westaway, J., Weber, L., Bailey, D., & Price, R. (2008). *Targeted Vegetation Survey of Floodplains and Lower Slopes on the Far North Coast*. A report prepared by the Department of Environment and Climate Change for the Comprehensive Coastal Assessment. Department of Environment and Climate Change (NSW), Coffs Harbour, NSW.
    - Bionet Vegetation Classification Vegetation Information System online @ https://www.environment.nsw.gov.au/research/Visclassification.htm

  iii. Review of search of the Atlas of NSW Wildlife database within a search area 2km surrounding the site to review threatened plant records

  iv. Review of Environment Australia Protected Matters data within a search area 2km surrounding the site to review threatened plant records

  v. Review of SEPP Mapping (Coastal Management) mapping to determine the indicative presence/absence of regional forest ecosystems reflective of wetland (marine, estuarine, riverine, lacustrine and/or palustrine) communities and/or Littoral Rainforests.

  vi. Review of the following legislation to ensure the latest lists of threatened species and communities were noted as well as investigating the existence of any relevant recovery plans, threat abatement plans, key threatening processes or any preliminary determinations which may be applicable to the site and/or the proposed use/action:
    - *Biodiversity Conservation Act (2016)*
    - *Environment Protection and Biodiversity Conservation Act (1999)*

- Field survey including:

Floristic/Diversity Searches: Random searches within each vegetation community were undertaken recording all species observed was undertaken in accordance with Cropper (1993), DEC (2004) and DEHP (2019). Knowledge of known habitat of protected and uncommon floral species was utilized to target such species. Observation also included recording crown cover, tree heights, dominant species present and identification of ecologically dominant layer.

Structural Analysis: *Tree height* (T1 layer) was determined via use of Nikon Forestry Pro Laser Rangefinder/Height Meter to determine median canopy tree heights. Heights were also estimated occularly by an experienced observer. Height classes were then selected from classifications provided in Nelder et al (2019) established under the regional ecosystem framework and generally analygous with widely accepted documents (i.e. Walker and Hopkins, 1998; Hnatiuk et al, 2009)

Crown cover % for the T1 layer was estimated by an experienced observer or measured via crown intercept method (Nelder, 2019, Eyre et al, 2019, EPA, 2005).

Structural formation classes were determined via an assessment of growth form and crown cover % information as per Nelder et al (2019).

The above survey techniques were developed in order to:

- Validate or modify existing vegetation mapping;
- Identify floral species existing within the site;
- Measure and/or estimate crown cover (Walker and Hopkins, 1998, Nelder, 2019, Eyre et al, 2019, EPA, 2005) to determine vegetation structure designations;
- Identify average height of canopy trees;
- Identify the incidence of senescent trees;
- Determine species dominance within ecologically dominant layer;
- Determine incidence of weed invasion and disturbance over the site and within vegetation strata;
- Determine incidence of species listed as endangered, vulnerable under the *Biodiversity Conservation Act 2016;*
- Determine incidence of species listed as endangered or vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999*

TABLE 2: HEIGHT CLASSES & NAMES FOR VARIOUS GROWTH FORMS (SENSU NELDER ET AL, 2019 TABLE 28)

Table 28 Structural formation classes

Proj. foliage cover	>70%	>30–70%	10–30%	<10%
Crown class	Dense/closed	Mid-dense	Sparse	Very sparse
Crown cover %[1]	>80%	>50–80%	20–50%	<20%
GROWTH FORM[2]	Structural formation classes (qualified by height)			
Trees >30 m	tall closed forest TCF	tall open forest TOF	tall woodland TW	tall open woodland TOW
Trees 10–30 m	closed forest CF	open forest OF	woodland W	open woodland OW
Trees 2–10 m	low closed forest LCF	low open forest LOF	low woodland LW	low open woodland LOW
Shrubs 2– 8 m	closed scrub CSC	open scrub OSC	tall shrubland TS	tall open shrubland TOS
Shrubs 1–2 m	closed heath CHT or closed shrubland CS	open heath OHT or shrubland S	shrubland S	open shrubland OS
Shrubs <1 m	dwarf closed shrubland DCS	dwarf open heath DOHT	dwarf shrubland DS	dwarf open shrubland DOS
Succulent shrub	NA	succulent shrubland	succulent shrubland SS	open succulent shrubland OSS
Hummock grasses	NA	NA	hummock grassland HG	open hummock grassland
Tussock grasses	closed tussock grassland CTG	tussock grassland TG	open tussock grassland OTG	sparse tussock grassland STG
Herbs[3]	closed herbland CH	herbland H	open herbland OH	sparse herbland SH
Forbs	closed forbland CFB	forbland FB	open forbland OFB	sparse forbland SFB
Rush	closed rushland CR	rushland R	open rushland OR	sparse rushland SR
Vines	closed vineland CVI	vineland VI	open vineland OVI	sparse vineland SVI
Ferns	closed fernland CFN	fernland FN	open fernland OFN	sparse fernland SFN
Sedges	closed sedgeland CV	sedgeland V	open sedgeland OV	sparse sedgeland SV

1 In this table the crown cover classes listed are used to allocate the modified Specht (1970) structural formation labels (after Hnatiuk et al. 2009, Table 17, p81) and the relationship in Scarth et al. (2008) These approximate the Specht (1970) projective foliage cover (pfc) classes and derivation by converting crown cover to pfc using crown density types.

2 Growth form of the predominant layer (the ecologically dominant layer). See table 28 for definition of growth forms.

3 Herbland refers to associations in which species composition and abundance is dependent on seasonal conditions and at any one time grasses or forbs may predominate.

Source: after Specht (1970), Neldner (1984), Walker and Hopkins (1998) and Hnatiuk et al. 2009.

The above methodology is considered to be reasonably consistent with the intent of the following documents:

- Byron Shire Council (2014) Guidelines and Requirements for Flora and Fauna Assessment Appendix B2.4 in *BSDCP 2014-Chapter B2-Preservation of Trees and Other Vegetation*. BSC.
- Byron Shire Council (2018) *Guidelines for Ecological Assessment in Byron Shire*. B.S.C
- DEC (2004) *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities Working Draft*. DEC, NSW.
- Gold Coast City Council (2015) *City Plan Policy: Ecological Site Assessments*. G.C.C.C., Bundall.
- Hnatiuk, R.J., Thackway, R and Walker. J (2009) Chapter 6: Vegetation in The National Committee on Soil and Terrain *Australian Soil and Land Survey: Field Handbook Third Edition*. CSIRO Australia, Canberra.
- Nelder et al (2019) *Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland*. QLD Herbarium, Brisbane.
- NSW Department of Infrastructure, Planning and Natural Resources (1997) *Guidelines for Targeted and General Flora and Fauna Surveys under the Native Vegetation Conservation Act 1997.*
- NSWNPWS (2001) *The Community Biodiversity Survey Manual*. New South Wales National Parks & Wildlife Service.
- OEH (2016) *NSW Guide to Surveying Threatened Plants*. OEH, Sydney.
- Walker, J. & Hopkins, M.S. (1998) Chapter 5: Vegetation in McDonald, R. C., Isbell, R.F., Speight, J.G., Walker, J. & Hopkins, M.S. *Australian Soil and Land Survey: Field Handbook Second Edition*. CSIRO Australia, Canberra.

3.1 VEGETATION SURVEY RESULTS

As a result of flora surveying five vegetation associations were identified within the site and are described separately below. Where possible, identified communities were compared to recognized documents such as Forest Types in NSW (1989), CRA Forest Ecosystems (1999), Byron Shire Vegetation Mapping (2012), Byron Flora and Fauna Study (1999), Keith (2004) Ocean Shores-Desert Dunes and NSW's Planit Community Types (PCTs).

Vegetation survey was performed as outlined above with geo-referenced colour aerial photographs overlaid with existing mapped vegetation boundaries and cadastre boundaries utilized for the initial recognition of community boundaries in the field and adjustments noted as necessary. Communities (refer below) were then transcribed directly into the GIS program utilizing the aerials, contours, geological information and vegetation boundaries as a reference background. Where necessary vegetation boundaries were traversed with a hand held GPS (Garmin GPSMap62s) and loaded into Mapinfo V11.5 with existing boundaries rectified. Significant flora species and/or trees bearing hollows were also located via GPS in a similar manner where relevant.

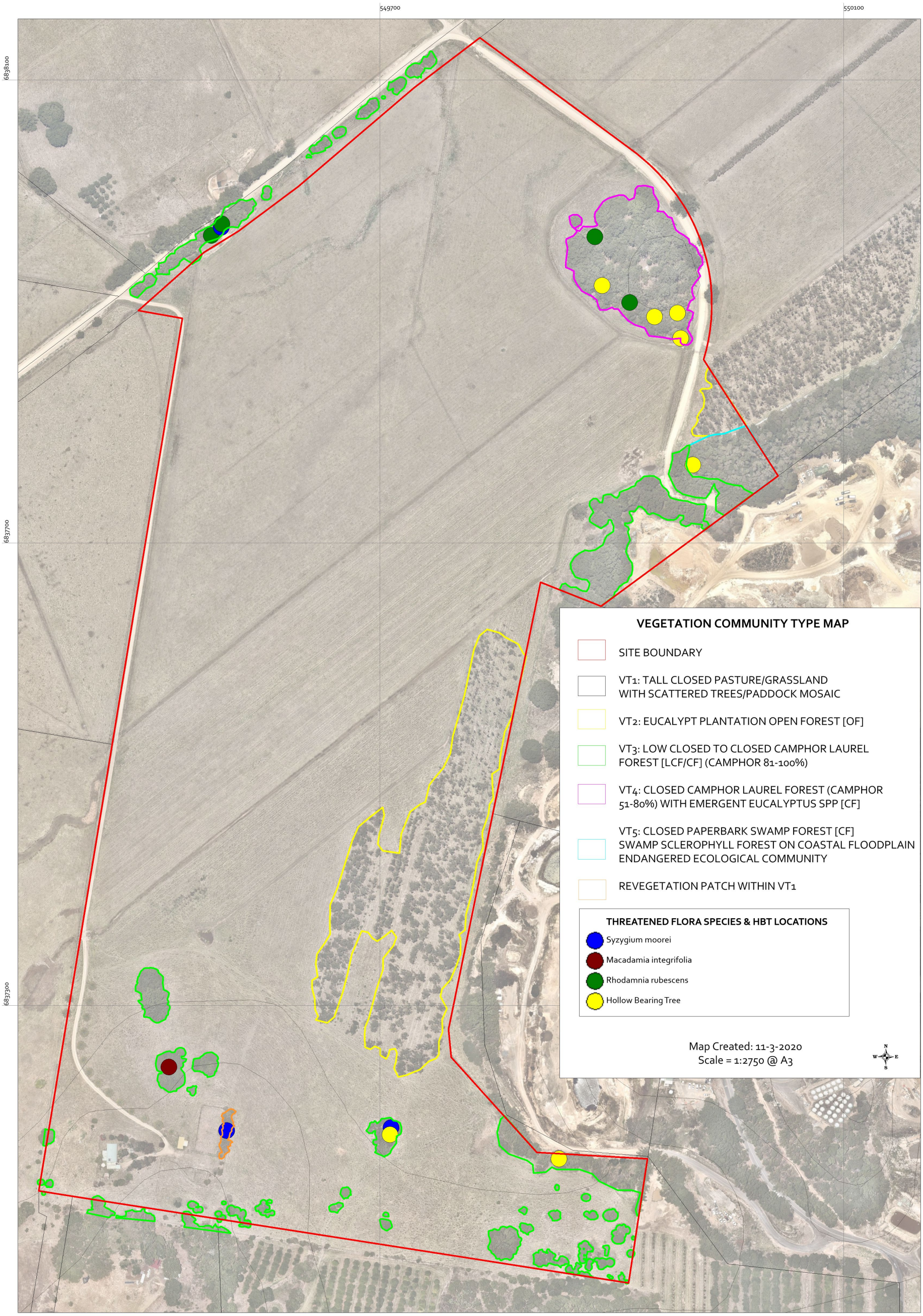


FIGURE 6: VEGETATION COMMUNITY MAPPING

VEGETATION COMMUNITY TYPE 1: TALL CLOSED PASTURE/GRASSLAND WITH SCATTERED TREES/PADDOCK MOSAIC

This modified community occupies the majority of site where previously occurring woodland/forest communities have been cleared/fragmented for pastoral or farming pursuits. Whilst scattered trees and copses of regrowth occur (principally camphor laurel), all areas are dominated by pasture grasses (either deliberately established or naturally occurring) with associated pasture environmental weeds fairly common but not dominant. The dominance of this vegetation type has also influenced the lower strata of the following described vegetation communities which are generally dominated by a mosaic of pasture and/or exotic grass species beneath the tree layer as the pasture extends across all areas.

The height of the grassland is typically >1-1.5 metres in height and appears to currently be rested out of grazing rotation with production animals noted further to the north and northwest during the survey period. Pasture is currently only maintained around the tenanted dwelling in the south-western site corner. The dominant feature of the grassland appears to be an established mix of pastures with likely self-sown species infiltrating from the surrounding properties which also include pastoral holdings.

At time of inspections the species observed included *Setaria sphacelata, Paspalum urvillei, Paspalum mandiocanum, Pennisetum clandestinum, Paspalum dilatatum, Axonopus compressus, Axonopus fissifolius, Megathyrsus maximus, Chloris gayana, Digitaria violascens, Urochloa decumbens, Sporobolus* spp etc. Self-sown woody and herbaceous pasture weeds are occur throughout the pasture/paddocks but are not dominant including species such as Lantana (*Lantana camara*), Balloon Cotton (*Gomphocarpus physocarpus*), Fleabane (*Conyza bonariensis*), Sowthistle (*Sonchus oleraceus*), Purpetop (*Verbena bonariensis*), Billygoat Weed (*Ageratum houstonianum*), Wild Tobacco (*Solanum mauritianum*), Devils Fig (*Solanum capsicoides*), Columbian Waxweed (*Cuphea carthagenensis*), Inkweed (*Phytolacca octandra*), Cestrum (*Cestrum parqui*), Privets (*Ligustrum sinense, Ligustrum lucidum*), Flanned Weed (*Sida rhombifolia*), Brazil Cherry (*Eugenia uniflora*), Guava (*Psidium guajava*), Mickey Mouse Plant (*Ochna serrulata*), Amaranth (*Amaranthus blitum*) and Siratro (*Macroptilium atropurpureum*).

Due to the dense and closed growth of the current grassland cover it is considered that additional typical pasture species may have been overlooked at the time of survey.

Several drainage channels have been constructed across the paddocks which are also dominated by pasture grasses although several aquatic species occur such as Cumbungi (*Typha orientalis*), Common Reed (*Phragmites australis*), Common Rush (*Juncus usitatus*), Smartweeds (*Persicaria spp*), Pennywort (*Centella asiatica*), Sedges (*Cyperus polystachyos, C. diformis*), Curled Dock (*Rumex crispus*), Primroses (*Ludwigia peploides* subsp. *montevidensis*, *Ludwigia octovalvis*), Binung (*Cyclosorus dentatus*) and White Eclipta (*Eclipta prostrata*).


Trees occur sporadically and mostly in the south and are overwhelmingly dominated by Camphor Laurel (*Cinnamomum camphora*). Scattered other trees include Slash Pine (*Pinus elliottii*), Macaranga (*Macaranga tanarius*), Pecan Nut (*Carya illinoinensis*) and Date Palms (*Phoenix canariensis*) along the driveway. Isolated shrubs of Tea-tree (*Melaleuca alternifolia*) occur in the northern pasture with a maintained linear plantation of these species present in the next paddock to the east. A cluster of decrepit Willow (*Salix* spp) was also noted at the base of the southern hill.


A fenced off patch of planted trees occurs to the east of the abandoned shed in the southern paddock which contains a variety of rainforest species including Macaranga, Bottlebrush (*Callistemon viminalis*), Lillipillies (*Syzygium australe, S. moorei, S. oleosum, S. luehmannii*), Teak (*Flindersia australis*), White Cedar (*Melia azedarach*), Red Cedar (*Toona ciliata*), Red Kamala (*Mallotus philippensis*), Brown Tamarind (*Castanospora alphandii*), Flame Tree (*Brachychiton acerifolius*), Bastard Crows Ash (*Pentaceras australe*), Native Tamarind (*Diploglottis australis*), Bumpy Ash (*Flindersia schottiana*), Wild Quince (*Guioa semiglauca*), Hoop Pine (*Araucaria cunninghamii*), Kurrajong (*Brachychiton populneus*) and Hard Quandong (*Elaeocarpus obovatus*).


Equivalent vegetation communities

Forest Types in NSW 1989:	Code 220_Cleared/Partially Cleared
CRA Forest Ecosystems 1999:	Code 173_Cleared/Partially Cleared
Byron Shire Vegetation Mapping 2012:	N/A cleared
Byron Flora and Fauna Study 1999:	N/A cleared
Keith (2004) Ocean Shores-Desert Dunes:	N/A
NSW PCT:	No equivalent-highly modified

VEGETATION COMMUNITY TYPE 2: EUCALYPT PLANTATION OPEN FOREST [OF]

An unmaintained Eucalypt Forest Plantation occupies part of the eastern lower-lying areas adjacent to the quarry/resource recovery sites and is characterized by even linear rows of Blue Gum (*Eucalyptus saligna*) in the 14-20m height range. No other native tree or shrub species occur with the ground layer occupied by unmaintained pasture grassland as described in VT1. Camphor laurel is also sporadically present as a shrub.

A similar plantation occurs to the east of entry road to the quarry which is also currently unmaintained.



Equivalent vegetation communities

Forest Types in NSW 1989:	Code 218 Forestry Plantation
CRA Forest Ecosystems 1999:	Code 165_ Forestry Plantation
Byron Shire Vegetation Mapping 2012:	Landscaping/Urban Bushland Mosaic
Byron Flora and Fauna Study 1999:	Plantation [excluded]
Biometric Vegetation Database NRCMA:	No equivalent
Keith (2004) Ocean Shores-Desert Dunes:	No equivalent
NSW PCT:	No equivalent-highly modified

VEGETATION COMMUNITY TYPE 3: LOW CLOSED TO CLOSED CAMPHOR LAUREL FOREST [LCF/CF] (CAMPHOR 81-100%)

This community occurs sporadically throughout the southern paddock, along fencelines and within the northern road reserve and is almost exclusively occupied by closed Camphor Laurel in the 8-15m height range. In the southern paddocks it appears that the community has established upon stockpiled boulders relocated from the adjoining grasslands to open up the created paddocks. Native trees are scarce but include Red Kamala (*Mallotus philippensis*), Foambark (*Jagera pseudorhus*), Whalebone (*Streblus brunonianus*), Sandpaper Fig (*Ficus coronata*), Wild Quince (*Guioa semiglauca*), Sweet Pittosporum (*Pittosporum undulatum*), Black Walnut (*Endiandra globosa*) and White Kamala (*Mallotus discolor*).



The lower strata are dominated by pasture grass and other exotic species associated with the adjoining paddocks (VT1) with native species occasionally present such as Pastel Flower (*Pseuderanthemum variabile*), Cockspur (*Maclura cochinchinensis*), Bracken (*Pteridium esculentum*) and Rasp Fern (*Doodia australis*). Native vines including Barbed Wire Vine (*Smilax autralis*), Burny Vine (*Trophis scandens*), Water Vine (*Cissus antarctica*) and Large Prickle Vine (*Caesalpinia scortechinii*) were also sporadically present.




Equivalent vegetation communities

Forest Types in NSW 1989:	Code 221_Introduced Scrub
CRA Forest Ecosystems 1999:	Code 201_Camphor Laurel
Byron Shire Vegetation Mapping 2012:	Camphor Laurel 81-100%

Byron Flora and Fauna Study 1999:	Camphor Laurel 81-100%
Biometric Vegetation Database NRCMA:	No equivalent
Keith (2004) Ocean Shores-Desert Dunes:	No equivalent
NSW PCT:	No equivalent-highly modified

VEGETATION COMMUNITY TYPE 4: CLOSED CAMPHOR LAUREL FOREST (CAMPHOR 51-80%) WITH EMERGENT EUCALYPTUS SPP [CF]

This community occupies ~1 hectare in the northeast of the site on a small hill which is elevated above the surrounding pasture grasslands. The canopy is similar to VT 3 in being dominated by Camphor Laurel although two exceptions are noted:

- Mature Tallowwood (*Eucalyptus microcorys*), Pink Bloodwood (*Corymbia intermedia*) and Brushbox (*Lophostemon confertus*) occur on the western and southern slopes. Several stems emerge to 25m and contain visible hollows
- Two emergent Hoop Pines (*Araucaria cunninghamii*) occur on top of the hill

Although camphor laurel remains dominant a greater abundance and variety of small native trees, shrubs and groundcovers is evident in this community (mostly on the southern and western slopes) in comparison to VT3 including Red Kamala (*Mallotus philippensis*), Foambark (*Jagera pseudorhus*), Sandpaper Fig (*Ficus coronata*), Wild Quince (*Guioa semiglauca*), Sweet Pittosporum (*Pittosporum undulatum*), Bolwarra (*Eupomatia laurina*), Lace Flower (*Archidendron grandiflorum*),Tuckeroo (*Cupaniopsis anacardioides*), Weeping Lillipilli (*Waterhousea floribunda*), Scentless Rosewood (*Synoum glandulosum*), Tree Heath (*Trochocarpa laurina*), Steelwood (*Sarcopteryx stipata*), Pear Fruit (*Mischocarpus pyriformis*), Murrogun (*Cryptocarya microneura*), Denhamia (*Denhamia celastroides*), Bootlace Bark (*Wikstroemia indica*), Hard Quandong (*Elaeocarpus obovatus*), Soap Tree (*Alphitonia excelsa*), Sandfly Bush (*Zieria smithii*), Muttonwood (*Myrsine variabilis*), Cheese Tree (*Glochidion ferdinandi*), Cordyline (*Cordyline rubra*), Mock Olive (*Notelaea longifolia*), Coffeebush (*Breynia oblongifolia*), Pastel Flower (*Pseuderanthemum variabile*), Cockspur (*Maclura cochinchinensis*), Bracken (*Pteridium esculentum*), Rasp Fern (*Doodia australis*), Binung (*Cyclosorus dentatus*), Hairy Trefoil (*Desmodium rhytidophyllum*), Blady Grass (*Imperata cylindrica*), Native Yam (*Dioscorea transversa*), Rainbow Fern (*Calochlaena dubia*), Barbed Wire Vine (*Smilax autralis*), Burny Vine (*Trophis scandens*), Water Vine (*Cissus antarctica*) Large Prickle Vine (*Caesalpinia scortechinii*), Hairy Supplejack (*Ripogonum elseyanum*), Scrambling Lily (*Geitonoplesium cymosum*), Lawyer Vine (*Calamus muelleri*) and Milkvine (*Marsdenia rostrata*).




Equivalent vegetation communities

Forest Types in NSW 1989:	Code 221_Introduced Scrub
CRA Forest Ecosystems 1999:	Code 201_Camphor Laurel
Byron Shire Vegetation Mapping 2012:	Camphor Laurel 51-80% / 81-100%
Byron Flora and Fauna Study 1999:	Camphor Laurel 51-80% / 81-100%
Biometric Vegetation Database NRCMA:	No equivalent
Keith (2004) Ocean Shores-Desert Dunes:	No equivalent
NSW PCT:	No equivalent highly modified. Very small area of southern slope 1073 Pink Bloodwood – Tallowwood moist open forest of the far northern ranges of the NSW North Coast Bioregion

VEGETATION COMMUNITY TYPE 5: CLOSED PAPERBARK SWAMP FOREST [CF]

This community occurs primarily offsite to the east although a small area (~0.28ha) is located on the site but to the east of the accessway servicing the quarry. The area is low-lying with a constructed drain forming the northern boundary which then reverts to pasture grassland and another small patch of Eucalypt Plantation. The canopy is primarily closed to 20m in height and dominated by Paperbark (*Melaleuca quinquenervia*) with Weeping Lillipilli (*Waterhousea floribunda*) associated. Camphor Laurel occurs on the eastern and southern fringes with isolated Blue Gum (*Eucalyptus tereticornis*) also present. Small trees such as Pink Doughwood (Me*licope elleryana*), Cheese Tree (*Glochidion ferdinandi*), Blackwood (*Acacia melanoxylon*) and Sweet Pittosporum (*Pittosporum undulatum*) are scattered throughout.


Typical to communities subject to regular inundation the shrub layer is poorly developed although the woody trunks of Monkey Rope (*Parsonsia stramina*) occupy several areas with smaller vine species (*Smilax australis, Marsdenia rostrata, Ripogonum elseyanum*) sparsely distributed.

The ground layer is occupied by a mixture of woody debris, leaf litter and aquatic/semi-aquatic native species such as Saw-sedge (*Gahnia aspera*), Tea-tree Swamp Sedge (*Carex gaudichaudiana*), Swamp Water Fern (*Telmatoblechnum indicum*), Sedges (*Cyperus* spp.), Common Reed (*Phragmites australis*) and Harsh Ground Fern (*Hypolepis muelleri*).

Few weeds are present in this community apart from Camphor Laurels associated with the adjoining vegetation patch and pasture grass species on the northern fringe.


Equivalent vegetation communities

Forest Types in NSW 1989:	Code 31_ Paperbark
CRA Forest Ecosystems 1999:	Code 112_Paperbark
Byron Shire Vegetation Mapping 2012:	Paperbark
Byron Flora and Fauna Study 1999:	Paperbark (PB)
Keith (2004) Ocean Shores-Desert Dunes:	Coastal Swamp Forests
NSW PCT:	1064 Paperbark swamp forest of the coastal lowlands of the NSW North Coast Bioregion and Sydney Basin Bioregion

3.2 ENDANGERED ECOLOGICAL COMMUNITIES

Endangered ecological communities are listed under Schedule 2, of the Biodiversity *Conservation Act 2016*, while threatened ecological communities are listed under the *Environment Protection and Biodiversity Conservation Act 1999* as critically endangered, endangered and vulnerable.

One vegetation community within the study area is floristically similar to one (1) EEC known to occur on coastal floodplains:

Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions

Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions is the name given to the ecological community associated with humic clay loams and sandy loams, on waterlogged or periodically inundated alluvial flats and drainage lines associated with coastal floodplains. Floodplains are level landform patterns on which there may be active erosion and aggradation by channelled and overbank stream flow with an average recurrence interval of 100 years or less (adapted from Speight 1990). Swamp Sclerophyll Forest on Coastal Floodplains generally occurs below 20 m (though sometimes up to 50 m) elevation, often on small floodplains or where the larger floodplains adjoin lithic substrates or coastal sand plains in the NSW North Coast, Sydney Basin and South East Corner bioregions. Bioregions are defined in Thackway and Cresswell (1995). The structure of the community is typically open forest, although partial clearing may have reduced the canopy to scattered trees. In some areas the tree stratum is low and dense, so that the community takes on the structure of scrub. The community also includes some areas of fernland and tall reedland or sedgeland, where trees are very sparse or absent. Typically these forests, scrubs, fernlands, reedlands and sedgelands form mosaics with other floodplain forest communities and treeless wetlands, and often they fringe treeless floodplain lagoons or wetlands with semi-permanent standing water (e.g. Pressey 1989a).

The composition of Swamp Sclerophyll Forest on Coastal Floodplains is primarily determined by the frequency and duration of waterlogging and the texture, salinity nutrient and moisture content of the soil. Composition also varies with latitude.

Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions has an open to dense tree layer of eucalypts and paperbarks, which may exceed 25 m in height, but can be considerably shorter in regrowth stands or under conditions of lower site quality. For example, stands dominated by Melaleuca ericifolia typically do not exceed 8 m in height. The most widespread and abundant dominant trees include Eucalyptus robusta (swamp mahogany), Melaleuca quinquenervia (paperbark) and, south from Sydney, Eucalyptus botryoides (bangalay) and Eucalyptus longifolia (woollybut). Other trees may be scattered throughout at low abundance or may be locally common at few sites, including Callistemon salignus (sweet willow bottlebrush), Casuarina glauca (swamp oak) and Eucalyptus resinifera subsp. hemilampra (red mahogany), Livistona australis (cabbage palm) and Lophostemon suaveolens (swamp turpentine). A layer of small trees may be present, including Acacia irrorata (green wattle), Acmena smithii (lilly pilly), Elaeocarpus reticulatus (blueberry ash), Glochidion ferdinandi (cheese tree), Melaleuca linariifolia and M. styphelioides (paperbarks). Shrubs include Acacia longifolia (Sydney golden wattle), Dodonaea triquetra (a hopbush), Ficus coronata (sandpaper fig), Leptospermum polygalifolium subsp. polygalifolium (lemon-scented tea tree) and Melaleuca spp. (paperbarks). Occasional vines include Parsonsia straminea (common silkpod), Morinda jasminoides and Stephania japonica var. discolor (snake vine). The groundcover is composed of abundant sedges, ferns, forbs, and grasses including Gahnia clarkei, Pteridium esculentum (bracken), Hypolepis muelleri (batswing fern), Calochlaena dubia (false bracken), Dianella caerulea (blue flax lily), Viola hederacea, Lomandra longifolia (spiny-headed mat-rush) and Entolasia marginata (bordered panic) and Imperata cylindrica var. major (blady grass). The endangered swamp orchids Phaius australis and P. tankervillei are found in this community. On sites downslope of lithic substrates or with soils of clay-loam texture, species such as Allocasuarina littoralis (black she-oak), Banksia oblongifolia, B. spinulosa (var. collina or var. spinulosa) (hairpin banksia), Ptilothrix deusta and Themeda australis (kangaroo grass), may also be present in the understorey. The composition and structure of the understorey is influenced by grazing and fire history, changes to hydrology and soil salinity and other disturbance, and may have a substantial component of exotic grasses, vines and forbs (NSW Scientific Committee 2011 online @ https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species/nsw-threatened-species-scientific-committee/determinations/final-determinations/2011-2012/swamp-sclerophyll-forest-on-coastal-floodplains-of-the-nsw-north-coast-minor-amendment-determination).

DISCUSSION

A review of the scientific determination and DECC (2007) Guidelines for EECs-Swamp Sclerophyll Forest on Coastal Floodplains indicates that VT5 (Closed *Melaleuca quinquenervia* Swamp Forest) is representative of the Swamp Sclerophyll Forest EEC. This community is located within the existing quarrying facility lands and is well removed from the Solar Farm impact zone and separated by an existing haulage road and camphor laurel community.

No other vegetation communities within the study area are considered to be reflective of an Endangered Ecological Community listed under the *Biodiversity Conservation Act 2016* or a Threatened Ecological Community under the *Environment Protection and Biodiversity Conservation Act 1999.*

4 FAUNA ASSESSMENT

This section describes the recorded site fauna assemblage and associated habitat as identified through field survey. The methodology applied to arrive at the species list is outlined and significant species have been identified where relevant.

4.1 FAUNA SURVEY METHODOLOGY

- Desktop analysis including:
  i. Review of Council's Planning Scheme Mapping and associated reporting
  ii. Review of threatened fauna species and endangered populations listed as occurring within the Murwillumbah (Qld - Southeast Hills and Ranges) CMA sub-region of the Northern Rivers CMA
  iii. Review of search of the Atlas of NSW Wildlife database within a search area km surrounding the site to review threatened plant records
  iv. Review of available ecological surveys/reports previously undertaken in the locality
  v. Review of the following legislation to ensure the latest lists of threatened species were noted as well as investigating the existence of any relevant recovery plans, threat abatement plans, key threatening processes or any preliminary determinations which may be applicable to the site and/or the proposed use/action:
     - *Biodiversity Conservation Act (2016)*
     - *Environment Protection and Biodiversity Conservation Act (1999)*

- Field survey of the flora communities located within and immediately adjacent to the development footprint (in accordance with Section 3 above) to review habitat values;

- The following fauna field survey methods were implemented between the 7th February and 12th March 2020 in general accordance with the following:
  - Byron Shire Council (2014) Guidelines and Requirements for Flora and Fauna Assessment Appendix B2.4 in *BSDCP 2014-Chapter B2-Preservation of Trees and Other Vegetation*. BSC.
  - Byron Shire Council (2018) *Guidelines for Ecological Assessment in Byron Shire*. B.S.C
  - DECC (2004) *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities Working Draft*. DEC, NSW.
  - DECC (2009) Threatened Species Survey and Assessment Guidelines: Field Survey Methods for Fauna-Amphibians. DECC, Sydney.
  - Gold Coast City Council (2015) *City Plan Policy: Ecological Site Assessments*. G.C.C.C., Bundall.
  - NSW Department of Infrastructure, Planning and Natural Resources (1997) *Guidelines for Targeted and General Flora and Fauna Surveys under the Native Vegetation Conservation Act 1997.*

Weather conditions were hot during the day becoming warm at night (maximum of 31.0C° and minimum of 19.6C° as measured at Cape Byron AWS [058216]). 728mm fell during the survey period including several prolonged thunderstorms.

4.2 EMPLOYED FAUNA SURVEY TECHNIQUES

4.2.1 DIURNAL SURVEY

- Binocular search and identification of fauna heard or sighted;

Malurus cyaneus

Lonchura castaneothorax

Accipiter fasciatus

Ardea ibis in adjacent paddock to the west

- Opportunistic sightings/audible identifications were conducted and recorded whilst all survey works were being undertaken;

- Bird identification surveys were conducted in association with dawn and dusk activity and comprised walked transects through each vegetation community;
  Duration: 1 x dawn/early morning (30 minutes) 1 x dusk (30 minutes)

- Ground track/trace survey was performed including:
  - Scat/pellet examination
  - Scratch/trace examination of trees
  - Diggings, burrow, trace and track examination
  - Humus/crevice examination
  - Examination and assessment of tree hollows, hanging bark, termite mounds, flowering and nesting trees etc

  Duration: Opportunistic during other survey works.

	
Accessible hollow examined with hand-held torch	Possum Scat
	
Lampropholis delicata	Bos taurus bones

- Diurnal frog-call recognition and identification during rainfall events and opportunistically performed during other survey works,
  Duration: opportunistic during all other survey works

- Ground strata searches and rock/timber/leaf litter rolls and examination for reptiles and frogs.
  Duration: 2 x 30 minutes during the middle of the day

- Motion triggered trail cameras (Scoutguard Zeroglow and Reconyx Hyperfire) were placed in five locations for a minimum of 7 days/nights at each site to digitally capture fauna activity. Such passive camera traps were deployed in accordance with DSEWPC (2011) 'Survey guidelines for Australia's threatened mammals: Guidelines for detecting mammals listed as threatened under the *Environment Protection and Biodiversity Conservation Act* 1999. "Passive systems are single units that use heat and motion detectors to trigger the camera (Kelly & Holub 2008). Infrared sensors work better at cooler ambient temperatures and are less consistent in warm environments (Swann et al. 2004). Camera trapping has been found to be the most effective method of detecting species at low or moderate densities (Vine et al. 2009 in DSEWPC, 2011: 32)." DSEPWC (2011) note that "recent surveys have found remote cameras to be the most cost-effective technique and allow concurrent data to be collected on other carnivores, particularly cats and foxes."

  Cameras were fixed to trees approximately 75-100cm from ground level and aimed at a bait station. Cameras were programmed to operate 24 hours and take 3-image bursts triggered by motion. A 60 second delay was

programmed between bursts. Each bait station consisted of either fresh chicken pieces or tuna mixture (carnivore) or a mixture of oats, peanut butter and golden syrup (generalist). To reduce the ability for a single animal to move the bait away from the camera station the baits were placed within a steel burley cage and pegged to the ground.

In addition, either tuna oil (carnivore) or golden syrup/aniseed mixture (generalist) was sprayed in an approximate 5m radius around each bait station to act as an attractant. All fauna images were identified to genus or species level by the author.

Deployed Camera

Deployed Camera

Wallabia bicolor

Bos taurus

- Hair funnels (Faunatech) were deployed in general accordance with DSEWPC (2011) 'Survey guidelines for Australia's threatened mammals: Guidelines for detecting mammals listed as threatened under the *Environment Protection and Biodiversity Conservation Act* 1999.' This included installing hair funnels (Faunatech large opening reducing to small) at least 40m apart. The bait utilized included a mixture of sardines and tuna oil with flour utilized as a binding agent or a generic mixture of oats, peanut butter and golden syrup. Additionally, tuna oil or aniseed was sprayed in an approximate 2m radius around each funnel to act as an attractant

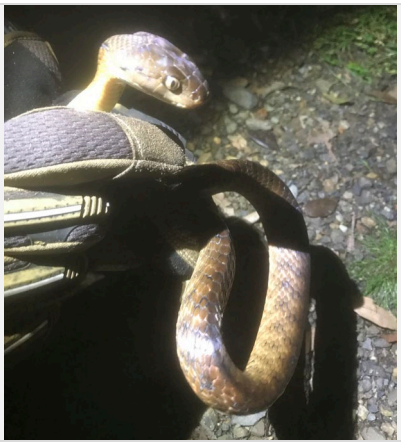
  Duration: minimum of 10 days/nights at each site.

	
Deployed Hair Funnel	Deployed Hair Funnel

4.2.2 NOCTURNAL SURVEY

Nocturnal survey included the following survey techniques:

- Audible survey/recognition for calls, scratching and landings;
- Hair funnelling for mammals as described above;
- Spotlighting: Meandering nocturnal searches with Fenix HP30 head lamps and Fenix TK75 hand held spotlights were performed in accordance with CoE (2011 Survey Guidelines for Australias Threatened Mammals Section 3.3.3) searching for presence of and reflective eyeshine of fauna and to enable ground strata searches for activity. All torches/spotlights were equipped with dimmer switches to reduce light intensity whilst identifying an individual animal after initial discovery.
  Duration on foot: two nights for 90 minutes per night

	
Boiga irregularis	Litoria caerulea

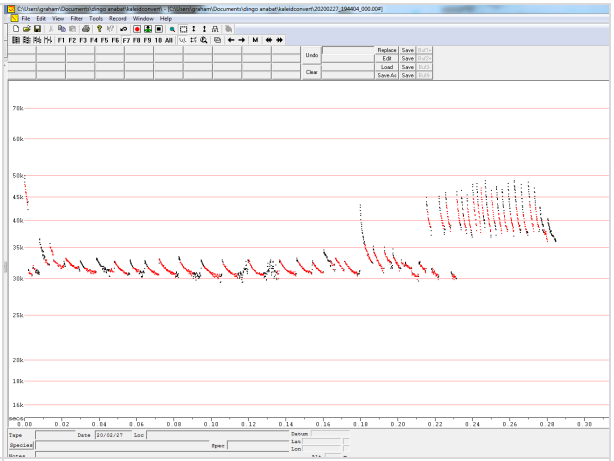
	
Pteropus spp flying overhead	Trichosurus caninus

- Amphibian surveys were conducted at night along areas considered to represent potential habitat for amphibians (i.e. farm drains). This included randomized walks adjacent the constructed farm channels and areas of standing water following rainfall actively looking for exposed frogs, active frogs and eyeshine. Call playback was conducted randomly for targeted species either from the surveyor's mobile phone connected to a Bluetooth speaker, or on a 25W Toa Megaphone.
  Duration: One researcher for 30 minutes on two separate nights

	
Limnodynastes peronii	Limnodynastes peronii breeding mass

- Anabat detection system was utilized to record echolocation of microchiropteran bats whilst spotlighting and from fixed stationary sites. Recordings were undertaken in areas most likely to attract bat species including standing water, woodland edges, areas of flowering vegetation and sites of high insect activity. Calls were analyzed utilizing Analook 49j, AnalookW and accepted reference keys.
  Duration: Three night's continuous recording for six hours per night

Deployed Anabat



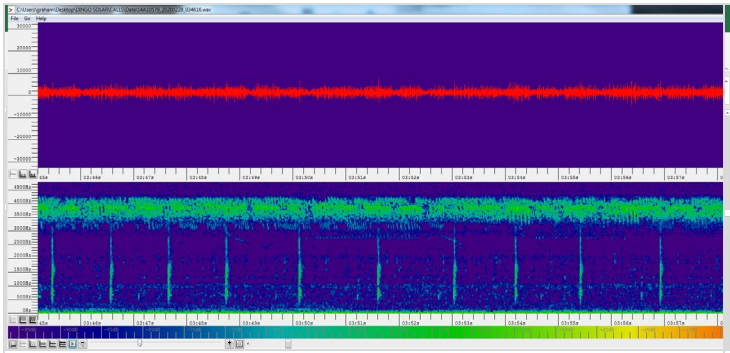
Chalinolobus gouldii with Myotis macropus call profile

- Motion triggered trail cameras were deployed for 7 days/nights as discussed in 'diurnal' above

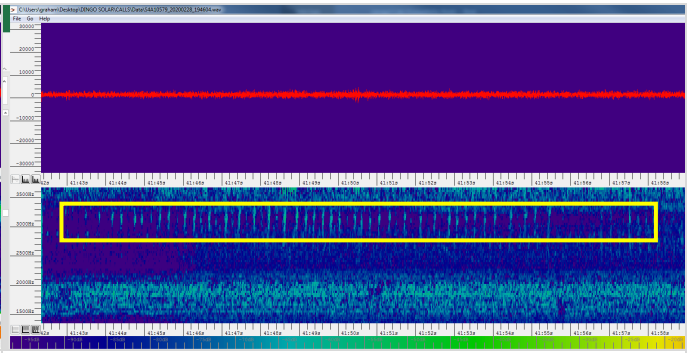
Trichosurus vulpecula

Rattus spp.

- A songmeter SM4 was deployed for seven nights with the aim of recording unelicited nocturnal fauna vocalisations from after dusk until prior to dawn. Digital audio files were analyzed utilizing Songscope software developed by Wildlife Acoustics. Calls reviewed were compared existing call databases obtained from BOCA, NATURESOUND, Hoskin et al (2017) or Morcombe (2013)



Limnodynastes peronii calls



Litoria nasuta calls

Amplified call recording/playback for avifauna, mammals and amphibians. Playback of pre-recorded calls included the following species:

- Wallum Froglet
- Wallum Sedgefrog
- Grass Owl
- Jabiru
- Barking Owl
- Squirrel Glider
- Koala
- Wompoo Fruit Dove
- White-eared Monarch
- Rose-crowned Fruit Dove

Each call playback session comprised of the following:

- A 2 min listening period for unelicited fauna calls
- A 4 min call playback for relevant species on a 25W Toa Megaphone
- A 2 min search/spotlight for fauna at the playback site

Depending on the targeted species playback was undertaken at dawn, dusk and/or after dark. All call files were obtained from BOCA or NATURESOUND. The approximate locations of fauna survey plots (for defined methods such as call playback, camera traps etc) across the site are depicted in Figure 7.

4.3 SURVEY LIMITATIONS

Whilst the duration of flora surveys and inspections are considered appropriate for the disturbed nature and relatively small size of the site, it was not practical to intensively search all areas of vegetation present (i.e. all pasture areas which are abundant across the site). Additional undetected threatened or other native flora species may be present (particularly grass and weed species). Seasonal surveys would also be necessary to detect flora species that are dormant or inconspicuous for part of the year (i.e. from the Asteraceae, Orchidaceae, Cyperaceae, Poaceae etc). Some of these species (dormant or non-flowering) may have been undetected or under-represented within the survey period. Further un-germinated seed of various species may have been present within the soil seed bank.

Whilst the duration and sampling methodology of the fauna survey is considered appropriate, it is acknowledged that the entire seasonal fauna assemblage is unlikely to be recorded. It is also accepted that although assessments of habitat and species ecology does provide an additional measure to anticipate the presence of species (as a surrogate for its actual observation), there is no absolute certainty to the absence of a species from marginal or potential habitat. Additionally, there may be some species that may utilise the habitats within the site but have remained undetected due to their rarity, elusive nature or the sporadic utilisation of the habitats (i.e. the Long-nosed Potoroo, Common Planigale and Dunnart are elusive species that are difficult to trap or observe directly; the Black-necked Stork, Powerful Owl, Spotted-tail Quoll and Red Goshawk may only visit an area occasionally within a much larger home-range; the Swift Parrot and Regent Honeyeater may only visit an area during peak flowering periods etc.).

The conclusions of this report are therefore based upon data available at the time and the results of field works undertaken and are therefore indicative of the condition of the site at the time of sampling, including the presence or otherwise of species. At should be acknowledged that site conditions, including the presence of threatened species, can change over time.

The above limitations have been taken into account and the likelihood of threatened such species occurring within the site assessed through habitat assessment, records of the species within the locality and aspects of species ecology.

Notwithstanding the above, it is considered reasonably unlikely that threatened flora or fauna species have been overlooked in area proposed to be occupied by the Solar Panel Array which has been historically disturbed and is currently existing as pasture.

4.4 LICENCING

The following issued licences/permits are held by the surveyor:

TABLE 3: RELEVANT NSW LICENCES

Authority	Licence/Permit	Title	Expiration	Permit No.
NSW DPI Animal Care & Ethics Committee	Animal Research Approval	Fauna Surveying, Trapping & Release	30 June 2020	TRIM 14/1971
NSW DPI Animal Care & Ethics Committee	Animal Research Authority	Fauna Surveying, Trapping & Release	30 June 2020	CSB 14/1971
NSW National Parks & Wildlife Service	Scientific Licence Biodiversity Conservation Act	Ecological Survey	31st July 2020	S100142
NSW DPIE	Biodiversity Assessment Method Assessor under the BCA 2016	BAM Accredited Assessor	3 July 2020	BAAS19041
QLD DES	Scientific Purposes Permit NCAR2006	Wildlife Research	7 August 2020	WISP14894214
QLD DEEDI Animal Ethics	Animal Care and Protection Act 2001	Scientific User Registration	14 February 2021	Reg No. SUR000241
QLD DAAF Animal Ethics	Community Access AEC	Fauna Surveying	14 February 2021	CA 2018/03/1168

4.5 HABITAT ASSESSMENT

Prior to the commencement of the abovementioned survey works on site a broad habitat assessment was conducted. The purpose of this overview was to determine potential occurrence of fauna based on available habitat components and to target areas for detailed surveying of protected fauna species. The following habitat components were reviewed and occur as a result of previous landuse, vegetation types (refer Section 3), geomorphic variability, surrounding uses and hydraulic regime:

TABLE 4: HABITAT FEATURES

Habitat Element/Feature	Comment
Presence of hollow bearing trees	Absent from works footprint. 7 recorded within the overall site
Presence of koala habitat and/or favoured koala trees	Scarce within the site and primarily restricted to scattered eucalypts on the southern slopes of VT4 Unmaintained eucalypt plantation VT2 present in the east and southeast which contain abundant potential foraging trees although such areas are isolated from other remnant eucalypt forest. The solar panel farm will not impact upon these areas.
Presence of caves, culverts or disused buildings suitable for roosting of microchiropteran bat species	One disused shed is present in the south although inspections did not encounter any roosting bats.
Presence of scratches or feeding scars on tree trunks	Minor scratches reflective of Possums present on smooth barked trees. No feeding scars typical to petaurids were noted.

Habitat Element/Feature	Comment
Presence of megabat roosting sites	Not recorded.
Presence of creeklines, estuaries, mudflats, mangroves and/or riparian vegetation	Absent.
Presence of dams, ponds, lakes and/or other natural or constructed permanent water sources	Present in the form of constructed drainage lines across the paddocks
Presence of dense understorey and ground cover vegetation	Abundant across the site in the form of unmaintained rank pasture/exotic grassland which has spread into the lower strata of all communities except VT5. Coarse woody debris and native shrubs/groundcovers are scarce across VT1-4
Presence of deep leaf litter layer and/or debris (fallen logs etc.)	Scarce excluding VT5.
Presence of fruiting flora species	Abundant but mostly exotic species (i.e. camphor laurel etc.).
Presence of large stick nests indicative of raptor presence	Not recorded.
Presence of rocky outcrops and/or extensive exposed rocky areas favoring reptile populations	Scarce and restricted to southern copses of camphor laurel which appear to have established upon stockpiles of boulders consolidated to open up the southern slope to grazing.

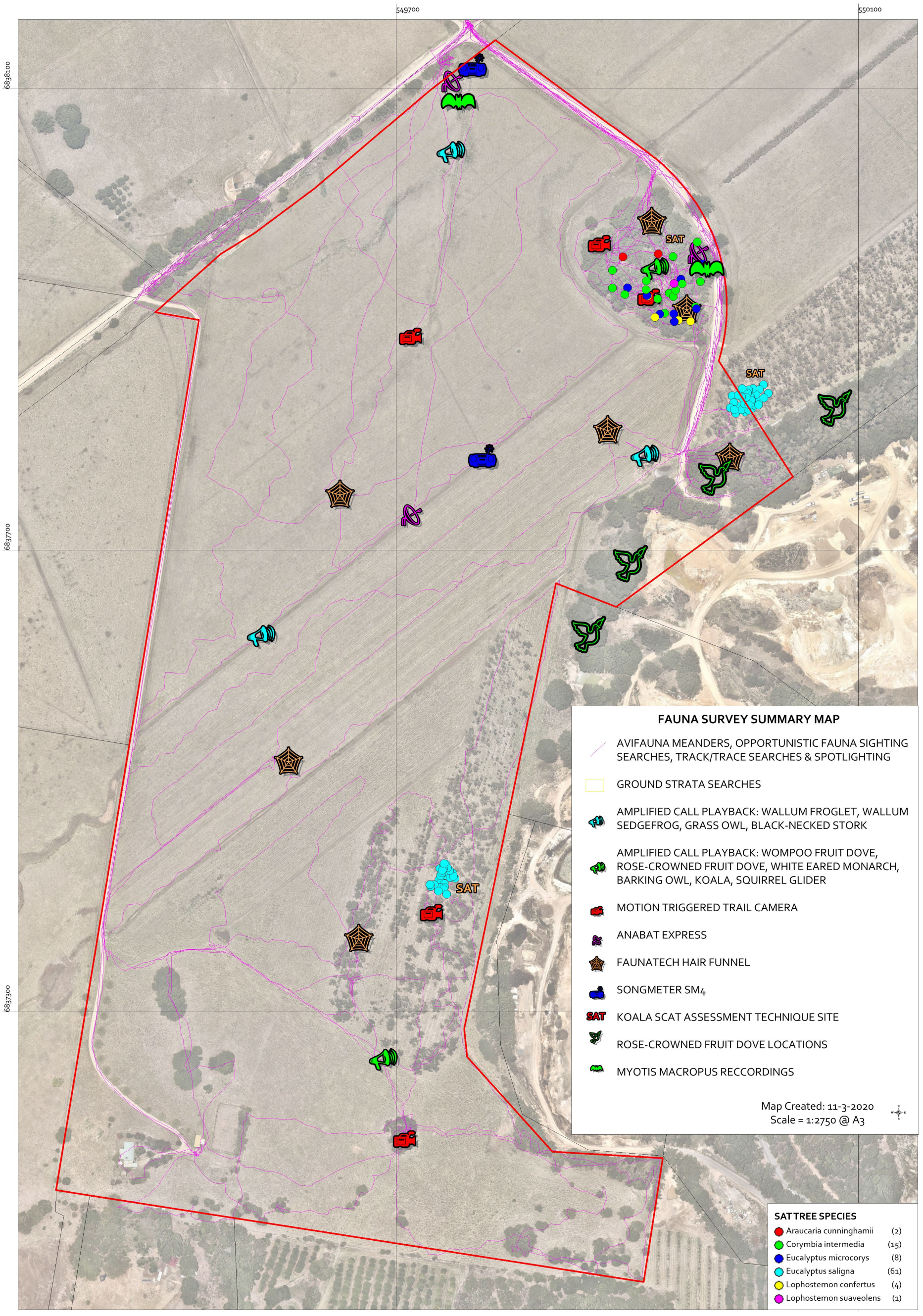


Figure 7: FAUNA SURVEY SUMMARY MAP

4.6 SITE SURVEY RESULTS

The following section(s) list the fauna species recorded on the subject site during detailed surveying and lists the methods by which each species was identified.

Family Name: refers to the family name within the Bionet/Atlas of NSW Wildlife (B/ANW) database

Species Code: refers to A unique code attributed to an individual species, genus or family within the B/ANW database

Scientific Name: The internationally recognised Latin name given to an organism, following the International Codes of Botanical and Zoological Nomenclature.

Exotic: Denoted by * for all non-native species.

Common Name: Refers to the common name of an organism within the B/ANW database

NSW Status: This code identifies the Legal Status of the species within NSW under the Biodiversity Conservation Act 2016 No. 63 (BC Act 2016), the Fisheries Management Act 1994 No. 38 (FM Act 1994) and the Sensitive Species Data Policy (SSDP).

Code	Description	Definition under the BC Act 2016 No. 63, the FM Act 1994 No. 38, or the SSDP.
P	Protected	Refers to fauna listed in Schedule 5 of the BC Act 2016.
P 13	Protected Native Plants	Refers to flora listed in Schedule 6 of the BC Act 2016.
V	Vulnerable	Refers to fauna and flora species that are likely to become endangered unless the circumstances & factors threatening its survival or evolutionary development cease to operate (Schedule 1, part 3, BC Act 2016).
E1	Endangered	Refers to fauna and flora species that are likely to become extinct in nature in NSW unless the circumstances and factors threatening its survival or evolutionary developments cease to operate; or, its numbers have been reduced to such a critical level, or its habitats have been so drastically reduced, that it is in immediate danger of extinction; or, it might already be extinct, but it is not presumed extinct (Schedule 1, part 2, BC Act 2016).

Records: refers to the number of records within the B/ANW database for 10km x 10km in the selected area [North: -28.54 West: 153.45 East: 153.55 South: -28.64] with the site located approximately at the centre.

Survey Method Codes:

A	Stranding/beached
AR	Acoustic recording
B	Burnt
C	Cat kill
D	Dog kill
E	Nest/roost
F	Tracks, scratchings
FB	Burrow
G	Crushed Cones
H	Hair, feathers or skin
I	Subfossil/Fossil Remains
K	Dead
O	Observed
OW	Observed and Heard call
P	Scat
Q	Camera
R	Road kill
S	Shot
T	Trapped or netted
U	Ultrasonic recording
V	Fox kill
W	Heard call
X	In scat
Y	Bone, teeth or shell
Z	In raptor/owl pellet

** All birds were either directly observed through diurnal survey, spotlighting, trail camera or call identification

*** Recorded in adjacent areas or circling overhead

BIRDS**

Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Records
Acanthizidae	0488	*Sericornis frontalis*		White-browed Scrubwren	P	177
Accipitridae	0221	*Accipiter fasciatus*		Brown Goshawk	P	31
Accipitridae	0227	*Haliastur indus*		Brahminy Kite***	P	9
Accipitridae	0228	*Haliastur sphenurus*		Whistling Kite***	P	72
Acrocephalidae	0524	*Acrocephalus australis*		Australian Reed-Warbler	P	4
Alcedinidae	0322	*Dacelo novaeguineae*		Laughing Kookaburra	P	385
Alcedinidae	0324	*Todiramphus macleayii*		Forest Kingfisher	P	20
Anatidae	0211	*Anas gracilis*		Grey Teal	P	11
Anatidae	0208	*Anas superciliosa*		Pacific Black Duck	P	72
Anatidae	0202	*Chenonetta jubata*		Australian Wood Duck	P	180
Anatidae	0205	*Dendrocygna eytoni*		Plumed Whistling-Duck	P	1
Anhingidae	8731	*Anhinga novaehollandiae*		Australasian Darter	P	20
Ardeidae	0977	*Ardea ibis*		Cattle Egret	P	253
Ardeidae	8712	*Ardea modesta*		Eastern Great Egret	P	13
Ardeidae	0188	*Egretta novaehollandiae*		White-faced Heron	P	255
Ardeidae	0192	*Nycticorax caledonicus*		Nankeen Night Heron	P	12
Artamidae	0543	*Artamus leucorynchus*		White-breasted Woodswallow	P	114
Artamidae	0700	*Cracticus nigrogularis*		Pied Butcherbird	P	321
Artamidae	0705	*Cracticus tibicen*		Australian Magpie	P	462
Artamidae	0702	*Cracticus torquatus*		Grey Butcherbird	P	199
Artamidae	0694	*Strepera graculina*		Pied Currawong	P	348
Cacatuidae	0269	*Cacatua galerita*		Sulphur-crested Cockatoo	P	207
Cacatuidae	0267	*Calyptorhynchus funereus*		Yellow-tailed Black-Cockatoo	P	27
Cacatuidae	0273	*Eolophus roseicapillus*		Galah	P	228
Campephagidae	0424	*Coracina novaehollandiae*		Black-faced Cuckoo-shrike	P	302
Caprimulgidae	0330	*Eurostopodus mystacalis*		White-throated Nightjar	P	6
Centropodidae	0349	*Centropus phasianinus*		Pheasant Coucal	P	207
Charadriidae	0133	*Vanellus miles*		Masked Lapwing	P	330
Cisticolidae	0525	*Cisticola exilis*		Golden-headed Cisticola	P	30
Columbidae	0033	*Chalcophaps indica*		Emerald Dove	P	117
Columbidae	0028	*Columba leucomela*		White-headed Pigeon	P	248
Columbidae	0032	*Geopelia humeralis*		Bar-shouldered Dove	P	280
Columbidae	9931	*Geopelia striata*		Peaceful Dove	P	11
Columbidae	0029	*Macropygia amboinensis*		Brown Cuckoo-Dove	P	222
Columbidae	0043	*Ocyphaps lophotes*		Crested Pigeon	P	354
Columbidae	0021	*Ptilinopus regina*		Rose-crowned Fruit-Dove	V,P	64
Coraciidae	0318	*Eurystomus orientalis*		Dollarbird	P	137
Corvidae	9902	*Corvus orru*		Torresian Crow	P	98
Cuculidae	0339	*Cacomantis variolosus*		Brush Cuckoo	P	119
Cuculidae	0343	*Chalcites lucidus*		Shining Bronze-Cuckoo	P	45
Cuculidae	0348	*Scythrops novaehollandiae*		Channel-billed Cuckoo	P	106
Dicruridae	0673	*Dicrurus bracteatus*		Spangled Drongo	P	269
Estrildidae	0657	*Lonchura castaneothorax*		Chestnut-breasted Mannikin	P	26
Estrildidae	0662	*Neochmia temporalis*		Red-browed Finch	P	287
Estrildidae	0655	*Taeniopygia bichenovii*		Double-barred Finch	P	7

Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Records
Falconidae	0240	*Falco cenchroides*		Nankeen Kestrel***	P	23
Hirundinidae	0357	*Hirundo neoxena*		Welcome Swallow	P	301
Maluridae	0529	*Malurus cyaneus*		Superb Fairy-wren	P	291
Maluridae	0536	*Malurus lamberti*		Variegated Fairy-wren	P	221
Maluridae	0541	*Malurus melanocephalus*		Red-backed Fairy-wren	P	111
Megaluridae	0523	*Megalurus timoriensis*		Tawny Grassbird	P	8
Megapodiidae	0008	*Alectura lathami*		Australian Brush-turkey	P	150
Meliphagidae	0591	*Acanthorhynchus tenuirostris*		Eastern Spinebill	P	53
Meliphagidae	0710	*Anthochaera chrysoptera*		Little Wattlebird	P	134
Meliphagidae	0641	*Entomyzon cyanotis*		Blue-faced Honeyeater	P	179
Meliphagidae	0634	*Manorina melanocephala*		Noisy Miner	P	398
Meliphagidae	0605	*Meliphaga lewinii*		Lewin's Honeyeater	P	329
Meliphagidae	0579	*Melithreptus albogularis*		White-throated Honeyeater	P	66
Meliphagidae	0586	*Myzomela sanguinolenta*		Scarlet Honeyeater	P	149
Meliphagidae	0645	*Philemon corniculatus*		Noisy Friarbird	P	148
Meropidae	0329	*Merops ornatus*		Rainbow Bee-eater	P	230
Monarchidae	0415	*Grallina cyanoleuca*		Magpie-lark	P	172
Monarchidae	0365	*Myiagra rubecula*		Leaden Flycatcher	P	187
Motacillidae	0647	*Anthus novaeseelandiae*		Australian Pipit	P	33
Oriolidae	0432	*Sphecotheres vieilloti*		Australasian Figbird	P	450
Pachycephalidae	0408	*Colluricincla harmonica*		Grey Shrike-thrush	P	236
Pachycephalidae	0413	*Colluricincla megarhyncha*		Little Shrike-thrush	P	187
Pachycephalidae	0398	*Pachycephala pectoralis*		Golden Whistler	P	147
Pardalotidae	0976	*Pardalotus striatus*		Striated Pardalote	P	250
Petroicidae	0392	*Eopsaltria australis*		Eastern Yellow Robin	P	228
Phalacrocoracidae	0097	*Phalacrocorax sulcirostris*		Little Black Cormorant	P	21
Phasianidae	0011	*Coturnix ypsilophora*		Brown Quail	P	4
Phasianidae	0902	*Gallus gallus*	*	Red Junglefowl		0
Podargidae	0313	*Podargus strigoides*		Tawny Frogmouth	P	174
Podicipedidae	0061	*Tachybaptus novaehollandiae*		Australasian Grebe	P	14
Psittacidae	0288	*Platycercus eximius*		Eastern Rosella	P	327
Psittacidae	0256	*Trichoglossus chlorolepidotus*		Scaly-breasted Lorikeet	P	306
Psittacidae	9947	*Trichoglossus haematodus*		Rainbow Lorikeet	P	168
Psophodidae	0421	*Psophodes olivaceus*		Eastern Whipbird	P	295
Rallidae	0056	*Gallinula tenebrosa*		Dusky Moorhen	P	21
Rallidae	0046	*Gallirallus philippensis*		Buff-banded Rail	P	2
Rallidae	0045	*Lewinia pectoralis*		Lewins Rail	P	2
Rallidae	0058	*Porphyrio porphyrio*		Purple Swamphen	P	30
Rallidae	0051	*Porzana tabuensis*		Spotless Crake	P	0
Rhipiduridae	0361	*Rhipidura albiscapa*		Grey Fantail	P	252
Rhipiduridae	0364	*Rhipidura leucophrys*		Willie Wagtail	P	314
Sturnidae	0998	*Sturnus tristis*	*	Common Myna***		2
Threskiornithidae	0181	*Platalea regia*		Royal Spoonbill	P	28
Threskiornithidae	0179	*Threskiornis molucca*		Australian White Ibis	P	279
Threskiornithidae	0180	*Threskiornis spinicollis*		Straw-necked Ibis	P	166
Timaliidae	0574	*Zosterops lateralis*		Silvereye	P	289
Tytonidae	9923	*Tyto javanica*		Eastern Barn Owl	P	13

MAMMALS

Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Records	Method
Bovidae	1518	*Bos taurus*	*	European cattle		4	OPY
Canidae	1532	*Vulpes vulpes*	*	Fox		106	O
Macropodidae	1242	*Wallabia bicolor*		Swamp Wallaby	P	284	O
Muridae	1408	*Rattus rattus*	*	Black Rat		13	Q
Peramelidae	1093	*Isoodon macrourus*		Northern Brown Bandicoot	P	25	Q
Phalangeridae	1735	*Trichosurus caninus*		Bobuck	P	0	Q
Phalangeridae	1113	*Trichosurus vulpecula*		Common Brushtail Possum	P	9	O, Q
Pteropodidae	1282	*Pteropus alecto*		Black Flying-fox	P	88	O
Pteropodidae	1280	*Pteropus poliocephalus*		Grey-headed Flying-fox	V,P	49	O
Vespertilionidae	1349	*Chalinolobus gouldii*		Gould's Wattled Bat	P	3	U
Vespertilionidae	1357	*Myotis macropus*		Southern Myotis	V,P	6	U
Vespertilionidae	1365	*Scotorepens orion*		Eastern Broad-nosed Bat	P	4	U
Vespertilionidae	1377	*Vespadelus pumilus*		Eastern Forest Bat	P	4	U

REPTILES

Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Records	Method
Agamidae	2252	*Intellagama lesueurii*		Eastern Water Dragon	P	88	O
Agamidae	2177	*Pogona barbata*		Bearded Dragon	P	8	O
Colubridae	2630	*Boiga irregularis*		Brown Tree Snake	P	14	O
Elapidae	2693	*Pseudechis porphyriacus*		Red-bellied Black Snake	P	16	O
Elapidae	2699	*Pseudonaja textilis*		Eastern Brown Snake	P	62	O
Scincidae	2331	*Cryptoblepharus virgatus*		Cream-striped Shinning-skink	P	2	O
Scincidae	2450	*Lampropholis delicata*		Dark-flecked Garden Sunskink	P	14	O
Varanidae	2283	*Varanus varius*		Lace Monitor	P	53	O

AMPHIBIANS

Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Records	Method
Bufonidae	3269	*Rhinella marina*	*	Cane Toad		308	OW
Hylidae	3171	*Litoria caerulea*		Green Tree Frog	P	259	OW
Hylidae	3183	*Litoria fallax*		Eastern Dwarf Tree Frog	P	14	W
Hylidae	3187	*Litoria gracilenta*		Dainty Green Tree Frog	P	3	W
Hylidae	3199	*Litoria nasuta*		Rocket Frog	P	14	OW
Myobatrachidae	3061	*Limnodynastes peronii*		Brown-striped Frog	P	10	OW
Myobatrachidae	3134	*Crinia signifera*		Common Eastern Froglet	P	12	W

5 DISCUSSION OF RECORDED & POTENTIALLY OCCURRING SCHEDULES COMMUNITIES, POPULATIONS AND SPECIES OF CONSERVATION SIGNIFICANCE

5.1 ENDANGERED ECOLOGICAL COMMUNITIES

Endangered ecological communities are listed under Schedule 2, Part 2 of the *Biodiversity Conservation Act 2016*, while threatened ecological communities are listed under the *Environment Protection and Biodiversity Conservation Act 1999* as critically endangered, endangered and vulnerable.

As discussed within Section 3.2 above, one endangered ecological community (BCA 2016) was recorded within the quarry land to the east of the haulage entrance road. This EEC will be unaffected by the proposed Solar Panel Farm.

No federal EPBCA threatened ecological communities were recorded.

5.2 ENDANGERED POPULATIONS

Endangered populations are listed under Schedule 1, Part 2 of the *Biodiversity Conservation Act 2016*. No endangered populations are known to occur with the closest being Koala *Phascolarctos cinereus* (Goldfuss, 1817) between the Tweed and Brunswick Rivers east of the Pacific Highway.

5.3 THREATENED FLORA SPECIES

Three flora species scheduled under of the *Biodiversity Conservation Act 2016* or *Environment Protection and Biodiversity Conservation Act 1999* were observed during survey.

A search of the *NPWS 'Atlas of NSW Wildlife' [2020]* has determined that eleven species of threatened flora have been previously recorded within the 2km of the site. Searches throughout the occurring vegetation communities on the site were undertaken to locate the presence or absence of these species which are tabulated below.

It is considered that preferred habitat for the majority of the nominated species is absent from the Solar Panel Array envelope area which is located within the existing pasture/paddock. Notwithstanding, searches were undertaken to locate the presence or absence of the tabled species within the impact footprint and the balance areas of the site which will be unaffected by the proposal. As the species were not recorded within the works envelope (or areas immediately adjacent), further assessment is considered unnecessary.

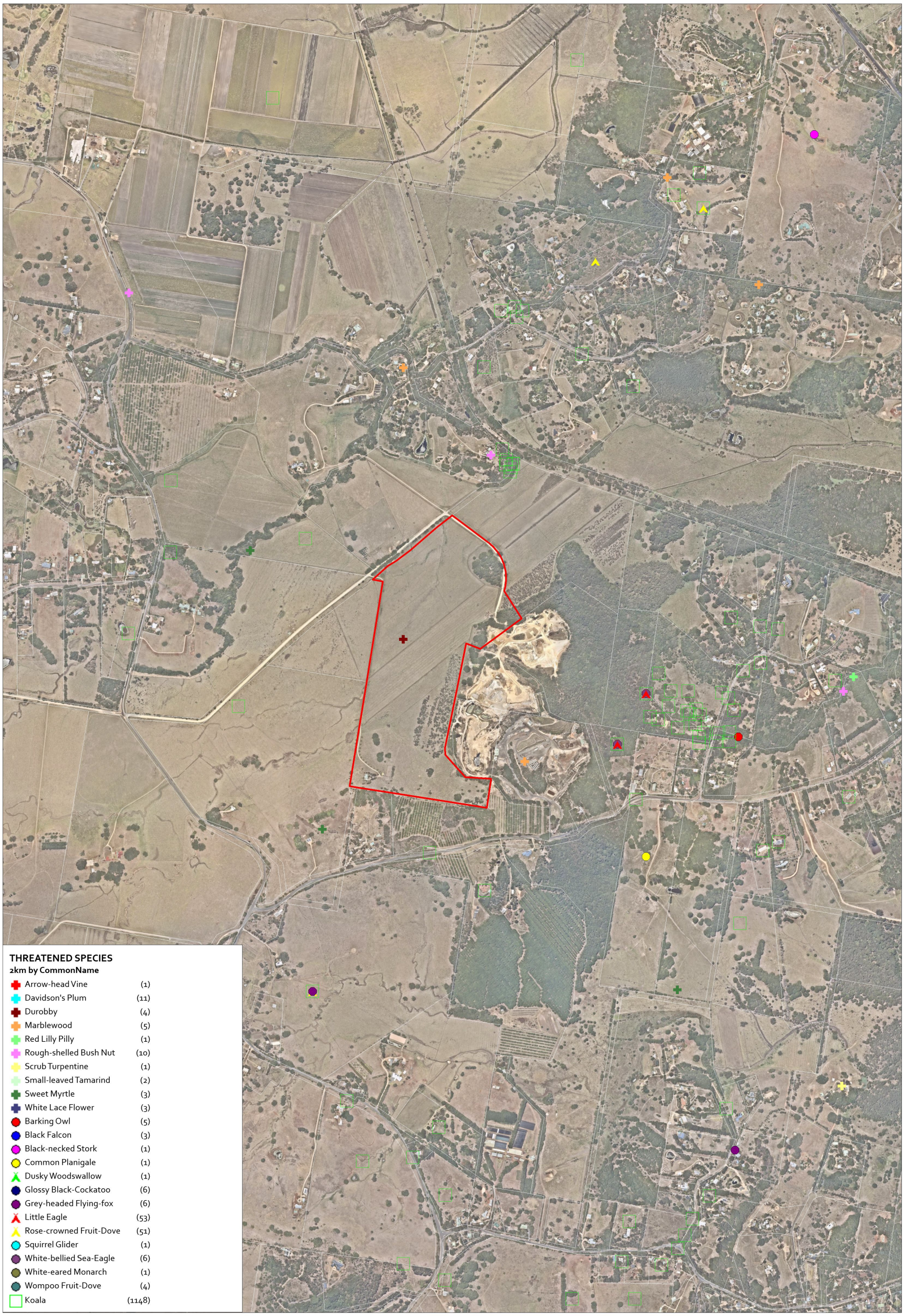


FIGURE 8: BIONET ATLAS THREATENED SPECIES RECORDS FOR 2.5KM AROUND SITE

TABLE 5: POTENTIALLY OCCURRING THREATENED FLORA SPECIES

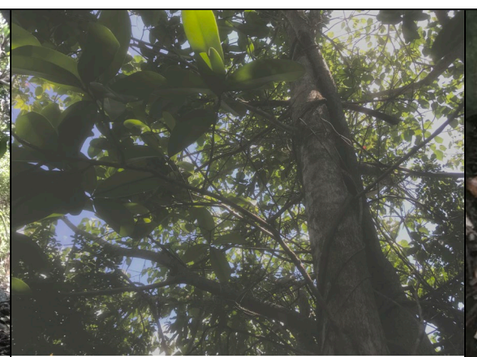
Species	Preferred Habitat	BCA Status	Expected Impact
Acacia bakeri	*Acacia bakeri* has a restricted distribution in north-east New South Wales and south-east Queensland and is found In or near lowland subtropical rainforest, in adjacent eucalypt forest and in regrowth of both (DEH, 2012 online @ http://www.environment.nsw.gov.au/ threatenedspeciesapp/profile.aspx?id=10004)	V	Not recorded during flora survey. Unlikely to be significantly impacted upon as a result of the Solar Farm proposal which is restricted to exotic/pasture grassland habitats. The BIONET database indicates this species has previously been reported further east within the Myocum Tip/Resource Recovery site east of the entrance road.
Archidendron hendersonii	This tree has been recorded from riverine and lowland subtropical rainforest and littoral rainforest from north Queensland south to the Richmond River in north-east NSW. It is found on a variety of soils including coastal sands and those derived from basalt and metasediments (DECC, 2005). This species is also known from pasture areas associated with deep red soils within the Billambil Valley (pers. obs.)	V	Not recorded during flora survey. Unlikely to be significantly impacted upon as a result of the Solar Farm proposal which is restricted to exotic/pasture grassland habitats. The BIONET database indicates this species has previously been reported further east at Tyagarah.
Davidsonia jerseyana	The Davidson's Plum is restricted to the Brunswick and Tweed River catchments of the north coast of NSW. The southern-most confirmed record of the species is located near Mullumbimby. Records extend only a short distance inland on the Brunswick River. The northern-most and westernmost confirmed record is at Chillingham. There is an unconfirmed record further north near the border gate at Tomewin (Watson 1987). There are no confirmed records for southern Queensland. The species has been documented as occurring at a total of 118 point locations, which can be roughly grouped into 24 naturally occurring sub-populations, The Davidson's Plum is found in coastal and lowland subtropical rainforest and wet sclerophyll forest, often with an overstorey including *Lophostemon confertus* (Brush Box), *Araucaria cunninghamii* (Hoop Pine) and/or eucalypt species. Species commonly occurring at Davidson's Plum sites include *Acacia bakeri* (Marblewood), *Cupaniopsis newmanii* (Longleaved Tuckeroo), *Endiandra 47tilize* (Black Walnut), *Eucalyptus microcorys* (Tallowwood), *Flindersia bennettiana* (Bennett's Ash), *Flindersia schottiana* (Cudgerie), *Pentaceras 47tilize* (Crow's Ash), *Synoum glandulosum* (Scentless Rosewood) and the introduced *Cinnamomum camphora* (Camphor Laurel) (McKinley & Stewart 1999). Several sub-populations of the Davidson's Plum are known from areas of regrowth rainforest with a high percentage of Camphor Laurel, *Lantana camara* (Lantana) and other exotic weeds. Some trees are isolated in paddocks or in road reserves (McKinley & Stewart 1999) [in NPWS, 2004)	E1	Not recorded during flora survey. Unlikely to be significantly impacted upon as a result of the Solar Farm proposal which is restricted to exotic/pasture grassland habitats.
Diploglottis campbellii	"The forest types in which the species occurs varies from lowland subtropical rainforest to drier subtropical rainforest with a *Lophostemon confertus* (Brush Box) open overstorey. Hunter *et al*. (1992) showed that the species occurs on basalt-derived soils and also on poorer soils such as those derived from quartz monzonite" (NPWS, 2004: 6). Flowering has been recorded from November to March and fruiting has been recorded from January/February to March/April (Floyd, 1989; Doe, 2017) although seasonal variation has been observed (DoEC, 2004).	E	Not recorded during flora survey. Unlikely to be significantly impacted upon as a result of the Solar Farm proposal which is restricted to exotic/pasture grassland habitats.
Gossia fragrantissima	Sweet myrtle occurs dry subtropical and riverine rainforest mostly on basalt derived soils in SEQ and northern NSW (OEH online @ https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10079). Flowering occurs between October and February with fruit ripe from January to February (Floyd, 1989).	E1	Not recorded during flora survey. Unlikely to be significantly impacted upon as a result of the Solar Farm proposal which is restricted to exotic/pasture grassland habitats. The BIONET database indicates this species has previously been recorded on the Leela Plantations lands.
Macadamia integrifolia	M. integrifolia was originally associated with subtropical rainforest that was spread along a 600km coastal strip between Grafton in New South Wales and Maryborough in Queensland, extending up to 150km inland. Current distribution of wild M. integrifolia appears to be similar to the initial distribution area, however populations are more sparsely distributed, and overall numbers have declined as a result of agricultural and urban development. Although M. integrifolia is a rainforest species they tend to grow better in partially open areas such as rainforest edges. They can be found at elevations near sea level up to 600m, preferring well-drained sites on hill crests, hill slopes, scree slopes, foot slopes and along the edges of hoop pine Araucaria cunninghamii scrubs and creek beds. M. integrifolia grows best in mild frost-free weather with reasonably high rainfall and has been recorded fruiting as far south as Sydney. At many sites where M. integrifolia occurs there are less than ten plants remaining. The largest populations are recorded in Amamoor State Forest, Bahr's Scrub, Nicoll Scrub and Triunia National Parks, and they also occur in several other national parks and state forests as well as three nature refuges. M. integrifolia grows in complex notophyll vine forest, simple notophyll vine forest and in simple microphyll-notophyll vine forest with emergent Araucaria and Argyrodendron species. It can be found in uniformly dark surface soils that vary in texture from clayey sand through various types of loam to silty clay' [in Ryan, 2006: 2]. Flowering is known from January, March and June (Forster et al. 1991) to November (Barry & Thomas 1994; Gross 1995; Stanley & Ross 1986). Fruits have been recorded from November–January and March–April (Barry & Thomas 1994; Forster et al. 1991in. (Threatened Species Scientific Committee, 2008adf)		One seedling observed beneath a Camphor Laurel within the southern paddock proximate to the driveway. A large macadamia nut plantation occurs immediately to the south of the property. As no stems of MI are to be removed the species is considered unlikely to be significantly impacted by the proposed Solar Farm proposal.

Species	Preferred Habitat	BCA Status	Expected Impact
Macadamia tetraphylla	This species of nut tree is confined chiefly to the Richmond and Tweed Rivers in north-east NSW, extending just across the border into Queensland where it occurs within subtropical rainforest, particularly on basaltic soils. (Williams, Harden and McDonald, UNE, 1984; DECC, 2005). The species is also commonly noted as a paddock tree on soils of basaltic influence and as an ornamental or orchard tree associated with residential and/or rural activities (pers.obs.). Flowering/fruiting period: Flowering occurs from August to October with fruit ripe January to April (Floyd, 1989).	V	Not recorded during flora survey. Unlikely to be significantly impacted upon as a result of the Solar Farm proposal which is restricted to exotic/pasture grassland habitats.
Rhodamnia rubescens	In New South Wales (NSW), *Rhodamnia rubescens* is currently known to occur from coastal districts north from Batemans Bay, approximately 280 km south of Sydney, to the Queensland (Qld) border. Populations of the species extend north to Maryborough, Qld. NSW populations of R. rubescens are mainly coastal and occasionally extend inland onto escarpments up to 600 m a.s.l. in areas with rainfall of 1,000–1,600 mm (Benson and McDougall 1998). Populations and individuals of R. rubescens are often found in wet sclerophyll associations in rainforest transition zones and creekside riparian vegetation (Benson and McDougall 1998). *Rhodamnia rubescens* commonly occurs in all rainforest subforms except cool temperate rainforest. The species occupies a range of volcanically derived and sedimentary soils and is also a common pioneer species in eucalypt forests (Floyd 1989).	E4	Four stems were recorded including one fruiting specimen located within the Dingo Lane road reserve. As no stems of RR are to be removed the species is considered unlikely to be significantly impacted by the proposed Solar Farm proposal.
Syzygium hodgkinsoniae	Smooth-bark Rose Apple occurs in riverine rainforest on rich alluvial or basaltic soils, from the Richmond River in NSW to Gympie, Queensland, with a disjunct occurrence in north Queensland (Floyd, 1989; NSW NPWS, 2002). The species occurs mostly as scattered individuals along watercourses, where the habitat is frequently limited and degraded (Landmark Ecological Services, Ecograph & Terrafocus, 1999).	V	Not recorded during flora survey. Unlikely to be significantly impacted upon as a result of the Solar Farm proposal which is restricted to exotic/pasture grassland habitats.
Syzygium moorei	The Durobby occurs in warm, protected, fertile soils in riverine and gully rainforests at low altitudes, along sections of the Richmond, Brunswick and Tweed Rivers in NSW, as well as at three sites in Upper Mudgeeraba Creek and Upper Tallebudgera Creek in south-east Queensland (Floyd, 1989). Rose Apple is most commonly found in Subtropical Rainforest *Argyrodendron trifoliatum* Alliance, including sub-alliance 1 (*Argyrodendron trifoliatum*) on lowland krasnozem; suballiance 2 (*Toona-Flindersia* spp.) on lowland alluvium; and sub-alliance 6 (*Archontophoenix-Livistona*) on alluvium with excess moisture (Floyd, 1990). Stands of the *A. trifoliatum* Alliance originally occurred on the best potential agricultural land, so consequently was mostly cleared, with the exception of small patches occurring in floodprone, stony or poorly drained soils (DSEWPC, 2008:1-2). Flowering is known from November to January (although flowering of mature specimens at Tanglewood have been observed as early as September, pers. obs.) with inflorescences usually ramiflorous much-branched panicles located on the trunk and older branches which are pink to red in colour (NSWNPWS, 2002; Harden et al, 2014; Floyd, 1989; Hauser and Blok, 2002). Fruit is ripe between March and August and consists of a single seeded globular white berry up to 6cm in diameter (NSWNPWS, 2002; Harden et al, 2014; Floyd, 1989; Hauser and Blok, 2002).	V	Three stems were recorded (one likely to have been planted) including one senescent specimen that was fruiting during the survey period. As no stems of SM are to be removed the species is considered unlikely to be significantly impacted by the proposed Solar Farm proposal.
Tinospora tinosporoides	Arrow-head Vine occurs near the coast at Richmond River in northern NSW to Burleigh Heads National Park (NP) in Queensland where it is locally common rainforest on basalt and also occurs in complex notophyll vine forest (DSEWPC, 2008:1). Arrow-head Vine occurs near the coast at Richmond River in northern NSW to Burleigh Heads National Park (NP) in Queensland where it is locally common rainforest on basalt and also occurs in complex notophyll vine forest (DSEWPC, 2008:1). Flowering occurs from October to November with fruiting occurring from December to January (NSWTMR, 2013).	V	Not recorded during flora survey. Unlikely to be significantly impacted upon as a result of the Solar Farm proposal which is restricted to exotic/pasture grassland habitats. The BIONET database indicates this species has previously been recorded further east at Tyagarah.


Fruiting Rhodamnia rubescens


Rhodamnia rubescens amongst Camphor Laurels


Mature Syzygium moorei


Syzygium moorei within revegetation patch


Macadamia integrifolia seedling

5.4 THREATENED FAUNA SPECIES

A search of the *NPWS 'Atlas of NSW Wildlife' [2020]* has determined that fourteen species of threatened fauna have been previously recorded within 2km of the site.

A review of available habitats and the ecology of the database listed species (i.e. range, preferred habitat, home range etc.) indicate that it is unlikely that all of these previously recorded species in the locality would rely on the habitats of the subject site. Subsequently several such threatened species are considered unlikely to be significantly affected by a future development of the site for one or more of the following reasons:

- Core/favoured habitats were not recorded in the study area
- Resources used by the species are unlikely to be adversely affected or only likely to be minimally affected by a future proposal.

Details of such species requirements and reasons for not considering impacts to these species further are contained within the below table.

For species considered a potential occurrence (based upon distribution, database recording, suitable habitat present etc.) or which were recorded within or directly adjacent the site during the survey period and for which it is considered that the species may be affected by the solar array development proposal (i.e. impact on feeding, roosting, nesting, behaviour and associated habitat), the test of significance is performed.

Notwithstanding, all the species tabled below were targeted during the fauna survey or were reviewed in the context of documented ecology and available habitats.

TABLE 6: POTENTIALLY OCCURRING FAUNA SPECIES BASED ON SITE HABITAT

Species	Potential occurrence	Notes	Potential for the species or associated habitat to be impacted upon by proposal
Wompoo Fruit-Dove (*Ptilinopus magnificus*)	Unlikely	This species is confined to mature rainforest and adjacent wet sclerophyll environments in eastern Australia from Cape York to around Coffs Harbour. As an obligate frugivore it requires a high availability of fruiting materials which it generally feeds on in the high canopy. Breeding in NENSW extends from winter to midsummer with a simple stick platform nest constructed generally below 10m from the ground (Recher et al, 1995; OEH online @ https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=10707). Preferred habitat for the Wompoo Fruit-dove is considered to be absent from the site and it was not recorded during fauna survey.	Favoured habitat for this species is considered to be absent from the site. Unlikely to be significantly impacted as a result of the Solar Farm proposal which has been designed to be situated within an existing pasture grassland/paddock. The BIONET database indicates this species has previously been recorded on the Leela Plantations lands.
Rose-crowned Fruit-Dove (*Ptilinopus regina*)	Recorded	This species generally occurs within sub-tropical rainforest, camphor laurel and occasionally wet sclerophyll and swamp forests which contain suitable fruiting species for foraging (DEC, 2005; Recher et al, 1995). As an obligate frugivore a high proportion of fruiting species (figs, lillipillis, laurels etc.) is necessary and as such rainforest habitats are favoured. The species is considered a partial migrant and moves north in autumn/winter and returning in spring/summer to breed (Recher et al, 1995). Potential habitat is present on the fringes of the site in association with areas of Closed Camphor Laurel Forest and the Fruit-dove was encountered calling from three locations within such habitat in the very northeast of the site on the Quarry Lands. No areas of the recorded habitat will be disturbed in association with the Solar Panel Farm proposal.	Test of significance performed. This species is considered unlikely to be significantly impacted as a result of the Solar Farm proposal which has been designed to be situated within an existing pasture grassland/paddock.
Black-necked Stork (*Ephippiorhynchus asiaticus*)	Marginal	The species is generally associated with wetlands, mudflats, mangroves, swamps and floodplains while it may also sometimes be found in open woodland environs where a grassy understorey is present (NPWS, 2002, Readers Digest, 2002; DEC, 2005). Irrigated lands are also occasionally a foraging resource and it has also been recorded foraging in artificial wetlands of sewerage treatment plants (ERM, 2001). The species has also been recorded foraging within grassed paddocks and pasture areas in Cedar Creek, Mudgeeraba and Coomera (pers. Obs.). The breeding is poorly understood within information available for NSW (DEC, 2005) noting that breeding activity (from nest construction to fledging of young) occurs from May to January. Most activity, however, takes place between June and December, and clutches present May to September. In NSW, Jabirus usually nest in a tall, live and isolated paddock tree, but also in other trees, including paperbarks, or even lower shrubs within wetlands. The nest is a large platform, 1-2 m in diameter, made in a live or dead tree, in or near a freshwater swamp (DEC, 2005). The stork has been previously observed within Hastings Point foraging within a dredge pond by Planit (2006).	Favoured habitat for this species is considered to be absent from the site. Unlikely to be significantly impacted as a result of the Solar Farm proposal which has been designed to be situated within an existing pasture grassland/paddock. The single BIONET database indicates the species was recorded in 2006 at 53 McAuley Lane, Myocum to the northeast. Review of aerial photograph notes a large waterbody central to this property.
White-bellied Sea-eagle (*Haliaeetus laucogaster*)	Marginal	The White-bellied Sea-Eagle is found in coastal habitats (especially those close to the sea-shore) and around terrestrial wetlands in tropical and temperate regions of mainland Australia and its offshore islands. The habitats occupied by the sea-eagle are characterised by the presence of large areas of open water (larger rivers, swamps, lakes, the sea). Birds have been recorded in (or flying over) a variety of terrestrial habitats (Marchant & Higgins 1993). The White-bellied Sea-Eagle feeds opportunistically on a variety of fish, birds, reptiles, mammals and crustaceans, and on carrion and offal (del Hoyo et al. 1994; Ferguson-Lees & Christie 2001; Marchant & Higgins 1993; Rose 2001a) Expansive favoured habitat for the Sea-eagle occurs in the locality (in association creeks, beaches/estuaries further to the east) however, the works footprint does not contain preferred habitat. Flyover and occasional perching may occur although foraging is unlikely due to an absence of suitable waterbodies. The species was not recorded during fauna survey and it is considered unlikely that the proposal will have a significant impact upon the species.	Favoured habitat for this species is considered to be absent from the site. Unlikely to be significantly impacted as a result of the Solar Farm proposal which has been designed to be situated within an existing pasture grassland/paddock.
Little Eagle (*Hieraaetus morphnoides*)	Marginal	The Little Eagle occupies habitats rich in prey within open eucalypt forest, woodland or open woodland. Sheoak or acacia woodlands and riparian woodlands of interior NSW are also used (Marchant and Higgins 1993; Aumann 2001a). For nest sites it requires a tall living tree within a remnant patch, where pairs build a large stick nest in winter and lay in early spring. Young fledge in early summer. It eats birds, reptiles and mammals, occasionally adding large insects and carrion (Marchant and Higgins 1993; Aumann 2001b; Debus *et al.* 2007). It was formerly heavily dependent on rabbits, but following the spread of rabbit calicivirus disease, and consequent decline in rabbit numbers by 65-85% in the arid and semi-arid zones (Sharp *et al.* 2002), the eagle is increasingly dependent on native prey. Most of its former native mammalian prey species in inland NSW are extinct (terrestrial mammals of rabbit size or smaller, *e.g.* large rodents, bandicoots, bettongs, juvenile hare-wallabies and nailtail wallabies: Van Dyck and Strahan 2008). The Little Eagle is distributed throughout the Australian mainland excepting the most densely forested parts of the Dividing Range escarpment (Marchant and Higgins 1993). It occurs as a single population throughout NSW. The population in New Guinea is now classified as a separate species, the Papuan Booted Eagle *Hieraaetus weiskei* (Lerner and Mindell 2005). Preferred habitat for the Little Eagle is considered absent although the Eucalypt Plantation (VT2) and scattered Eucalypts/Corymbians on the southern slopes of the northeastern hill (VT4) are considered to provide marginal habitat. The little eagle was not recorded during fauna survey.	Marginal habitat for this species is considered to be present none of which will be disturbed in association with the proposal. Unlikely to be significantly impacted as a result of the Solar Farm proposal which has been designed to be situated within an existing pasture grassland/paddock. The BIONET database indicates this species has previously been recorded 53 times between 1991 and 2007 at Lot 16 Kingsvale Road further to the east.

Species	Potential occurrence	Notes	Potential for the species or associated habitat to be impacted upon by proposal
Glossy Black-cockatoo (*Calyptorhynchus lathami*)	Unlikely	Glossy Black Cockatoos are uncommon parrots found in scattered localities in the forests and woodlands of eastern Australia and Kangaroo Island (Forshaw, 1981). The eastern subspecies of Glossy Black Cockatoos seems thinly distributed through its range with the highest densities occurring in south-eastern Queensland and north-eastern New South Wales (Forshaw, 1989). The main habitat of the eastern subspecies is *Eucalyptus* woodlands and forest with moderate-high densities of *Allocasuarina* which are required for feeding (Clout, 1989; Park & Borsboom, 1996; Forshaw & Cooper, 1989; Crome & Shields, 1992; Cleland & Sims, 1968; Garnett, 1992b; Blakers *et al*, 1984). Suitable senescent trees (large hollow within a live or dead Eucalypt: 10-20m, Depth: 40-120cm, Entry: ~21cm: Inside Dia: ~23cm (Forshaw, 1981; Gibbons & Lindenmayer, 2002)) are also required for nesting. Preferred habitat for the Glossy Black-cockatoo habitat is considered to be absent from the site with no individuals or potential foraging trees recorded during flora and fauna survey. It is considered unlikely that the proposed works will significantly impact the Glossy Black-cockatoo.	Favoured habitat for this species is considered to be absent from the site. Unlikely to be significantly impacted as a result of the Solar Farm proposal which has been designed to be situated within an existing pasture grassland/paddock.
White-eared Monarch (*Carterornis leucotis*)	Marginal	This species generally occurs within Coastal/Subtropical/Littoral Rainforests and occasionally Eucalypt/Riparian Forest, Mangroves and Swamp Sclerophyll with mesomorphic understorey along the eastern coast of Australia from Cape York to the Tweed River (Readers Digest, 2002; DEC, 2005). In NSW, White-eared Monarchs occurs in rainforest, especially drier types, such as littoral rainforest, as well as wet and dry sclerophyll forests, swamp forest and regrowth forest. • They appear to prefer the ecotone between rainforest and other open vegetation types or the edges of rainforest, such as along roads. • They are highly active when foraging, characteristically sallying, hovering and fluttering around the outer foliage of rainforest trees. They are usually observed high in the canopy or subcanopy • They eat insects, but their diet is not well studied • They breed from about September to March, usually nesting high in the canopy, and often at the edge of patches of rainforest. (DEH, 2012 online@ http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10540) Preferred habitat for the White-eared Monarch is considered absent although marginal habitat is present on the fringes of the site in association with areas of Closed Camphor Laurel Forest. Notwithstanding the Monarch was not recorded during fauna survey.	Marginal habitat for this species is considered to be present none of which will be disturbed in association with the proposal. Unlikely to be significantly impacted as a result of the Solar Farm proposal which has been designed to be situated within an existing pasture grassland/paddock.
Common Planigale (*Planigale maculata*)	Unlikely	This species is known to 'inhabit a broad range of habitats incorporating a dense ground cover layer including rainforest, eucalypt forest, heathland, marshland, grassland and rocky areas (Redhead in Strahan, 2002; Lewis, 2005). In northern NSW, it has been suggested that their distribution often corresponds with the low lying flat and undulating areas of the coastal plains often near intensively settled areas (Gilmore and Parnaby 1994 in Lewis, 2005). *Planigale maculata* is an unspecialised predator foraging mainly on insects, other invertebrates, small vertebrates, and occasionally nectar (Callaghan *et al.* 2005 and references therein). *Planigale maculata* is generally most active from slightly before dusk to before sunrise, interspersed with rest periods and periods of high activity, and is capable of eating the equivalent of its own body weight in food daily (Van Dyck 1979). In contrast, Van Dyck (1979) also notes that *P. maculata* has the ability to enter torpor in response to cold weather or food deprivation. Introduced predators of *P. maculata* include cats (Redhead 1995) and dogs (Fleay 1981) with foxes also considered likely predators (Callaghan *et al* 2005). There is currently little movement data available for *P. maculata* although other members of this genus are widely recognised as having a shifting home range in response to local climatic conditions and food resources (Denny 1982; Read, 1982; 1988; and Miller 1998; in Lewis 2004)' (and in Hannah, 2007: 5) A small population of the species has recently recorded on the northern banks of the Cobaki Broadwater in association with Swamp Mahogany/Brushbox Forest (Ecopro, 2004; Lewis Ecological Surveys, 2004). A population of Planigales is also known further south of the site within the Koala Beach development where the species has been recorded within Brushbox Forest, Tall Eucalypt dominated Wet Sclerophyll Forest, Swamp Forest, Regrowth Eucalypt Forest and utilising artificial habitats within recorded habitats (AKF, 2005; TSC, 2007). Habitat features that appear most important to the Planigale population include: i) Dense or scattered tree canopy-cover; ii) Dense ground-cover vegetation; and iii) Areas within or adjacent to low-lying sites subject to seasonally wet conditions, with occasional inundation for short periods (AKF, 2005: 7) Preferred habitat for the Planigale is considered absent from the site and it was not recorded during fauna survey (hair funnel deployment).	Favoured habitat for this species is considered to be absent from the site. Unlikely to be significantly impacted as a result of the Solar Farm proposal which has been designed to be situated within an existing pasture grassland/paddock. The single BIONET database indicates at dead individual of this species was retrieved from a track on Lot 168 Manse Road further to the south.
Koala (*Phascolarctos cinereus*)	Marginal	This species primarily occurs within Eucalypt Forest and Woodlands containing a suitable density of favoured food trees within coastal eastern and southeastern Australia. Preferred habitat generally contains a high percentage of primary food trees although underlying geology and soil type can be an important factor. Eucalypt Forests associated with drainage lines and floodplains of richer soil types (i.e. moisture and nutrients) can also be favoured due to feed trees containing higher levels of nutrients and less potential for toxicity (Hindell & Lee, 1990; Moore & Foley, 2000). Within SEQLD six primary foraging trees were identified by Pahl (1993); Tallowwood (*Eucalyptus microcorys*), Forest Red Gum (*E. tereticornis*), Scribbly Gum (*E. racemosa*), Grey Gum (*E. propinqua*), Red Mahogany (*E. resinifera*) and White Stringybark (*E. tindaliae*). Further research undertaken by Phillips & Callaghan (1996) in Tweed Shire indicates that Swamp Mahogany (*E. robusta*) and Blue Gum (*E. tereticornis*) [including hybrids of the two] on alluvial deposits and Quaternary and Neranleigh-Fernvale Group geomorphologies were considered to be primary habitats. Areas with sub-dominance of these species on Neranleigh-Fernvale alliances supporting Blue Gum (*E. tereticornis*), Tallowwood (*E. microcorys*) and/or Grey Gum (*E. propinqua*) comprise secondary habitat or primary habitat depending on the density of the latter two species. Phillips & Callaghan (1998) also noted Tallowwood to be a primary browse species and two	Marginal habitat for this species is considered to be present none of which will be disturbed in association with the proposal. Unlikely to be significantly impacted as a result of the Solar Farm proposal which has been designed to be situated within an existing pasture grassland/paddock. .

Species	Potential occurrence	Notes	Potential for the species or associated habitat to be impacted upon by proposal

types of Grey Gum (*E. propinqua, E. biturbinata)* to be secondary browse species in Currumbin.

Previous studies (Biolink, 2007) indicate that *Eucalyptus tereticornis, E. microcorys* and *E. propinqua/E. biturbinata* are the most preferred koala food trees throughout the Gold Coast LGA. Within the Tweed Coast Swamp Mahogany *Eucalyptus robusta* and Forest Red Gum *E. tereticornis* are the most preferred tree species with Tallowwood *E. microcorys* and Grey Gum *E. propinqua* being the next most preferred (Biolink, 2011).

Recently an extensive review of koala tree use across NSW (OEH, 2018) which has resulted in the new NSW SEPP Koala Habitat Protection (2019) and Koala Habitat Protection Guideline (2020) providing extensive lists for Koala Tree Species within regional koala management areas.

Within utilized habitat the koala spends most of its time in distinct home-ranges which may overlap if available habitat area is reduced. Males are territorial but a dominance-hierarchy exists and they may attack during the summer breeding season. Home ranges of the species are considered to be large and can vary dependent upon habitat quality and extent. Studies have shown various home range sizes exist with the males usually larger than the female (Male 135ha, Female: 110ha [Ellis et al, 2002], Male: 34.4ha, Female: 15ha [White, 1999]). A review of a number of published scientific reports notes that Koala density generally ranges between 0.02 and 1.26 animals per hectare. Densities are considered to vary dependent upon habitat quality, size, connectivity, presence of impediments to movement (stock fences, dogs, roads etc).

SOURCE	STUDY LOCATION	HABITAT TYPE	ADDITIONAL COMMENTS	KOALA/HA
Dique et al, 2003	Southeast QLD Pine Rivers Shire	Tall shrubby open forest (Tertiary surfaces) and Tall open forest upon metamorphics	Stratified by two habitat descriptions 'urban' and 'bushland'	0-0.76
Dique et al, 2004	Southeast QLD Koala Coast ~375sqkm of Redland, Logan and Brisbane City shires	Eucalypt Forests. Predominately RE 12.9-10.4 & 12.11.5	Study stratified by habitat descriptions: 'urban', 'remnant bushland', 'bushland' and 'other'. Remnant and bushland areas further stratified by proximity to the centre of the study area (high density=close to centre, low density=further away)	Range 0.02-1.26 Urban: 0.17 +/-0.013 High remnant: 0.70 +/-0.023 Low remnant: 0.20 +-/0.014 High bushland: 0.30+/-0.006 Low bushland: 0.11 +/-0.007 Other: 0
White and Kunst 1990	Southeast QLD Sheldon	Eucalypt Forest		0.4 (0.3-0.46)
Sullivan et a 2004	Southwest QLD	Eucalypt Forest/woodland within the mulgalands	Habitat stratified by floristics and landzone.	0.0007-2.513
Biolink 2007	Gold Coast City	Mapped gold coast city vegetation (per Ryan et al, 2003) filtered to exclude communities not containing eucalypts	Spot assessment technique for koala faecal pellets and strip transects searches	0.11+/-0.03 SAT 0.09+/-0.04 STRIP
Biolink 2007	Coombabah Koala Habitat Area	Mapped gold coast city vegetation (per Ryan et al, 2003) filtered to exclude communities not containing eucalypts	Spot assessment technique for koala faecal pellets.	0.22+/-0.04
Biolink 2007	Coomera-Pimpama Koala Habitat Area	Mapped gold coast city vegetation (per Ryan et al, 2003) filtered to exclude communities not containing eucalypts	Spot assessment technique for koala faecal pellets.	0.23+/-0.03
Biolink 2012	Byron Coast Koala Habitat Area	Mapped shire wide vegetation mapping (Landmark et al 1999 updated with BSC 2007)	Spot assessment technique for koala faecal pellets strip transects searches	0.07 (0.2+/-0.12)
GCCC 2013	Elanora-Currumbin Waters	Eucalypt Forest/Woodlands	Spot assessment technique for koala faecal pellets and strip transects searches	1.12+/-0.67 SAT 0.65+/- STRIP
GCCC 2014	East Coomera	Mapped gold coast city vegetation (per Ryan et al, 2003) filtered to exclude communities not containing eucalypts	Radio tracking	0.21-0.54 (AVERAGE 0.37)
GCCC 2015	Burleigh Ridge	Eucalypt Forest/Woodlands	Spot assessment technique for koala faecal pellets and strip transects searches	0.20+/- 0.16 SAT 0.33 +/- 0.18 STRIP

Species	Potential occurrence	Notes	Potential for the species or associated habitat to be impacted upon by proposal
		Preferred habitat for the Koala is considered absent although the Eucalypt Plantation (VT2) and scattered Eucalypts/Corymbians on the southern slopes of the northeastern hill (VT4) are considered to provide marginal habitat. However, these small areas are isolated from additional areas of Eucalypt Forest/Woodland which are known to support koalas by a variety of pastoral and industrial (quarry, resource recovery) land uses. The Koala was not recorded during fauna survey.	
Grey-headed Flying Fox (*Pteropus poliocephalus*)	Recorded	The Grey-headed Flying-fox inhabits subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps (Eby, 1995). Urban gardens and cultivated fruit crops also provide habitat for this species (NSW NPWS 1999c). Grey-headed Flying-foxes forage on the nectar and pollen of native trees, in particular Eucalyptus, Melaleuca, Banksia (Eby, 2000) and fruits of rainforest trees and vines (NSW NPWS 1999c). During periods when native food is limited, Grey-headed Flying-foxes disperse from colonial roosts, often foraging in cultivated gardens and fruit crops (NSW NPWS 1999c). This species roosts in large aggregations or camps in close proximity (20 km or less) to a regular food source, often in stands of riparian rainforest, Paperbark or Casuarina forest (Eby, 1995). This species is a canopy-feeding frugivore, blossom-eater and nectarivore of rainforests, open forests, woodlands, Melaleuca swamps and Banksia woodlands. As such, it plays an important ecosystem function by providing a means of seed dispersal and pollination for many indigenous tree species (Eby 1996; Pallin 2000). All trees capable of fruiting or profuse flowering are considered to represent potential foraging sources for the GHFF and it was recorded on the site during survey.	Test of significance performed. This species is considered unlikely to be significantly impacted as a result of the Solar Farm proposal which has been designed to be situated within an existing pasture grassland/paddock.
Southern Myotis (*Myotis macropus*)	Recorded	The Myotis roosts within caves, tunnels, hollow-bearing trees, bridges, buildings and dense tree foliage always in close proximity to permanent water (NPWS, 2002; Richards, 2002). Breeding colonies may consist of 10-15 individuals or occasionally up to several hundred. Within breeding colonies small clusters are made where a male establishes a territory from which other males are actively excluded and breeding females are protected. Outside of breeding males roost solitarily within a defended zone or established a small group of up to 20 males. The species forages over waterbodies where it scoops insects and small fish from the water surface or catches insects aerially (DEH, 2005; Menkhorst, 1996; Richards, 2002). It has been recorded foraging over small creeks, coastal rivers, estuaries, lakes and inland rivers (Law & Anderson, 1999) and other smaller waterbodies including farm dams (Law et al, 1998). Potential foraging habitat is considered to be abundant in the locality due to the presence of open areas (paddocks/pastures) within proximity to permanent water (creeks, dams, drainage channels etc). During the survey period the Myotis was recorded by ANABAT within pasture habitats and forest fringes proximate to constructed drainage lines. No roosting sites were observed during site inspections. Given the abundance of similar available foraging resources (i.e. established pastoral holdings) it is considered unlikely that the proposed works will significantly impact the Southern Myotis.	Test of significance performed. This species is considered unlikely to be significantly impacted as a result of the Solar Farm proposal which has been designed to be situated within an existing pasture grassland/paddock.
Barking Owl (*Ninox connivens*)	Marginal	The Barking Owl lives in forests and woodlands of tropical, temperate and semi-arid zones. Its habitat is typically dominated by eucalypts, often red gum species and, in the tropics, paperbarks *Melaleuca* species. It usually roosts in or under dense foliage in large trees including rainforest species of streamside gallery forests, River She-oak *Casuarina cunninghamiana*, other *Casuarina* and *Allocasuarina* species, eucalypts, *Angophora* or *Acacia* species. Roost sites are often near watercourses or wetlands. It typically breeds in hollows of large eucalypts or paperbarks, usually near watercourses or wetlands. Barking Owls have been recorded in remnants of forest and woodland and in clumps of trees at farms, towns and golf courses. DECC (2005) notes that large home ranges of 30-200 hectares are occupied by the owl. Preferred habitat for the Barking Owl is considered absent although the Eucalypt Plantation (VT2), Closed Paperbark Forest (VT5) and scattered Eucalypts/Corymbians on the southern slopes of the northeastern hill (VT4) [containing hollow bearing trees] are considered to provide marginal habitat. The Barking Owl was not recorded during fauna survey. Although the area proposed for the Solar Panel Farm may fall within the hunting range for the barking owl (based upon Bionet/Wildlife Atlas information), it is unlikely to represent significant habitat within its home range given the small size of the works footprint (in comparison to the species home range) and absence of suitable forest/woodland within the impact zone. It is also noted that the most recent record of the Barking Owl within proximity to the site (2km) is from 1996.	Marginal habitat for this species is considered to be present none of which will be disturbed in association with the proposal. Unlikely to be significantly impacted as a result of the Solar Farm proposal which has been designed to be situated within an existing pasture grassland/paddock.
Squirrel Glider (*Petaurus norfolcensis*)	Marginal	This species of Glider is associated with dry sclerophyll forest and woodlands although in northern NSW and Qld it has been recorded from wet sclerophyll environments (Suckling in Strahan eds, 2002; Lindenmayer 2002). It is considered to be most abundant in associations containing winter flowering Eucalypts and/or environments with a high abundance of Acacia, Banksia species in the lower layers (Smith & Murray, 2003; Menkhorst et al, 1998; Quinn, 1995). Within the canopy of the preferred habitat numerous trees bearing hollows are critical habitat values required to support populations of the species (Quinn, 1995; Smith & Murray, 2003; Lindenmayer, 2002). Gliders are known to regularly swap den trees and utilise a number of such dens (between 6 and 19 den trees per Glider) within their home range (van der Ree, 2000). These results are supported by survey work undertaken by Southern Cross University (June/July 2002) which indicated that 12 radio tracked gliders utilised 37 den trees incorporating live hollow bearing trees and stags (Cited in Warren, 2004). Preferred habitat for the Squirrel Gliders is considered absent although scattered Eucalypts/Corymbians/Lophostemon including several hollow bearing trees on	Marginal habitat for this species is considered to be present none of which will be disturbed in association with the proposal. Unlikely to be significantly impacted as a result of the Solar Farm proposal which has been designed to be situated within an existing pasture grassland/paddock.

Species	Potential occurrence	Notes	Potential for the species or associated habitat to be impacted upon by proposal
		the southern slopes of the northeastern hill (VT4) are considered to provide marginal habitat. This area is very small (<0.5ha), however, and is isolated from any areas of dry sclerophyll forest/woodland. The squirrel glider was not recorded during fauna survey.	
Black Falcon (*Falco subniger*)	Marginal	The Black Falcon is widely, but sparsely, distributed in New South Wales, mostly occurring in inland regions. Some reports of 'Black Falcons' on the tablelands and coast of New South Wales are likely to be referable to the Brown Falcon. 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 (Marchant & Higgins 1993). (OEH online @ https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20269). "Baker-Gabb (1983) found that a breeding pair occupied an territory estimated at 13,400 ha in a study area near Mildura, Victoria. The falcon occurs in open woodland and flat, open country, particularly tree-lined watercourses crossing plains (Olsen 1995). Spends most of its time soaring, but also perches on the top of a dead tree or fencepost (Debus 1998). Feeding occurs on mammals (including young rabbits and rats), birds (mostly small and medium-sized species, but occasionally herons and waterfowl), reptiles, insects, and carrion (Debus 1998). Prey is captured on the wing (insects, birds), or on the ground from a perch. It sometimes hunts cooperatively, pirates prey from other raptors, and follows grassfires, farm equipment, shooters, and livestock to capture flushed prey, sometimes in the company of Brown Falcons (Olsen 1995, Debus op cit.). [Global Raptor Information Network. 2020. Species account: Black Falcon *Falco subniger*. Downloaded from http://www.globalraptors.org on 10 Feb. 2020] "The Black Falcon breeds in solitary, dispersed pairs. It uses an old stick nest, typically built by a crow or raven or sometimes another raptor species, in the top of an emergent live (or sometimes dead) tree in woodland, often riparian. The clutch of usually three or four eggs is laid between winter and late spring. The incubation period is 5 weeks, the nestling period 6-7 weeks, and the post-fledging dependence period lasts at least 3 weeks. Few data on success/productivity; single clutch/brood per year. Breeding in the arid zone may be influenced by rainfall and prey abundance" (DoE, 2010 Falco subniger EPBCA nomination). Preferred habitat for the Black Falcon is considered absent although the Eucalypt Plantation (VT2) and scattered Eucalypts/Corymbians on the southern slopes of the northeastern hill (VT4) are considered to provide marginal habitat. The Falcon was not recorded during fauna survey and is only included as a marginal potential occurrence due to its very large home range and previous recording in the locality.	Marginal habitat for this species is considered to be present none of which will be disturbed in association with the proposal. Unlikely to be significantly impacted as a result of the Solar Farm proposal which has been designed to be situated within an existing pasture grassland/paddock. The BIONET database indicates that all three local records are from 1987-1988 from Lot 16 Kingsvale Road further to the east.
Dusky Woodswallow (*Artamus cyanopterus cyanopterus*)	Unlikely	The dusky woodswallow in known from throughout most of New South Wales, but is sparsely scattered in, or largely absent from, much of the upper western region. Most breeding activity occurs on the western slopes of the Great Dividing Range. Within this distribution the species primarily inhabits 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. It has also been recorded in shrublands, heathlands, very occasionally in moist forest or rainforest and farmland which is usually at the edges of forest or woodland (OEH, 2017 online @ https://www.environment.nsw.gov.au/threatenedSpeciesApp/profile.aspx?id=20303). Preferred habitat for the Woodswallow is considered absent from the site and it was not recorded during fauna survey (hair funnel deployment).	Favoured habitat for this species is considered to be absent from the site. Unlikely to be significantly impacted as a result of the Solar Farm proposal which has been designed to be situated within an existing pasture grassland/paddock. The BIONET database indicates this species is included due to a 1994 record at Lot 16 Kingsvale Road further to the east.

5.5 AREAS OF OUTSTANDING BIODIVERSITY VALUES

Areas of Outstanding Biodiversity Value (AOBV) listed under the *Biodiversity Conservation Act 2016* includes:

- Wollemia nobilis (the Wollemi pine);
- Little penguin population in Sydney's North Harbour.
- Goulds Petrel
- Mitchells Rainforest Snail in Stotts Island Nature Reserve

The development will not impact upon any of these AOBV.

5.6 WETLANDS AND WATERWAYS

State Environmental Planning Policy (Coastal Management) 2018, known as the Coastal Management SEPP, defines the coastal zone and establishes state-level planning priorities and development controls to guide decision making for development within the coastal zone. The Coastal Management SEPP gives effect to the objectives of the *Coastal Management Act 2016* from a land use planning perspective, by specifying how development proposals are to be assessed if they fall within the coastal zone.

In this instance the site is not mapped as containing Coastal Wetlands.

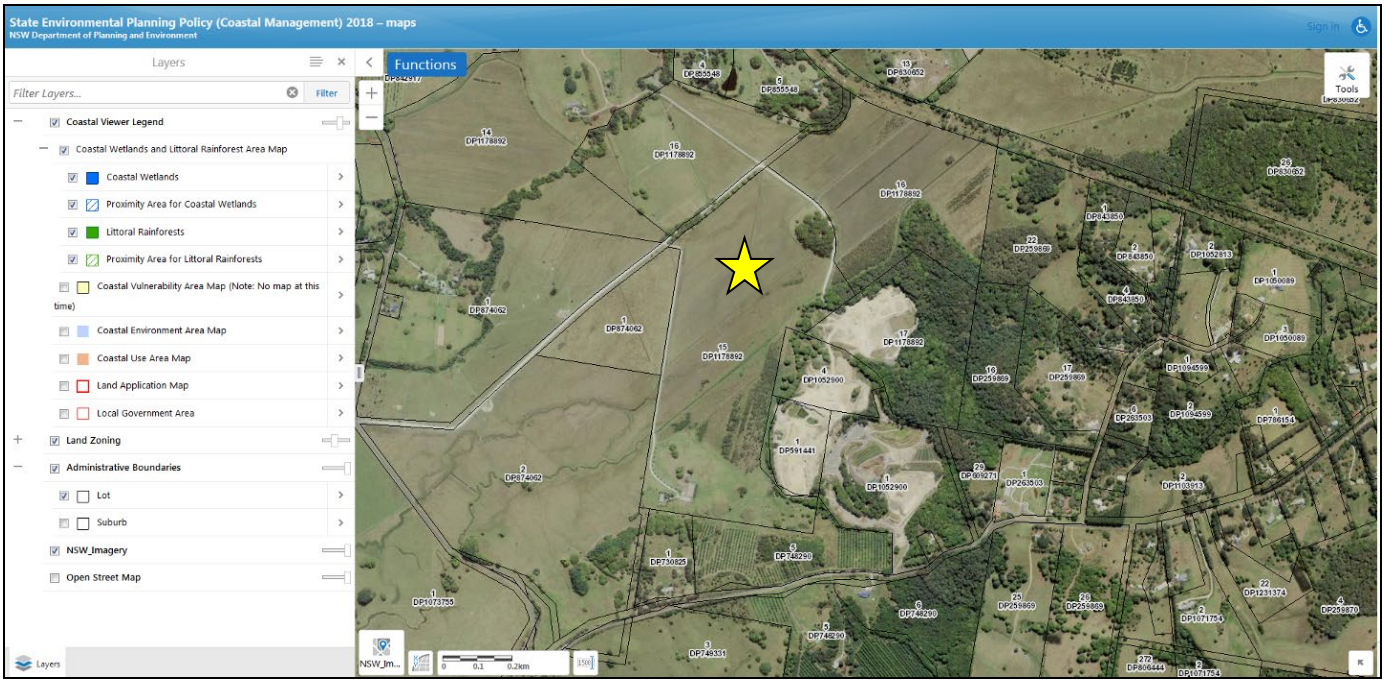


FIGURE 9: MAPPED COASTAL WETLAND AREAS (SOURCE: DPE, 2020)

Eco wetlands include areas previously identified in *State Environmental Planning Policy No. 14 – Coastal Wetlands (SEPP 14)* as well as other important wetland areas including mangroves, saltmarsh, swamps, lagoons, estuaries and floodplain complex forest (BSC, 2012). One small area in the northeast has been mapped as EcoWetland which aligns with an area of Paperbark Forest which mostly occurs offsite to the east. The Solar Farm Project has been designed to avoid this mapped area.

A series of unmapped constructed drainage channels and small stock watering dams occur throughout the grassland/paddock areas which drain to the northeast of the site. These channels are relatively uniform and narrow and contain sporadic native herbaceous vegetation (i.e. typha, phragmites, persicaria, sedges, rushes) and provide

some limited refuge for waterfowl and amphibians. Although not considered to be significant ecological features the Solar Farm Array has been designed to allow for the retention of the channels and dams.

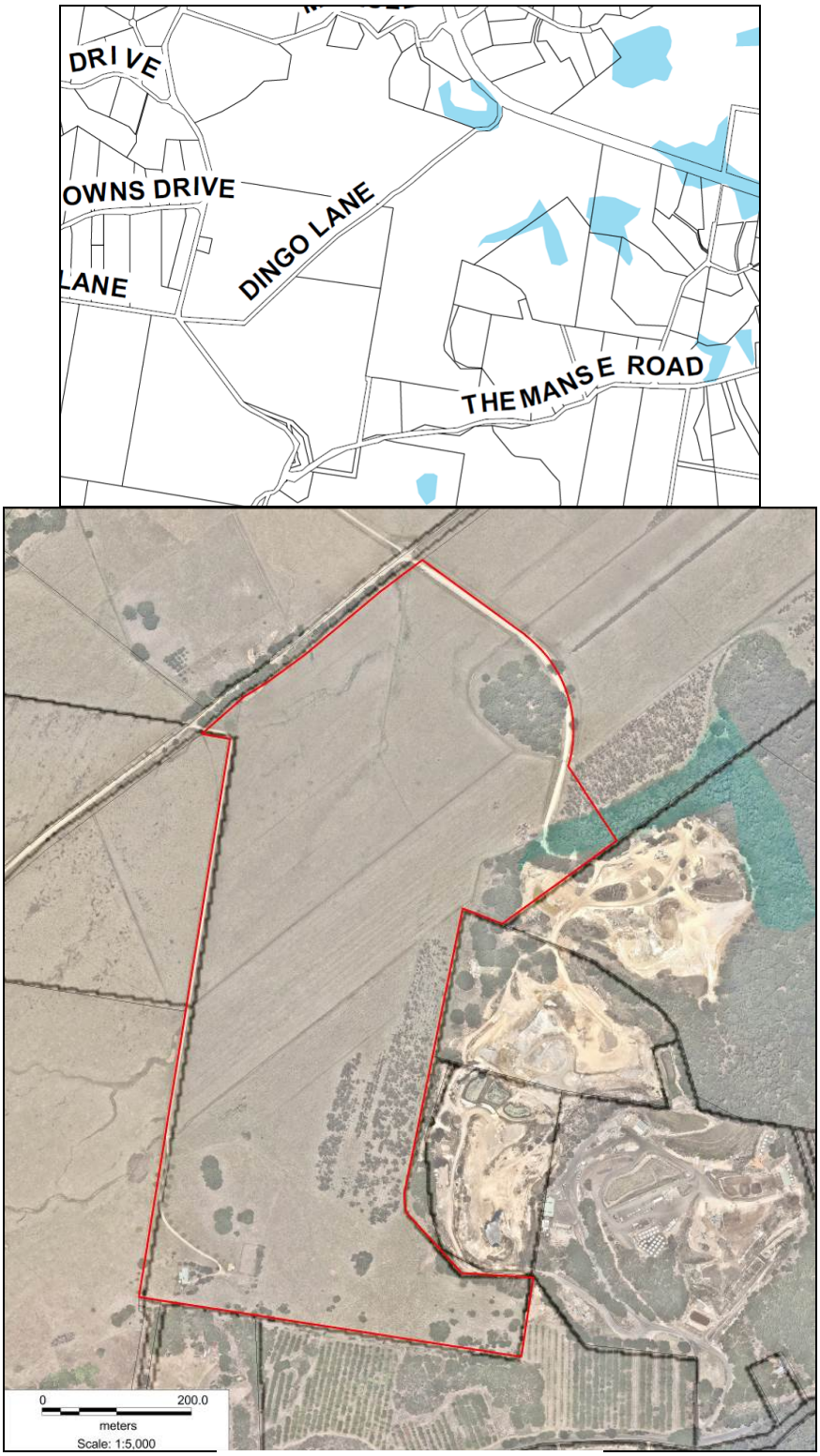


FIGURE 10: EXTRACT FROM BSEV MAP: ECOWETLAND

5.7 TERRESTRIAL FAUNA CORRIDOR/LINKAGES

Wildlife corridors can be defined as 'retained and/or restored systems of (linear) habitat which, at a minimum enhance connectivity of wildlife populations and may help them overcome the main consequences of habitat fragmentation' (Wilson & Lindenmayer, 1995). Corridors can assist ecological functioning at a variety of spatial and temporal scales from daily foraging movements of individuals, to broad-scale genetic gradients across biogeographical regions (Parsons Brinkerhoff, 2005).

Corridors serve a number of different functions in terms of biodiversity conservation including:

- providing increased foraging area for wide-ranging species
- providing cover for movement between habitat patches, particularly for cover dependent species and species with poor dispersal ability and enhancing the movement of animals through sub-optimal habitats
- reducing genetic isolation by maintaining continuity between sub-populations in a metapopulation and thereby preventing and /or reversing localised extinction
- facilitating access to a mix of habitats and successional stages to those species which require them for different activities (for example, foraging or breeding)
- providing refuge from disturbances such as fire
- providing habitat in itself (Wilson, A. & Lindenmayer 1995; Lindenmayer, 1994; Bennett, 1999).

How species use the corridor network will depend largely on the home and activity ranges of the species, their habitat requirements and the ecological characteristics of the corridor. For example, some large or mobile species may make direct movements through the corridor network, moving from one patch of habitat to another. These direct movements may be on the scale of a foraging expedition or a migration (Bennett 1990b). Other species may have movements by single individuals punctuated by pauses in the corridor, which can last anything from a small foraging or resting bout to weeks and even months. If the corridor contains sufficient resources to maintain a population, then continuity through the corridor may be through gene flow through the resident population (Bennett 1990b; Wilson, A. & Lindenmayer 1995).

For example, a mobile species with a large home range (i.e. koala) may regularly traverse a corridor to move between favoured feeding grounds or in attempt to access mates, whereas a species with a comparably minor home range (i.e. antechinus) may spend its entire life within a portion of the same corridor.

A review of the surrounding areas indicates that interconnected forest remnants suitable to form a regional terrestrial corridor are fragmented and generally absent from the site. Woody vegetation cover is restricted primarily to the site's eastern perimeter although the majority of this vegetation is occupied by Camphor Laurel Forest. It is also noted that vegetated corridors to the north and west have been compromised by historical farming and grazing with a variety of industrial developments (i.e. quarry, resource recovery) present to the east and southeast. As such it is considered that the site is not located currently within a remnant corridor of regional significance.

Byron Shire Council's Wildlife Corridor Mapping (refer Figure 11) shows the south-eastern and southern areas of the proposed works footprint occurring within a modelled wildlife corridor. The majority of the 'corridor' as it traverses the site is included within the Exotic Vegetation and Non-vegetated Corridor Classes within the Byron Biodiversity Conservation Strategy (2004) which is reflective of the dominance of pasture grassland and camphor laurel forest.

As the Solar Panel Farm has been consolidated within an area currently dominated by exotic grassland/pasture it is considered unlikely that the proposal will have a significant impact on local or regional fauna dispersal. Notwithstanding, it is recommended that Byron Shire Council give consideration to improving the future

contribution of the site to the modelled 'corridor' by progressively rehabilitating and revegetating the eastern areas generally in accordance with Section 8.2.2 and Figure 17.

With regard to the above, it is considered unlikely that the proposed works will have an impact upon the existing fauna corridor/dispersal values of the site such that such that its existing dispersal function is significantly diminished.

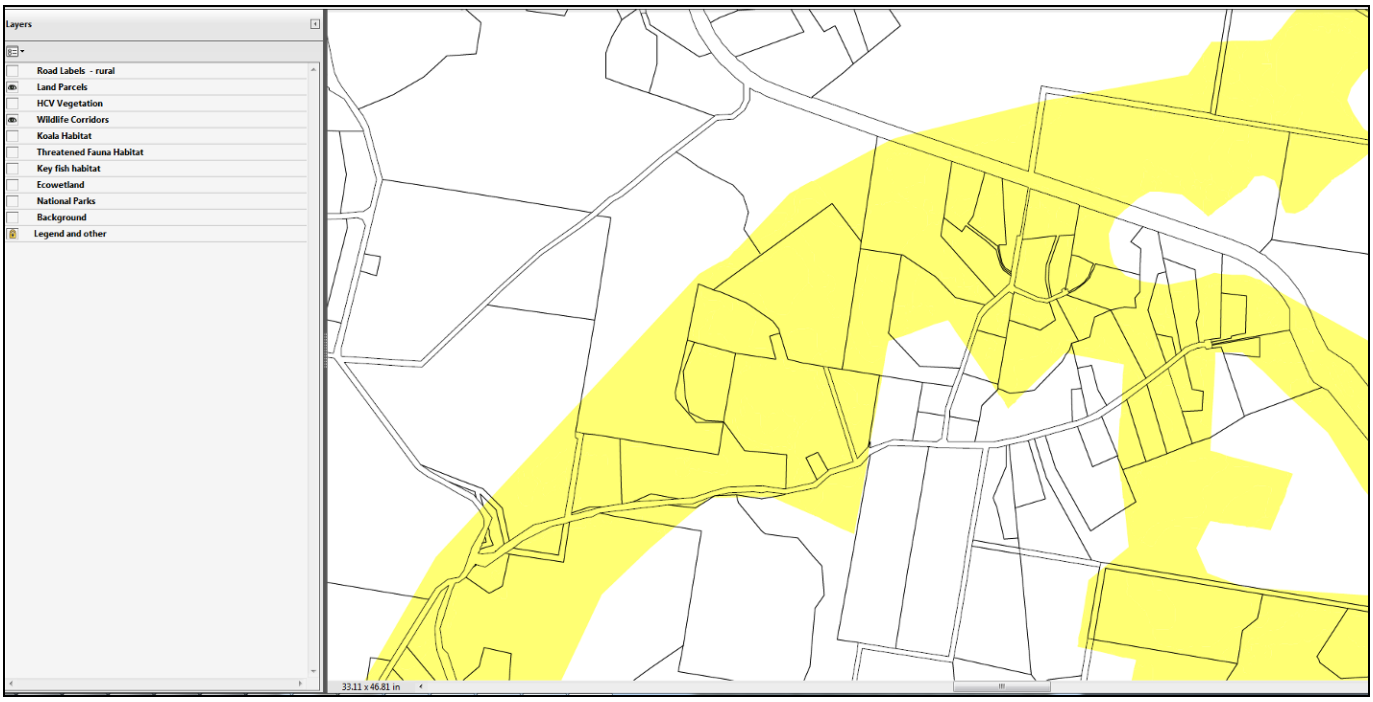


FIGURE 11: BYRON SHIRE ENVIRONMENTAL VALUES MAPPING [WILDLIFE CORRIDORS] (SOURCE: BSC, 2012)

5.8 BYRON SHIRE ENVIRONMENTAL VALUES MAPPING

Byron Shire Council has a range of environmental mapping which is used to identify areas of environmental value for planning and conservation purposes. This mapping has been produced by Council through the Flora and Fauna Study 1999, the Biodiversity Conservation Strategy 2004 and subsequent reviews, as well as mapping data provided by organisations such as National Parks and Wildlife Service (now Office of Environment and Heritage) and Department of Primary Industries (BSC, 2012).

5.8.1 HIGH CONSERVATION VALUE VEGETATION

High conservation value vegetation (HCV) is the name given to areas of land identified as containing important environmental values. These areas are calculated and mapped using the methodology adopted in Council's Byron Biodiversity Conservation Strategy (2004). HCV often contains threatened species and Endangered Ecological Communities (EECs) protected by State and/or Commonwealth legislation.

Within the site small vegetated areas in the north east have been mapped as HCV (refer Figure 10). The Solar Farm Project has been designed to avoid these mapped areas.

FIGURE 12: BYRON SHIRE ENVIRONMENTAL VALUES MAPPING [HIGH CONSERVATION VALUE VEGETATION] (SOURCE: BSC, 2012)

5.8.2 WILDLIFE CORRIDORS

Wildlife corridors have been developed to identify important links across the landscape to encourage the movement of flora and fauna species. Byron shire wildlife corridors were developed as part of the Byron Biodiversity Conservation Strategy and are based on wildlife corridor mapping produced by National Parks and Wildlife Service (NPWS). The NPWS mapping was refined by ecologists and botanists involved in the production of the Biodiversity Conservation Strategy based on detailed knowledge of the Byron shire landscape and the ecology of local fauna and flora species (BSC, 2012).

A discussion on wildlife corridors for the site is has been discussed in Section 5.6 of this report.

5.8.3 KOALA HABITAT

Within the site two small vegetated areas in the north east have been mapped as Secondary and Tertiary Koala Habitat (refer Figure 10) on the Byron Shire Koala Habitat map. The Solar Farm Project has been designed to avoid these mapped areas and will not introduce a new dispersal barrier between the two. No koalas were recorded in either area which contain few preferred koala food trees.

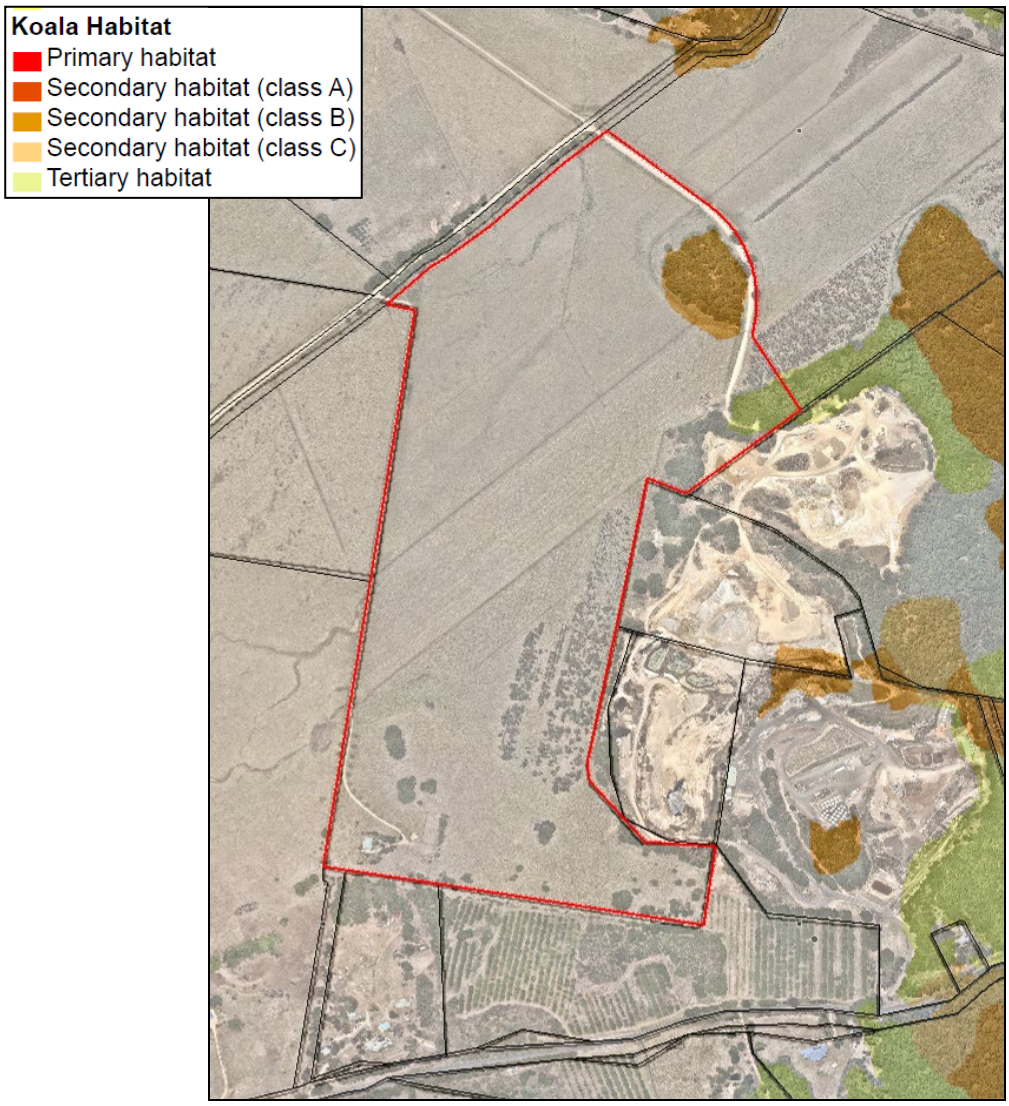


FIGURE 13: BYRON SHIRE ENVIRONMENTAL VALUES MAPPING [KOALA HABITAT] (SOURCE: BSC, 2012)

5.8.4 THREATENED FAUNA HABITAT

Threatened Fauna Habitat mapping displays areas of vegetation that provide habitat or potential habitat for key threatened fauna species. This map layer is based on Key Fauna Habitat modelling undertaken by National Parks and Wildlife Service. The map layer displays areas of vegetation with their centre located in modelled fauna habitat for select key threatened fauna species known from the Shire (BSC, 2012).

Within the site two very small areas in the north east have been mapped as threatened fauna habitat (refer Figure 13). The Solar Farm Project has been designed to avoid these mapped areas which appear to align with the Paperbark Forest contained within the quarry land and a small part of the north-eastern hill.

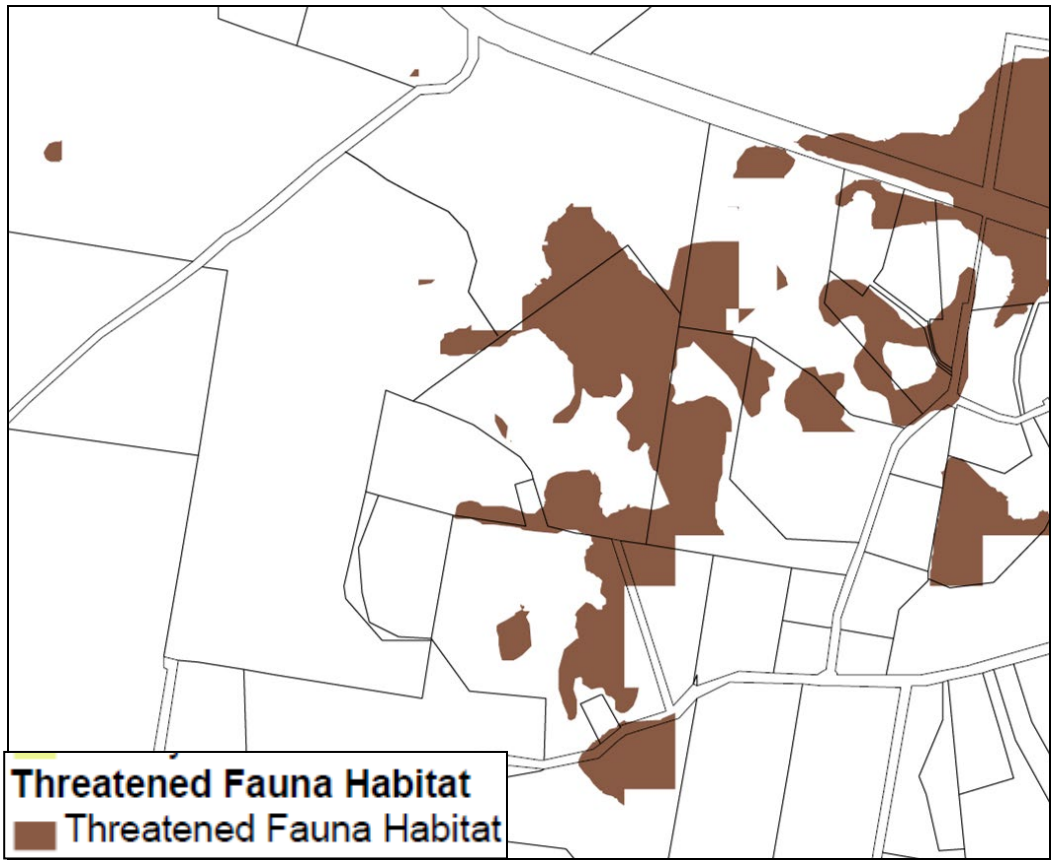


FIGURE 14: BYRON SHIRE ENVIRONMENTAL VALUES MAPPING [THREATENED FAUNA HABITAT] (SOURCE: BSC, 2012)

5.8.5 ECOWETLAND HABITAT

Addressed in 5.6 above.

6 STATUTORY CONSIDERATIONS - TEST OF SIGNIFICANCE (SECTION 7.3 OF THE BIODIVERSITY CONSERVATION ACT 2016)

Further to the provisions of Section 7.3 of the *Biodiversity Conservation Act* 2016, the 'test of significance' is applied to assess any potentially adverse impacts of the site-proposal on threatened species, populations and/or communities occurring within the site or surrounding locality. The Assessment of Significance is not a 'pass/fail' test or technique based on a scoring system. Instead, the outcome of each factor needs to be considered as to whether effects are likely and whether they are significant (NPWS 1996a).

It is further noted that a positive finding in respect of one or more factors of the test of significance does not necessarily lead to the conclusion that an SIS is then required (Talbot in Gales Holdings Pty Ltd v Tweed Shire Council [2006] NSWLEC 212). Rather it allows consideration as to whether a particular effect may be present or occur as a result of the development and whether that effect is likely to be significant.

Note that threatened species, populations and/or communities have been excluded from this assessment where:

- No direct observations of threatened species, populations or communities were made on the site during survey works;
- No previous sightings of threatened species, populations or communities within a 2-kilometre radius of the site have been registered within the Bionet database and scheduled under the *Biodiversity Conservation Act 2016*;
- An abundance of primary habitat requirements for said species are not located on or within site (refer previous sections); and
- Potential habitat (feeding, roosting, nesting or refuge) will not be or will be minimally affected by the proposal (refer previous sections).

As such it is considered that, of the scheduled species, populations and/or communities described previously within this report, the following three species of threatened fauna were recorded on the site and may have the potential to be significantly affected through any development of the site although such is considered unlikely in this instance as the proposed Solar Panel Farm has been consolidated within modified pasture grasslands.

TABLE 7: THREATENED SPECIES AND COMMUNITIES SUBJECT TO THE 'TEST OF SIGNIFICANCE'

Ecological Communities	N/A
Populations	N/A
Flora	N/A
Fauna	Rose-crowned Fruit-dove (*Ptilinopus regina*)
	Grey-headed Flying-fox (*Pteropus poliocephalus*)
	Southern Myotis (*Myotis macropus*)

6.1 FACTORS OF THE TEST OF SIGNIFICANCE ASSESSMENT

The following is to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats:

FAUNA –SOUTHERN MYOTIS, GREY-HEADED FLYING FOX, ROSE-CROWNED FRUIT DOVE

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,

OEH (2018) defines local population as 'the population that occurs in the study area. The assessment of the local population may be extended to include individuals beyond the study area if it can be clearly demonstrated that contiguous or interconnecting parts of the population continue beyond the study area.'

DECC (2007), DPI (2008) and OEH (2018) further expands the local population definition to include:

- The *local population* of a threatened *plant* species comprises those individuals occurring in the study area or the cluster of individuals that extend into habitat adjoining and contiguous with the study area that could reasonably be expected to be cross-pollinating with those in the study area.

- The *local population* of *resident fauna* species comprises those individuals known or likely to occur in the study area, as well as any individuals occurring in adjoining areas (contiguous or otherwise) that are known or likely to utilise habitats in the study area.

- The *local population* of *migratory or nomadic fauna* species comprises those individuals that are likely to occur in the study area from time to time.

DECC (2007), DPI (2008) and OEH (2018) further states that the key assessment for this component is the "risk of extinction of the local population." The risk of extinction will increase if any factor operates to reduce population size or reproduction success. Risk of extinction also means 'the likelihood that the local population will become extinct either in the short term *or* in the long term as a result of direct or indirect impacts on the viability of that population.' It is further noted that any known or presumed local population should be assumed to be viable for the purpose of this assessment unless otherwise proven.

MEGACHIROPTERANS (GREY-HEADED FLYING-FOX)

Local Population

As the noted mega-bat species is wide ranging in the region, it is considered that they are not genetically isolated on the subject site and form part of populations within the wider region.

Grey-headed Flying Fox (*Pteropus poliocephalus*)

The NPWS database contains 49 records of this species within 10 kilometres from the centre of the site.

Stages of lifecycle potentially affected by development

Species	Habitat Preference	Roosting/Breeding
Grey-headed Flying-fox	The Grey-headed Flying-fox inhabits subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps (Eby, 1995). Urban gardens and cultivated fruit crops also provide habitat for this species (NSW NPWS 1999c). Grey-headed Flying-foxes forage on the nectar and pollen of native trees, in particular Eucalyptus, Melaleuca, Banksia (Eby, 2000) and fruits of rainforest trees and vines (NSW NPWS 1999c). During periods when native food is limited, Grey-headed Flying-foxes disperse from colonial roosts, often foraging in cultivated gardens and fruit crops (NSW NPWS 1999c). This species is a canopy-feeding frugivore, blossom-eater and nectarivore of rainforests, open forests, woodlands, Melaleuca swamps and Banksia woodlands. As such, it plays an important ecosystem function by providing a means of seed dispersal and pollination for many indigenous tree species (Eby 1996; Pallin 2000).	This species roosts in large aggregations or camps in close proximity (20 km or less) to a regular food source, often in stands of riparian rainforest, Paperbark or Casuarina forest (Eby, 1995). Camps provide resting habitat, sites of social interactions and refuge for animals during significant phases of their annual cycle, such as birth, lactation and conception (Parry-Jones and Augee 1992, 2001). "Roosting habitat critical to survival: Grey-headed Flying-foxes roost in large aggregations in the exposed branches of canopy trees (Ratcliffe 1931, Nelson 1965a, Parry-Jones and Augee 1992). The locations of camps are generally stable through time, and several sites have documented histories that exceed 100 years (Lunney and Moon 1997). Camps provide resting habitat, sites of social interactions and refuge for animals during significant phases of their annual cycle, such as birth, lactation and conception (Parry-Jones and Augee 1992, 2001).

Species	Habitat Preference	Roosting/Breeding
		On the basis of current knowledge, roosting habitat that meets at least one of the following criteria can be explicitly identified as habitat critical to survival, or essential habitat, for Greyheaded Flying-foxes. Roosting habitat that: 1. is used as a camp either continuously or seasonally in > 50% of years 2. has been used as a camp at least once in 10 years (beginning in 1995) and is known to have contained > 10 000 individuals, unless such habitat has been used only as a temporary refuge, and the use has been of limited duration (i.e. in the order of days rather than weeks or months) 3. has been used as a camp at least once in 10 years (beginning in 1995) and is known to have contained > 2 500 individuals, including reproductive females during the final stages of pregnancy, during lactation, or during the period of conception (i.e. September to May) (in DECCW, 2009)

This species encountered flying over the subject site and foraging within the following areas:
- The large fruiting *Syzygium moorei* within VT3 in the southern paddocks
- Scattered Camphor Laurels within VT3 which were early fruiters at the time of survey
- Fruiting exotic palm species within the gardens of the southwestern residence
- Flowering Pink Bloodwoods on the southern hill slopes of VT4

None of these areas will be modified in association with the Solar Panel Farm proposal.

No roosting sites occur within, or within close proximity to the site with the nearest camp occurring to the north within Mullumbimby (Byron Shire Council, 2017).

Likelihood of Local Extinction

Reviewing the above, it is considered unlikely that the proposal will disrupt the lifecycle of the local population of the discussed megabat to the point that they are at risk of extinction.

MICROCHIROPTERANS (SOUTHERN MYOTIS)

As the noted micro-bat species are considered to be wide ranging in the region, it is considered that they are not genetically isolated on the subject site and form part of populations within the wider region.

Southern Myotis (*Myotis macropus*)

This species was recorded via Anabat survey onsite. The Bionet database contains 6 records of this species within 10km of the site.

Stages of lifecycle potentially affected by development

The habitat and roosting preferences of the nominated bat species are tabulated below:

Species	Habitat Preference	Roosting/Breeding
Southern Myotis	This bat forages over waterbodies where it scoops insects and small fish from the water surface or catches insects aerially (DEH, 2005; Menkhorst, 1996; Richards, 2002). It has been recorded foraging over small creeks, coastal rivers, estuaries, lakes and inland rivers (Law & Anderson, 1999) and other smaller waterbodies including farm dams (Law et al, 1998).	The Myotis roosts within caves, tunnels, hollow-bearing trees, bridges, buildings and dense tree foliage always in close proximity to permanent water (NPWS, 2002; Richards, 2002).

A review of the above species indicates that tree cavities and caves/crevices are necessary for roosting/breeding. In addition to providing shelter, maternity places and retreats for hibernation, roosts are also important places for social interactions among bats. The availability of suitable roosts is therefore critical for forest bat survival (Herr, 1998). Within the site it is considered that cave/mine potential breeding sites are absent although seven hollow bearing trees were encountered, none of which will be affected by the Solar Farm proposal.

Potential foraging habitat is considered to be abundant in the locality due to the presence of open areas (paddocks/pastures) within proximity to permanent water (creeks, dams, drainage channels etc). During the survey period the Myotis was recorded by ANABAT within pasture habitats and forest fringes proximate to constructed drainage lines. No roosting sites were observed during site inspections.

As the species are wide ranging and the proposal will result in only a minor modification of modified potential foraging habitat (i.e. pasture grassland), it is considered unlikely that a significant impact would occur upon the species as a result of the proposal.

Likelihood of Local Extinction

Reviewing the above, it is considered unlikely that the proposal will disrupt the lifecycle of the local population of the discussed micro-bats to the point that it is at risk of extinction.

FRUIT DOVES (ROSE-CROWNED FRUIT DOVE)

As the noted fruit-dove species are considered to be wide ranging in the region, it is considered that they are not genetically isolated on the subject site and form part of populations within the wider region.

Rose-crowned Fruit Dove

The Bionet database contains 64 records of this species within 10km of the site.

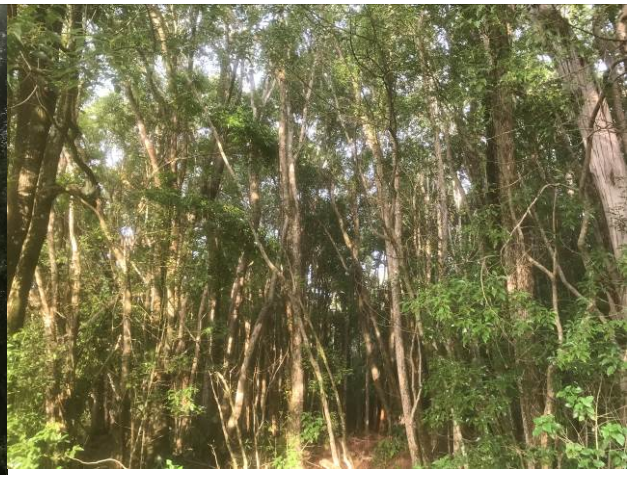
Stages of lifecycle potentially affected by development

The habitat and roosting preferences of the nominated bat species are tabulated below:

Species	Habitat Preference	Roosting/Breeding
Rose-crowned Fruit Dove	This species generally occurs within sub-tropical rainforest, camphor laurel and occasionally wet sclerophyll and swamp forests which contain suitable fruiting species for foraging (DEC, 2005; Recher et al, 1995). As an obligate frugivore a high proportion of fruiting species (figs, lillipillis, laurels etc) is necessary and as such rainforest habitats are favoured. Introduced weeds such as *Cinnamomum camphora* (Camphor Laurel), privets, *Phytolacca octandra* (Inkweed), *Solanum mauritianum* (Tobacco Bush) and *Lantana camara* (Lantana) are also eaten [in NSW Scientific Committee, 2008: 2].	The species is considered a partial migrant and moves north in autumn/winter and returning in spring/summer to breed. Nesting occurs within a simple platform of sticks and vines in dense vegetation in spring and summer (October-February) (Recher et al, 1995).

This species was detected audibly on 18-2-20 and 28-2-20 within Camphor Laurel (VT_3) and Paperbark (VT_5) Closed Forests in the very east of the site associated with the existing quarry (refer Figure 7). These areas will not be modified in association with the Solar Panel Farm proposal.

Recorded RCFD Habitats in the east of the site associated with the quarry



Recorded RCFD Habitats in the east of the site associated with the quarry

Recorded RCFD Habitats in the east of the site associated with the quarry

Recorded RCFD Habitats in the east of the site associated with the quarry

As the species are is wide ranging and the proposal will not result in any modification to the recorded habitat for the Fruit-dove, it is considered unlikely that a significant impact would occur upon as a result of the proposal.

Likelihood of Local Extinction

Reviewing the above, it is considered unlikely that the proposal will disrupt the lifecycle of the local population of the Rose-crowned Fruit Dove to the point that it is at risk of extinction.

b. in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:
   i. is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

   ii. is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

N/A for threatened fauna. No EECs affected by the proposal.

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,

Habitat for a given threatened species, community or population is considered to be an area containing similar known (documented) habitat preferences for that species within the species' geographic distribution. In assessing whether a significant area of the habitat of a threatened species, population or ecological community is to be modified or removed the following should be considered:

- The geographic range of the threatened species, population or ecological community and its known or documented occurrence within the region and locality;
- The relative scale and value of the habitat within the region and locality;
- The importance of the habitat (i.e. relationship to life cycle, reproductive success etc)

DEC (2005) indicates that a "quantitative and qualitative approach to assessing the extent to which habitat is likely to be removed or modified/degraded should consist of the following steps:

- an assessment of the amount of habitat of the threatened species, population or ecological community that occurs within the locality;
- an assessment of the amount of habitat of the threatened species, population or ecological community that occurs within the study area;
- an estimation of the area and quality that the habitat of the study area represents in relation to the local distribution of that habitat;
- An estimation of the area and quality of the habitat of the study area which is to be removed or modified by the proposed development or activity;
- a calculation of the amount of the habitat of the region that will be removed or modified by the proposed development, activity or action or indirectly by longer term impacts from the proposed development such as increased predation weed invasion, salinity etc;
- An estimation of the area and quality of the habitat of the region that will be removed or modified by the proposed development, activity or action; and
- an assessment of the ecological integrity of the habitat to be affected and of the habitat which will remain"

It is estimated that the solar farm proposal will require the modification of 11 hectares of VT1 (Tall Closed Pasture Grassland with Scattered Trees/Paddock Mosaic). These areas (to be modified) are not considered to represent a 'significant area of habitat' for the recorded, or potentially occurring threatened species.

No potential roosting/nesting sites for the discussed fauna species (GHFF, SM, RCFD) were encountered, or are likely to occur, within the pasture grassland to be occupied by the Solar Panel Array.

Reviewing the above, it is considered that the proposed development will not result in the removal or modification of a significant area of habitat for threatened fauna species.

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,

In assessing the potential for habitats of threatened species, populations or ecological communities to become fragmented or isolated to such an extent that the long-term survival of the said species, population or community is at risk, the following is to be considered:

- 'Interconnecting or proximate areas of habitat' (which may be at risk of being fragmented or isolated from other habitat areas) are considered to be two or more habitat areas where currently an individual can move between the two. Such areas could become 'isolated' in the event that the development negates future potential movement of individuals between the two habitats. This could occur through the clearance of habitat, creation of physical impediments (i.e. roads, fences) or potential impacts to behaviour (fauna) which may restrict future movements.

- For threatened species, in reviewing whether isolation may occur, consideration must be given to the movement values of the site and surrounds for particular species, the mobility of threatened species, connectivity of habitats within and external to the site and the degree to which the proposal may significantly disrupt these patterns.

- Consideration should be given to the dispersal and genetic exchange mechanisms of individual species and whether the isolation of currently interconnecting or proximate areas of habitat for threatened species, communities or populations will adversely affect the maintenance of gene flow and the ability to sustain viable populations (DEC, 2005).

As discussed, it is considered that the works are of a minor nature and are therefore unlikely to significantly affect the dispersal function of any terrestrial corridors or key habitats. The Solar Panel Farm has been deliberately located to avoid native vegetation communities and consolidate the use within an existing cleared pasture/paddock area. In this regard the proposal will not result in the fragmentation of any existing patches of native habitat or disrupt an existing terrestrial dispersal corridor by creating a new barrier between two or more areas of habitat likely to be traversed by threatened fauna such that future traversal is negated.

As such, it is considered that the proposal will not result in a significant area of habitat for a threatened species or populations to become isolated from currently interconnecting or proximate areas of habitat for threatened species, populations or ecological communities. Further the proposal is unlikely to adversely impact upon or alienate movement corridors or limit dispersal options for any discussed threatened species.

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),

N/A. No areas of outstanding biodiversity value occur within proximity to the proposal site.

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.

The *Biodiversity Conservation Act 2016* defines a 'threatening process' as 'a process that threatens, or may have the capability to threaten, the survival or evolutionary development of species, populations or ecological communities.' Accordingly, Key Threatening Processes are nominated within Schedule 4 of the Act and include the following (online @ https://www.legislation.nsw.gov.au/#/view/act/2016/63/sch4):

Table 8: BCA Key Threatening Processes

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	The proposed works will involve clearing of some native vegetation (including clearing of one or more strata within a stand of native vegetation). The NSW Scientific Committee notes in their final determination that 'clearing of native vegetation' is recognised as a major factor contributing to the loss of biological diversity and includes impacts such as the following: • Destruction of habitat results in loss of local populations of individual species • Fragmentation • Expansion of dryland salinity • Riparian zone degradation • Increased greenhouse gas emissions • Increased habitat for invasive species • Loss of leaf litter layer • Loss or disruption of ecological function • Changes to soil biota (NSW Scientific Committee, 2001) However, a review of this report notes that clearance will occur in an area dominated by exotic/pasture grassland and as such clearing of native vegetation is minimised.
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
High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition	Not applicable
Herbivory and environmental degradation caused by feral deer	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	Not applicable

THREATENING PROCESS	COMMENT
order Pucciniales pathogenic on plants of the family Myrtaceae	
Introduction of the large earth bumblebee (*Bombus terrestris*)	Not applicable
Invasion and establishment of exotic vines and scramblers	Several exotic vines were recorded onsite. However, the proposal will not exacerbate the occurrence of these species within the locality.
Invasion and establishment of Scotch broom (*Cytisus scoparius*)	Not applicable
Invasion and establishment of the cane toad (*Bufo marinus*)	The cane toad was recorded onsite during survey works. However, the proposal is unlikely to increase the impacts of this listed threatening process.
Invasion of native plant communities by African Olive *Olea europaea* L. subsp. *cuspidata*	Not applicable
Invasion, establishment and spread of *Lantana camara*	Lantana was recorded on site. However, the proposal will not exacerbate the occurrence or impact of lantana within the locality.
Invasion of native plant communities by *Chrysanthemoides monilifera* (bitou bush and boneseed)	Bitou bush was recorded within the Dingo Lane road reserve. However, the proposal will not exacerbate the occurrence or impact of bitou bush within the locality.
Invasion of native plant communities by exotic perennial grasses	Exotic perennial grasses are abundant on the site which is in a historical pastoral grazing area. The proposal will reduce the extent of pasture grasses on the site where they fall within the panel array footprint.
Invasion of the yellow crazy ant (*Anoplolepis gracilipes* (Fr. Smith)) into NSW	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 of feral dogs (*Canis lupus familiaris*)	Although dogs were not encountered, they are known within the locality. The proposal is unlikely to increase the impacts of this listed threatening process.
Predation by the European red fox (*Vulpes vulpes*)	The fox was recorded on site. However, the proposal will not exacerbate the occurrence or impact of foxes within the locality.
Predation by the feral cat (*Felis catus*)	Although cats were not encountered, they are known within the locality. The proposal is unlikely to increase the impacts of this listed threatening process.
Predation by *Gambusia holbrooki* Girard, 1859 (plague minnow or mosquito fish)	Not applicable
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

CONCLUSION

Reviewing the above, it is considered that the Solar Farm Proposal will not have significant impacts in accordance with the 'test of significance'. A Species Impact Statement is therefore not required.

6.2 SEPP KOALA HABITAT PROTECTION 2020 ASSESSMENT

On 17th March 2021 the new SEPP (Koala Habitat Protection) 2021 commenced which replaces the previous SEPP 44 Koala Habitat Protection (1995). However, as the site is located within the RU2-Rural Landscape Zone SEPP2021 does not apply due to section 6(d) [refer https://legislation.nsw.gov.au/view/html/inforce/current/epi-2021-0115#sec.6].

In this regard State Environmental Planning Policy (Koala Habitat Protection) 2020 is applicable per section 5(1) of SEPP 2020 [refer https://legislation.nsw.gov.au/view/html/inforce/current/epi-2020-0698#sec.5].

Part 2, Section 8 of SEPP 2020 provides the consideration steps by which council may grant consent to a development application to which the Policy applies:

> 8 Step 1—Is the land potential koala habitat?
> (1) Before a council may grant consent to a development application for consent to carry out development on land to which this Part applies, the council must be satisfied as to whether or not the land is a potential koala habitat.
> (2) The council may be satisfied as to whether or not land is a potential koala habitat only on information obtained by it, or by the applicant, from a person who is qualified and experienced in tree identification.
> (3) If the council is satisfied—
> (a) that the land is not a potential koala habitat, it is not prevented, because of this Policy, from granting consent to the development application, or
> (b) that the land is a potential koala habitat, it must comply with clause 9.
>
> "potential koala habitat" means areas of native vegetation where trees of the types listed in Schedule 2 constitute at least 15% of the total number of trees in the upper or lower strata of the tree component.

Schedule 2 Feed tree species

Scientific Name	Common Name
Eucalyptus tereticornis	Forest red gum
Eucalyptus microcorys	Tallowwood
Eucalyptus punctata	Grey Gum
Eucalyptus viminalis	Ribbon or manna gum
Eucalyptus camaldulensis	River red gum
Eucalyptus haemastoma	Broad leaved scribbly gum
Eucalyptus signata	Scribbly gum
Eucalyptus albens	White box
Eucalyptus populnea	Bimble box or poplar box
Eucalyptus robusta	Swamp mahogany

Survey of the areas of native vegetation on the site (refer Section 3) and site in general notes that Schedule 2 feed tree species [https://legislation.nsw.gov.au/view/html/inforce/current/epi-2020-0698#sch.2] are scarce on the land and in the opinion of the author are well below 15% of the total number of trees. As such the land is not 'potential koala habitat' as defined by the SEPP 2020 Council is not prevented from granting consent to the Solar Panel development application because of the SEPP.

Notwithstanding the above, as the site is located within the Byron Koala Planning Area contained within Figure 1 of the Byron Byron Coast Comprehensive Koala Plan of Management (CKPoM) the proposal should be consistent with the CKPoM which for the purposes of the SEPP 2020 is approved via Part 3 Section 14.

BYRON CKPoM ASSESSMENT

The site, which is greater than 1ha, is mapped within the Byron Coast Comprehensive Koala Plan of Management (CKPoM) as being located within:

- The koala planning area (CKPoM Figure 1)
- The South coast koala management area (CKPoM Figure 3)
- Not within a koala management precinct (CKPoM Figure 6)

The following additional particulars are relevant:

- The land contains 'potential koala habitat' including vegetation mapped as Secondary (Class A) habitat on Figure 2 of the CKPoM. Field survey confirms the mapped area as VT4 (Closed Camphor Laurel Forest (Camphor 51-80%) with Emergent Eucalyptus spp)] which occurs on a small knoll in the NE of the site.

  Site survey of this community identifies that composition of this community does not meet the definition of either primary, secondary (A) or secondary (B) as defined within the CKPoM. However, there is no formal need to contest the mapping as the solar panel development footprint is located 50m from the western edge of the mapped secondary habitat.

- No koala activity was recorded on the land as determined via survey which included:
  - 3 SAT surveys (zero scats recorded) [note: the number of SAT sites exceeded that required by the CKPoM 250m x 250m grid due to the limited extent of habitat on the land]
  - Spotlight surveys (no koalas recorded)
  - Amplified call playback (no responses recorded)

- The solar panel development footprint is located >50 metres from any preferred koala habitat trees as defined within the CKPoM
- The solar panel development footprint is located >50 metres from any Koala Use Tree Species for the North Coast Koala Management Area (as defined within Appendix 1 of DCP2014-B1 and/or Schedule 2 of State Environmental Planning Policy (Koala Habitat Protection) 2021 [NSW] and/or Schedule 2 of State Environmental Planning Policy (Koala Habitat Protection) 2020)

Figure 1: Koala planning area

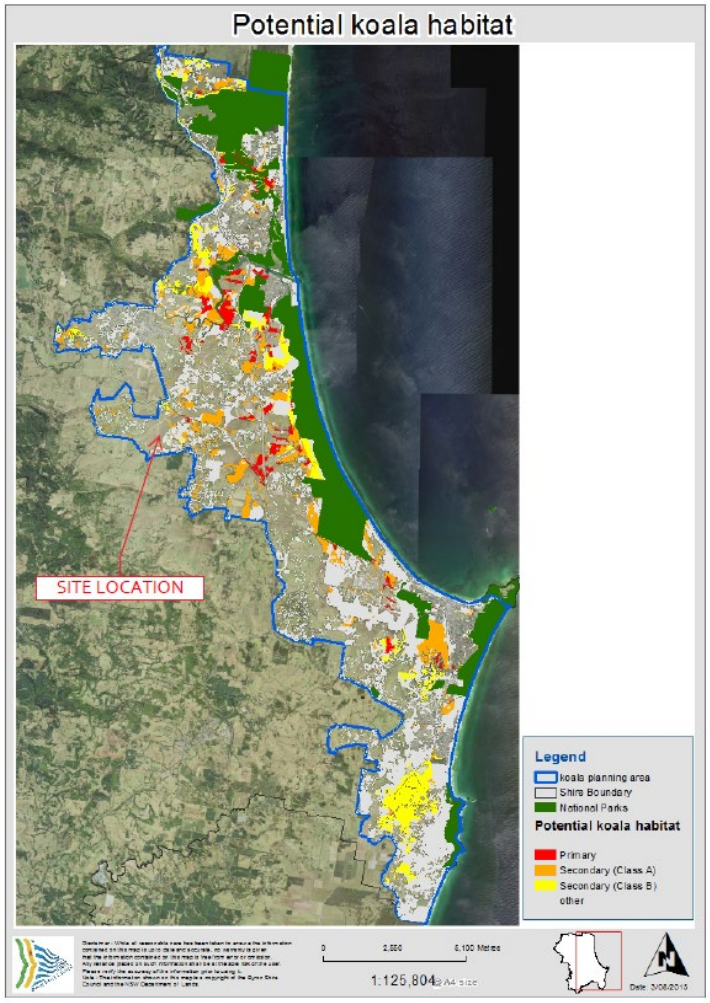


Figure 2: Provisional potential koala habitat

Figure 15: CKPoM Figures 1, 2, 3 and 6 Extracts

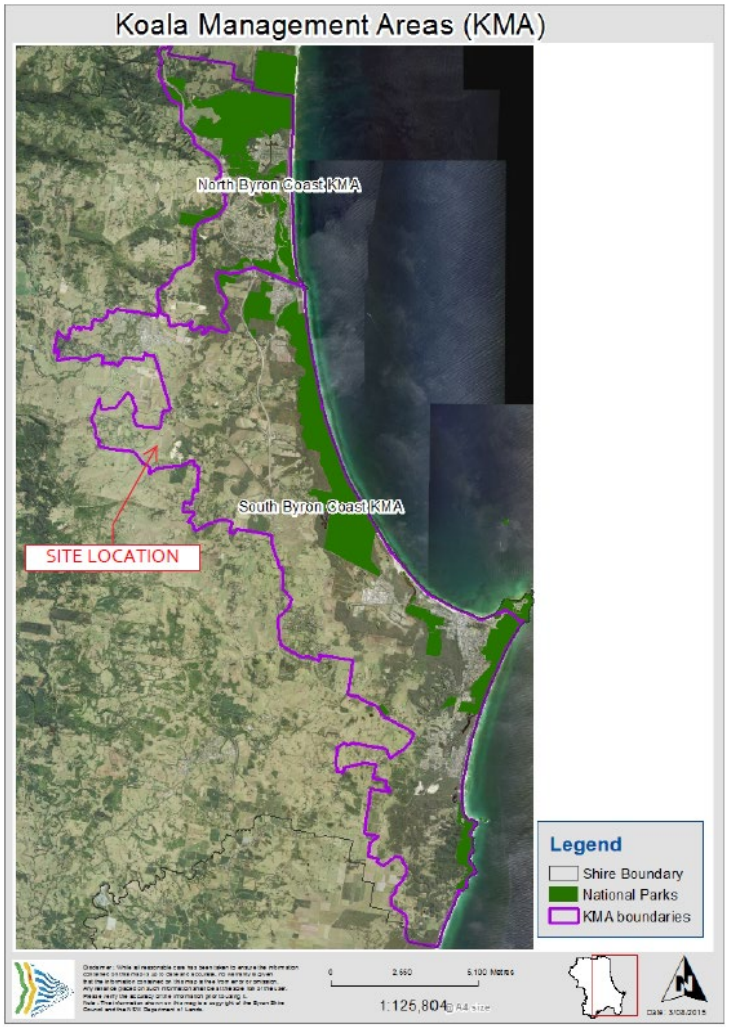


Figure 3: Koala management areas

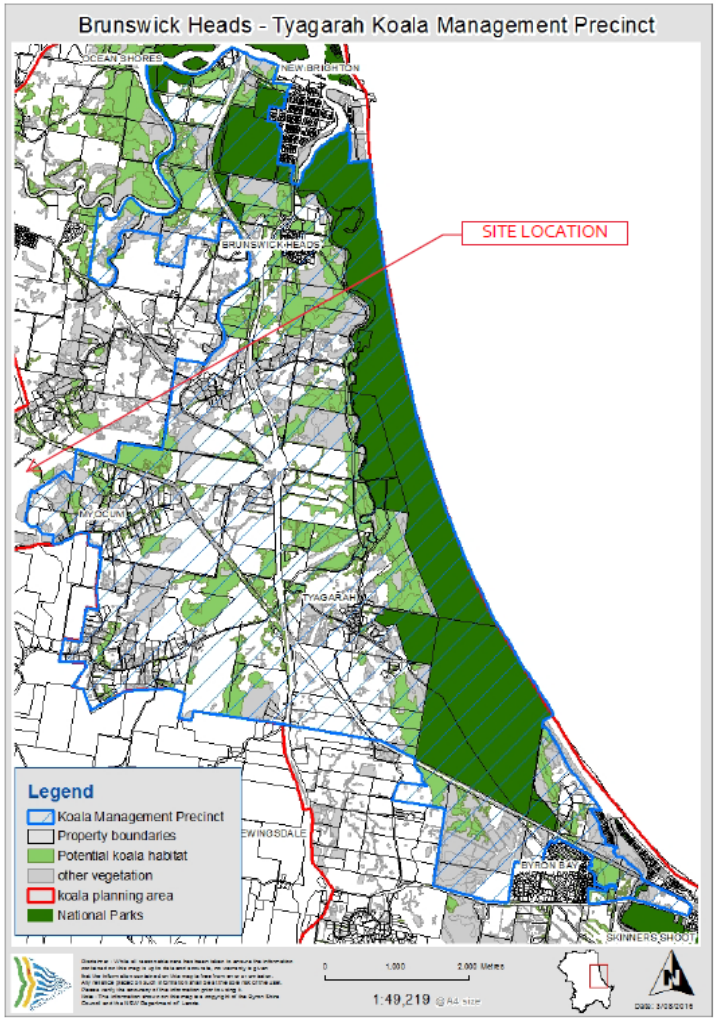


Figure 6: Brunswick Heads - Tyagarah KMP

- Core Koala Habitat Considerations: The land does not contain Core Koala Habitat per the CKPoM definition:

  "In this Plan potential koala habitat within a Koala Management Precinct is considered to meet the definition of core koala habitat"

  This is due to the land not being located within a koala management precinct and the results of the surveys performed

  "core koala habitat means an area of land with a resident population of koalas, evidenced by attributes such as breeding females (that is, females with young) and recent sightings of and historical records of a population."

The development assessment flowchart (CKPoM Figure 10) indicates the pathway to be used when determining the requirements of this Plan and has been developed in accordance with SEPP44 [now SEPP2020]. Development on land containing *core koala habitat* is required to meet the Development Standards in Section 12.3 which for many development types will be easily achieved.

However, as the site does not contain core koala habitat the development standards of Section 12.3 of the CKPoM do not apply. An assessment of the proposal against the relevant development standards of B1.2.3 Koala Habitat does remain applicable which is presented in Attachment 5.

Regardless of the above, it is important to reiterate that the Solar Farm Development Footprint/Envelope has been carefully located to be >50 metres away from any preferred koala food trees or Koala Use Tree Species and as such impacts to koalas or koala habitats is considered unlikely.

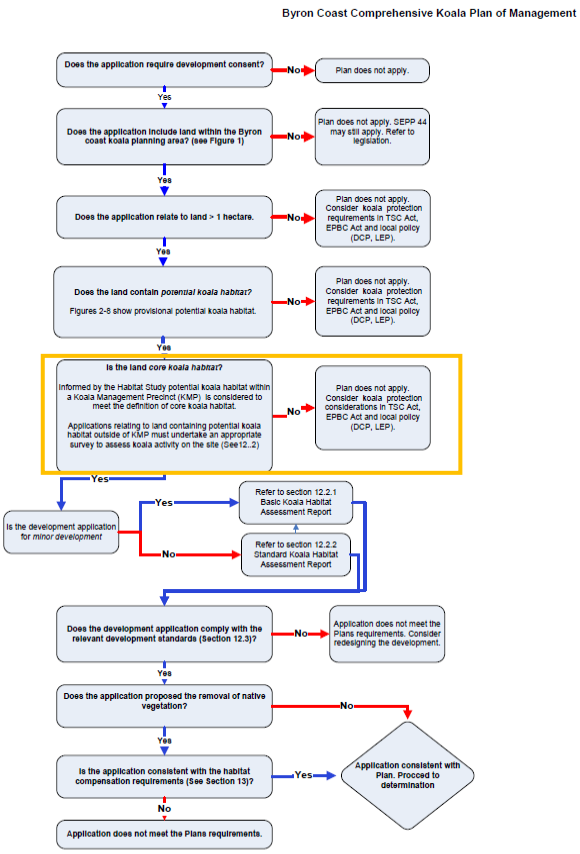


Figure 10 Development Assessment Flowchart

7 POTENTIAL SITE IMPACTS

This section of the report reviews the development proposal and likely resultant impact to flora, fauna and associated habitat.

DEC (2005 & 2008) outline assessments relating to the significance of impacts of actions to threatened species, communities and populations. DEC (2005) notes that evaluation of impacts should involve not only the magnitude and extent of impacts, but also the significance of the impacts as related to the conservation importance of the habitat, individuals and populations likely to be affected. Impacts are considered more significant if:

- Areas of high conservation value are affected.
- Individual animals and/or plants and/or subpopulations that are likely to be affected by a proposal play an important role in maintaining the long-term viability of the species, population or ecological community.
- Habitat features that are likely to be affected by a proposal play an important role in maintaining the long-term viability of the species, population or ecological community.
- The impacts are likely to be long-term in duration.
- The impacts are likely to be permanent and irreversible.

In this instance the proposal is restricted to a pasture area comprised principally of exotic grasses and self-sown weeds.

As such, it is considered that no endangered ecological communities, endangered or vulnerable flora or fauna species or important habitat or habitat features for such communities/species are likely to be significantly impacted upon by the proposal.

7.1 IMPACTS TO VEGETATION

Clearing of vegetation will be the dominant direct impact associated with the intended Solar Panel Farm development although in this instance it is considered that these works will not have a significant environmental impact given that the impact occurs in modified/pasture grassland habitats. The physical impacts will not be dissimilar to that which currently occurs on a routine basis (by grazing or slashing of the existing paddocks).

In accordance with Chapter B2 – Preservation of Trees and Other Vegetation of *Byron Development Control Plan 2014*, compensatory plantings are typically applied as follows:

1:10 for trees of high ecological value;
e.g. local indigenous trees in high conservation value vegetation and habitat, local indigenous rainforest trees, trees within a wildlife corridor, trees with habitat value for local wildlife, trees with a diameter at breast height >50cm.
1:5 for trees of medium ecological value;
e.g. local indigenous trees not located in high conservation value vegetation and habitat, a wildlife corridor or which do not have habitat value for local wildlife.
1:1 for trees of low ecological value;
e.g. other trees not located in high conservation value vegetation and habitat, a wildlife corridor or which do not have habitat value for local wildlife.

It is noted that no compensation under the DCP is required in this instance as no tree removal is required to facilitate the Solar Panel Farm. Part of the rehabilitation recommendations (refer Section 8.2.2) does include future progressive control of camphor laurel, however, compensation for control of such weeds is not require pursuant to Table B2.1 of the DCP. These rehabilitation recommendations are made to assist Council's deliberations as a land manager but are not a necessary requirement of the Development Application or future Development Consent.

7.2 IMPACTS TO FAUNA HABITAT

The proposal will have a minor impact upon fauna habitat through the removal of vegetation which may provide potential foraging resources and/or shelter. Typically clearing of vegetation impacts upon fauna habitat elements including loss of feeding resources, removal of dead timber (fallen and standing), removal of ground strata, debris and leaf-litter. Such elements are necessary (depending upon species) for shelter, refuge from predators, feeding, temperature regulation and breeding. Typical additional impacts associated with vegetation clearing on fauna and associated habitat include:

- Overall loss of standing biomass and reduction in flora species abundance/diversity
- Mortality as a result of construction activities (removal/disturbance of nests, hollows, burrows and general habitat)
- Loss of habitat complexity from the clearance zones including loss of potential foraging and nesting/roosting resources
- Increased potential from 'edge effects' to retained remnants (on or offsite)
- Disturbance of species behaviour (i.e. some species are less tolerant to human presence or a higher level of human activity and may abandon currently utilized habitats)
- Reduction of potential fauna movement linkages throughout the overall landscape
- Alteration to the fauna assemblage (some species tolerant to modified habitats (i.e. rats, minors, crows etc.) may dominant the newly created niches and displace species from adjacent vegetated remnants)

In this instance, it is considered that only a minor loss of foraging resources, potential refuge habitat and potential nesting/breeding sites will occur as the proposed works will be restricted to a modified pasture/grassland area with no native woody vegetation communities or hollow bearing trees proposed to be removed.

It is also considered that a significant increase in 'edge effects' (and potential associated behavioural alteration through the establishment of a new edge) or significant reduction of terrestrial fauna movement through the landscape is unlikely to occur and the proposed impact zone has been deliberately consolidated in an area of non-remnant vegetation.

7.3 ECOLOGICALLY SIGNIFICANT FEATURES: (Potential Habitat Trees)

The loss of hollow bearing trees has been identified as the most significant cause of biodiversity reduction in timber production forests of eastern Australia (Smith *et al*, 1994) with the subsequent adequate management of the hollow tree resource being critical to achieving Commonwealth and State conservation objectives (National Forest Policy Statement, 1992; Nature Conservation Act, 1992). Gibbons and Lindenmayer (2002) estimate that 303 native vertebrate species utilize tree hollows of which approximately 100 are listed as rare or threatened within State or Commonwealth Legislation. Research conducted by the Department of Natural Resources (1998) estimates that 134 of these species potentially utilize tree hollows in SE Queensland. Given that hollow bearing potential is low for Eucalypts below 120-180 years of age (with older trees required for larger fauna) and the fact that many species require a variety of different hollows within their home range (particularly arboreal mammals), hollow bearing trees represent a limited ecological resource (Gibbons & Lindenmayer, 2002; DNR, 1998-1999; Strahan, 2002; Ball, Lindenmayer & Possingham, 1999).

Seven hollow bearing trees were recorded during survey none of which will be removed in association with the solar farm proposal.

	
HOLLOW BEARING TREE	HOLLOW BEARING TREE

7.4 ESTABLISHMENT AND INVASION OF WEEDS

Weed invasion occurs when unwanted or exotic plants become established in native bushland via natural dispersal vectors such as wind, water, insects, birds and other animals, however, humans are by far the most effective and efficient vector of plants (Coutts-Smith and Downey, 2006; Randall, 2007 in TSSC, 2010). Humans may facilitate the direct introduction weeds by inappropriate garden dumping, via vehicles, imported agricultural products and stock rotation/movement. The potential impacts of weed invasion in Australia are well documented and summarized in TSSC (2010) including:

Genetic effects

Environmental weeds cause a decline in the number of genetically distinct sub-populations that make up a native species. It is reasonable to conclude that an associated reduction in the genetic diversity of the affected species is likely to result. The invasion of weeds may also affect the genetic diversity of native species through cross breeding or hybridization, whereby foreign genes are introduced into local plant populations

Introduction of diseases

The introduction of weeds often results in the introduction of pathogens (fungi, nematodes, bacteria and viruses) that are associated with these plants in their natural range (ILDA, 2009).

Competition for resources

Competition between species is inevitable when more than one species occupies the same niche and have similar requirements for a limited resource (Cadotte, 2007). Weeds are known to compete with native plants for limited resources such as moisture, nutrients, sunlight, pollinators and space (Csurches and Edwards, 1998; Blood, 2001; Brunskill, 2002).

Prevention of recruitment

Growth of weeds can be sufficiently vigorous to reduce or prevent the establishment of native plant species (Csurches and Edwards, 1998)

Alteration of ecosystem processes

Invasive weeds are also capable of altering various ecosystem processes such as geomorphological processes, hydrological cycles, nutrient dynamics and disturbance regimes (Csurches and Edwards, 1998). Alterations to ecosystem processes can potentially influence many if not all species within a community (Vranjic et al., 2000).

Changes to abundance of indigenous fauna

Weeds that become invasive can both directly and indirectly change the abundance of indigenous fauna. Fauna such as the Richmond Birdwing Butterfly and Petrogale persephone (Proserpine Rock Wallaby) are directly

impacted by escaped garden plants, Dutchman's Pipe (*Aristolochia elegans*) and Pink Periwinkle (*Catharanthus roseus*), respectively, both of which are attractive as a food source and yet toxic to them when consumed (Watts and Vidler, 2006). Indirectly, weeds impact indigenous fauna by altering the availability of suitable habitat, including food and shelter, and by creating habitats that harbor other pest species that can, in turn, have a detrimental effect.

The degradation of potential or known habitat as a result of weed invasion, tree dieback and poor native species recruitment may reduce the potential use of the habitat by koala. For example, weed invasion may reduce potential koala movement (i.e. thick lantana, blackberry, prickly pear, morning glory). Thickets of herbaceous and woody weeds within the lower strata of a forest may also reduce native recruitment of preferred foraging species. Tree dieback will also reduce the potential forage base of a forest as well as altering the canopy cover and changing the microclimate of the forest floor. This can lead to the prevalence of weed invasion which, as discussed, can hamper koala movement and reduce recruitment potential of native trees.

During site inspection weeds were noted to be abundant within all communities excluding VT5. Non-native grasses and herbaceous species typical associated with pastoral lands occur throughout the site with fruit bearing species typically spread by avifauna (i.e. camphor laurel) present within all communities and representing the dominant woody biomass.

To mitigate the potential for ongoing weed expansion/invasion the undertaking of rehabilitation works (including weed management, 'assisted natural regeneration' and revegetation) is recommended to progressively remove exotic species and replace them with native flora (refer Section 8.2.2). Weed control techniques will vary depending upon the species being targeted and its location within the site and landscape. To ensure weeds are not spread from the site via machinery and vehicles a hygiene protocol will also need to be developed. This would identify actions such as washing down equipment and checking tyres for propagules prior to machinery/equipment exiting the rehabilitation zones.

In addition, the removal of grazing animals from the future rehabilitation zones in association with the establishment of the Solar Panel Farm will reduce potential weed seed dispersal (i.e. within the manure after being eaten by cattle or by being bound to the coats of the animals). However, there is always a risk when transitioning from a managed grazing property to an alternate use that weeds previously controlled by rural land managers or controlled by grazing stock can establish and/or expand. As such routine monitoring and treatment of weed species following the removal of stock from the intended rehabilitation zones will be necessary in the future.

7.5 IMPACTS OF GRAZING

Grazing of cattle and horses is an agricultural practice involving the utilisation of native pastures and/or the establishment of exotic grasses to be used as a forage resource for livestock. Grazing may result in weed invasion, soil compaction, consumption and trampling of native vegetation, and erosion due to the hooves of cattle. In stream (bank and bed) habitat can be significantly impacted by stock accessing waterways for drinking including wallowing which alter flow dynamics within the stream and increased turbidity. Stock access paths created within riparian zones (and bushland habitat in general) can result in accelerated erosion during periods of extended rainfall and bank full flow as stabilizing plants and topsoil has been removed.

Cattle and horses may pose a significant threat to the viability of ecological functioning and the maintenance of biodiversity through soil compaction, ringbarking of native trees, inhibiting native plant regeneration, degradation and structural simplification of habitat, increased erosion and nutrient availability, competition for space, as vectors for the introduction of weeds/diseases, and the consumption of palatable feed from native animals. Whilst poorly understood the presence of grazing animals may impact upon the behavior of native fauna (particularly sensitive/secretive species) including free access to waterways and dams during times of drought.

Historically this site has been utilised for grazing which is currently ongoing and also a common use in the surrounding areas. It is not considered necessary to exclude grazing from the site in association with the Solar Panel Farm development as the impacts are existing at the time of the proposal being considered. However, it is recommended that as progressive rehabilitation/restoration of the eastern areas (refer Section 8.2.2 and Figure 17) occurs that grazing activities be excluded from these designated areas.

8 MEASURES TO AVOID AND MINIMISE ECOLOGICAL IMPACTS

8.1 PROTECTION & AVOIDANCE

Reviewing the ecological integrity of vegetation associations and fauna habitat present, the proposed Solar Farm Project is considered unlikely to result in a significant impact on the environmental values of the site or the surrounding locality.

The proposal has been designed to avoid and minimise ecological impacts as follows:

- Ensuring the Solar Panel Array is located within pasture dominated areas
- Avoid remnant and/or regrowth native woody native vegetation communities
- Avoiding threatened flora specimens
- Avoiding observed and/or potential important habitat for threatened fauna species
- Avoiding hollow bearing trees

No significant habitats, poorly conserved ecosystems, significant flora species or significant fauna species (or associated important habitat) were recorded proximate to the proposed development footprint which would warrant redesign of the Solar Panel Array for ecological protection purposes.

8.2 MITIGATION MEASURES

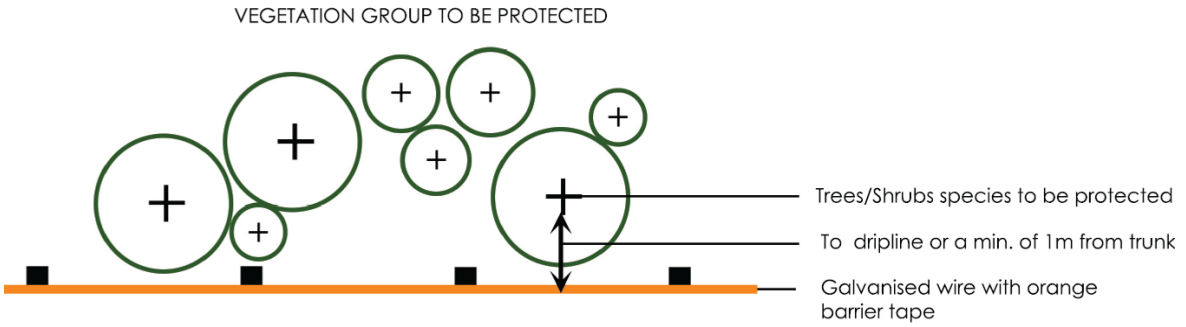
The following measures are recommended to mitigate potential impacts associated with the development of the site:

8.2.1 IMPACT OF VEGETATION AND HABITAT CLEARING

Although the Solar Panel Farm footprint occurs within an exotic grassland/pasture community (VT1) temporary works may encroach within 20m of native trees/vegetation when construction offices, haulage routes, tracks and access to powerlines are required during construction. Any works which do encroach within 20m of such a native tree/vegetation are to ensure that the retained vegetation (individual trees and/or copses of vegetation) is clearly fenced and managed during construction activities in accordance with the Australian Standard 'AS 4970 Protection of Trees on Development Sites' to avoid any of the following:

Structural damage to the tree including root damage;

- Compaction of the root plate including parking of any vehicles;
- Filling of soil within the tree protection zone (tpz) and/or drip zone; and
- Storage of any building materials within the drip zone;
- Long-term harm to the health of the tree.



Typical TPZ Fencing

Typical TPZ Fencing

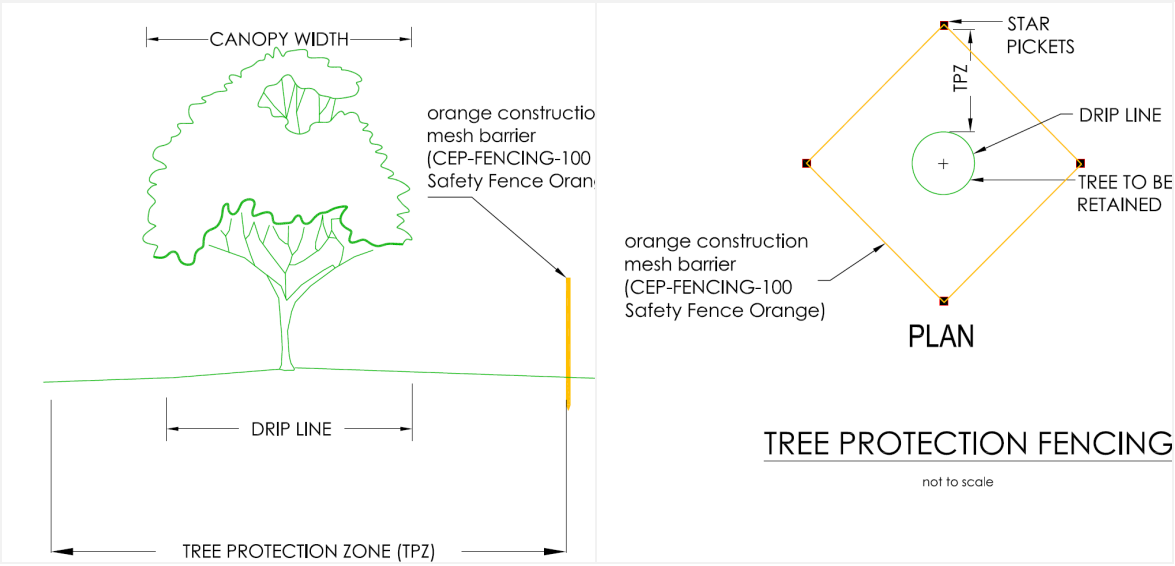


Figure 16: TYPES OF TREE PROTECTION FENCING

Within the designated clearance zone identification of areas to be cleared are to be pre-assessed by an experienced wildlife spotter/catcher. This pre-assessment shall allow for a survey of potentially nesting small birds (i.e. wrens, finches, grassbird, cisticola) and dispersal of terrestrial fauna foraging within the rank pasture grasslands).

A wildlife spotter catcher is to be utilized during all phases of clearing of the site to ensure safe dispersal and capture/relocation of native fauna.

8.2.2 OFFSETS AND REHABILITATION WORKS

As the proposal has been carefully designed to avoid native vegetation communities/habitat the following is noted with regard to typical offset/compensatory requirements:

- No offsets are triggered in accordance with the Biodiversity Offsets Scheme.
- No nest boxes are required to be installed as no hollow-bearing trees will be removed as a part of the proposal.
- No compensatory plantings are required in accordance with Byron Shire Development Control Plan (2014) – Chapter B2 – Preservation of Trees and Other Vegetation

From an ecological position, the overall site is located within broad subregional corridors and possesses tracts of land worthy of rehabilitation. When considering the future land management opportunities of the site, such as continuation of grazing and agricultural pursuits, we encourage Council to also consider the implementation of the following rehabilitation/revegetation actions, along with those outlined in Sections 8.2.3 and 8.2.4, to improve the habitat quality of the site in the medium to long term (i.e., 5 to 20 years):

ASSISTED NATURAL REGENERATION (refer Figure 17)

Existing VT2 (Eucalypt Plantation) be progressively managed to reduce exotic pasture grass coverage and include:

- Subtropical coastal floodplain forest of the NSW North Coast bioregion flora species
- Floodplain Koala foraging species (*Eucalyptus robusta, E. tereticornis*)
- Inclusion of arboreal mammal and microchiropteran bat fauna boxes

Existing VT3 (Low Closed to Closed Camphor Laurel Forests [81-100%]) and VT4 (Closed Camphor Laurel Forest [51-80%] with Emergent Eucalyptus) in the east and south east be progressively managed to reduce exotic species dominance and include:

- Progressive and staged Camphor Laurel Management in accordance with Byron Shire Council Policy 11/07
- Lowland Rainforest in the NSW North Coast and Sydney Basin Bioregions EEC flora species
- Koala foraging species (*Eucalyptus microcorys, E. tereticornis, E. propinqua*)
- Inclusion of arboreal mammal and large forest owl bat fauna boxes
- Propagation of *Rhodamnia rubescens* to extend local population size and distribution and also as a mitigation against the impact of myrtle rust within the species.

Existing VT5 (Closed Paperbark Swamp Forest) be progressively managed to reduce exotic flora presence and include:

- Minor works only as weeds are not abundant
- Protection of existing Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions flora species

RECONSTRUCTION/REVEGETATION (refer Figure 17)

COMBINED COASTAL FLOODPLAIN (EUCALYPT) AND SWAMP SCLEROPHYLL (PAPERBARK) ENDANGERED ECOLOGICAL COMMUNITIES

Progressive establishment of combined Floodplain Endangered Ecological Community habitat including Koala foraging species (*Eucalyptus robusta, E. tereticornis*)

LOWLAND RAINFOREST ON FLOODPLAIN IN THE NEW SOUTH WALES NORTH COAST BIOREGION

Progressive establishment of Lowland Rainforest on Floodplain EEC habitat including Koala foraging species (*Eucalyptus robusta, E. tereticornis*) and fruiting rainforest species (foraging habitat for Grey Headed Flying Fox, Fruit Doves)

LOWLAND RAINFOREST IN THE NSW NORTH COAST AND SYDNEY BASIN BIOREGIONS
Progressive establishment of Lowland Rainforest (above the floodplain) EEC habitat including Koala foraging species (*Eucalyptus microcorys, E. propinqua*) and fruiting rainforest species (foraging habitat for Grey Headed Flying Fox, Fruit Doves)

WETLANDS/ NATIVE GRASSES
Minor revegetation/management zone to reduce exotic species within the constructed drainage lines and replace with native flora (i.e. rushes, sedges, *Leersia* spp, *Carex* spp, *Gahnia* spp,).

The initial rehabilitation/revegetation zones are conceptually identified within Figure 17 below and aim to contribute to Council's regionally mapped wildlife corridors.

8.2.3 WEED MANAGEMENT

To mitigate the potential for continued weed expansion/invasion the undertaking of rehabilitation works (including 'assisted natural regeneration' and revegetation) is recommended within the proposed rehabilitation/restoration areas (refer Figure 17) to progressively remove exotic species and replace them with native flora. Weed control techniques will vary depending upon the species being targeted and its location within the site and landscape. In areas of limited native vegetation (i.e. densely infested areas devoid of native trees, grassland areas etc) broad scale application of herbicide or mechanical removal will be appropriate. Within the retained woody vegetation areas more selective control techniques (i.e. hand tool removal, stem injection) and spot application of a non-residual herbicide (i.e. roundup bioactive) will be necessary to ensure off-target damage to native species is minimised.

Additional strategies such as stock exclusion and vehicle/equipment cleaning protocols will also need to be considered and implemented to minimise the potential to re-introduce weed propagules into previously controlled/treated areas.

8.2.4 GRAZING ANIMAL MANAGEMENT WITHIN FUTURE REHABILITATION ZONES

Upon the delineation of each rehabilitation/restoration area and preparation of a works program, grazing animals should be excluded to avoid future potential negative impacts such as:

- introduction of excess nutrients from manure;
- grazing of seedlings/saplings;
- trampling of vegetation;
- compacting of soils

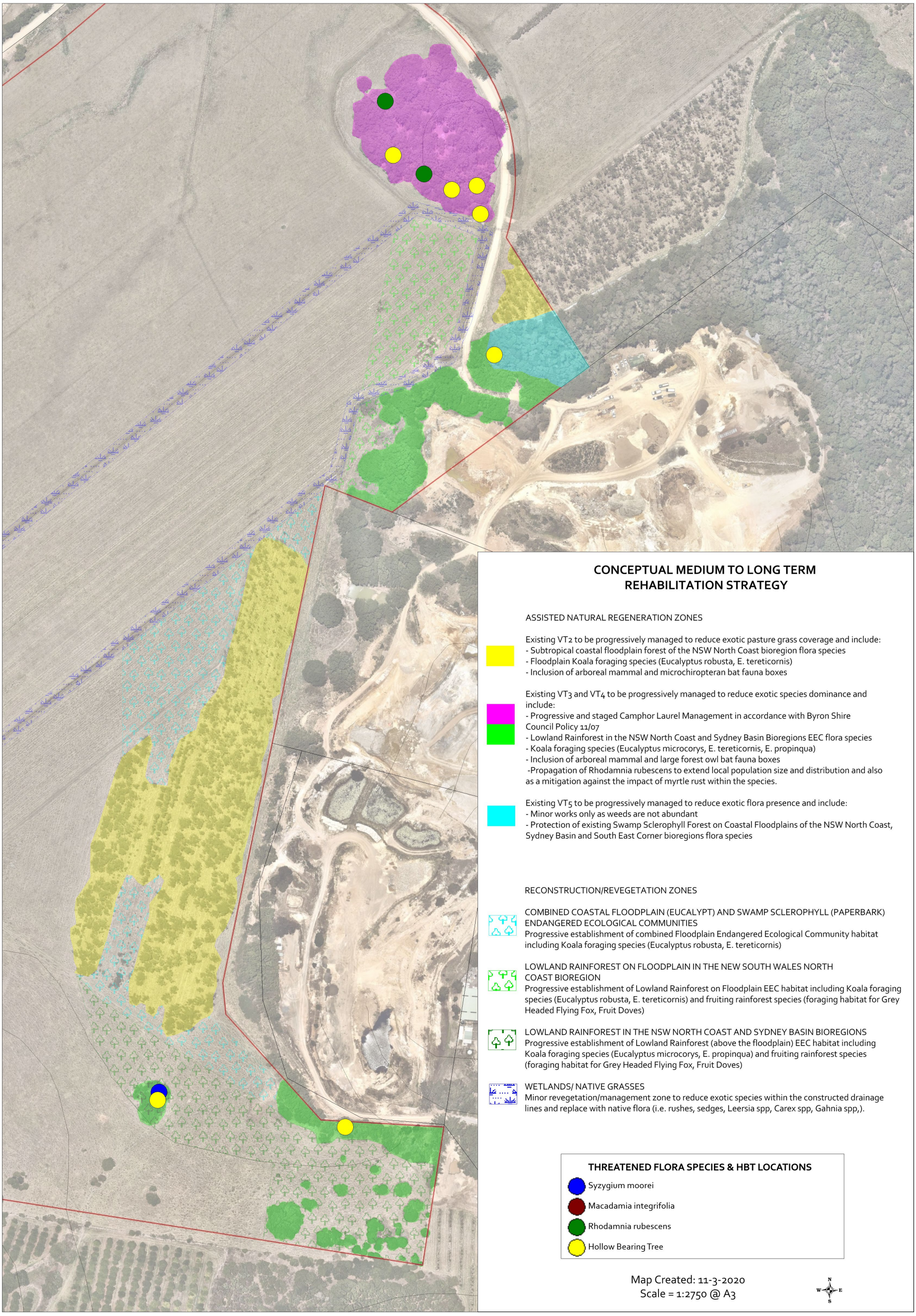


Figure 17: CONCEPTUAL MEDIUM TO LONG TERM REHABILITATION STRATEGY

9 ATTACHMENTS

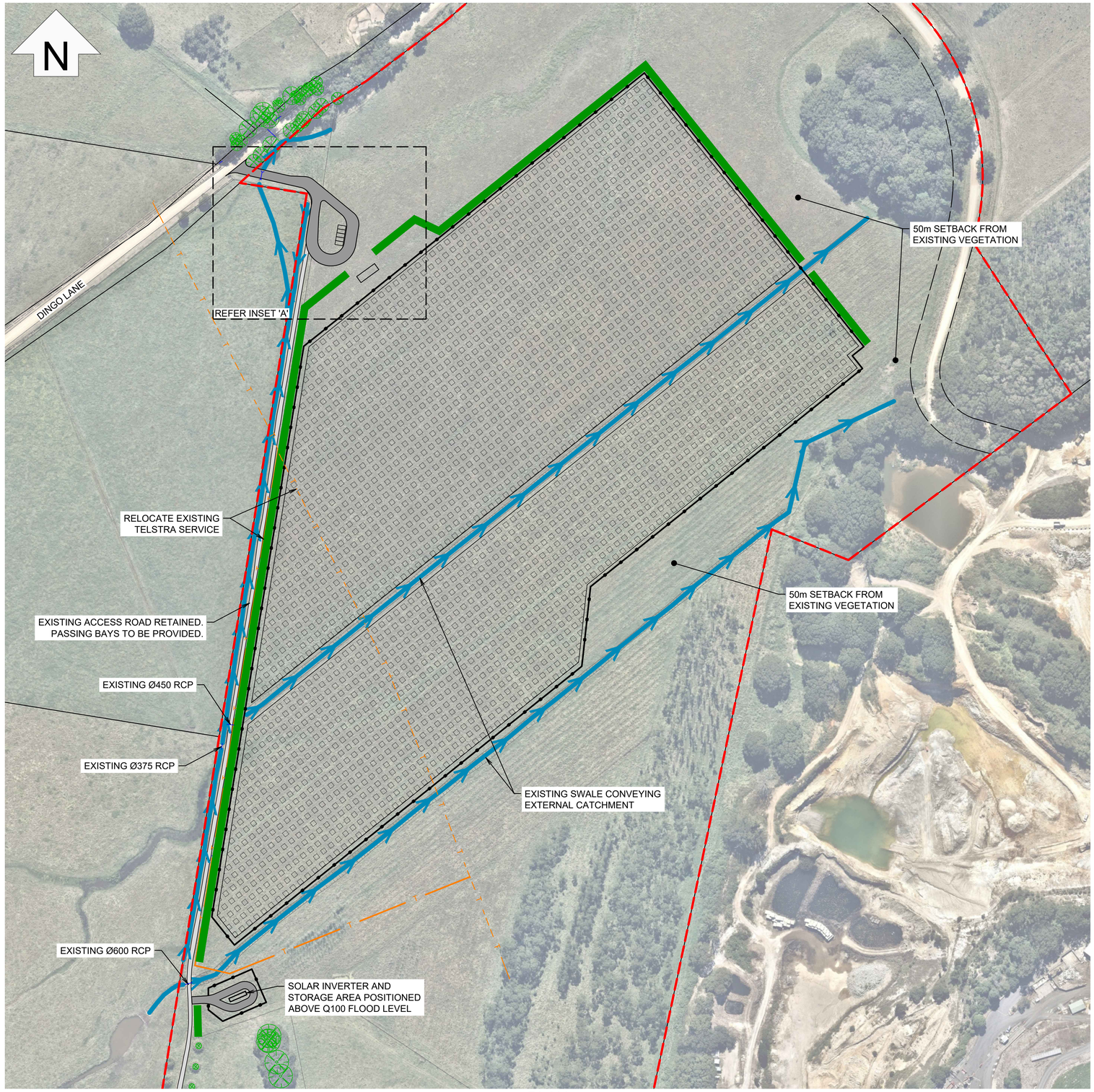
ATTACHMENT 1: PROPOSED SOLAR PANEL FARM LAYOUT
ATTACHMENT 2: FLORA SPECIES LIST
ATTACHMENT 3: BIONET/ATLAS OF NSW WILDLIFE DATABASE RECORDS [10KM X 10KM]
ATTACHMENT 4: BIODIVERSITY VALUES MAP THRESHOLD
ATTACHMENT 5: BYRON DCP 2014: CHAPTER B1 BIODIVERSITY ASSESSMENT
ATTACHMENT 6: SUPPORTING PLANS [EROSION AND SEDIMENT CONTROL, LANDSCAPING INTENT]

PLANIT CONSULTING

ATTACHMENT 1

PROPOSED SOLAR PANEL FARM LAYOUT

100mm AT ORIGINAL SIZE



PLAN
SCALE 1:2,000

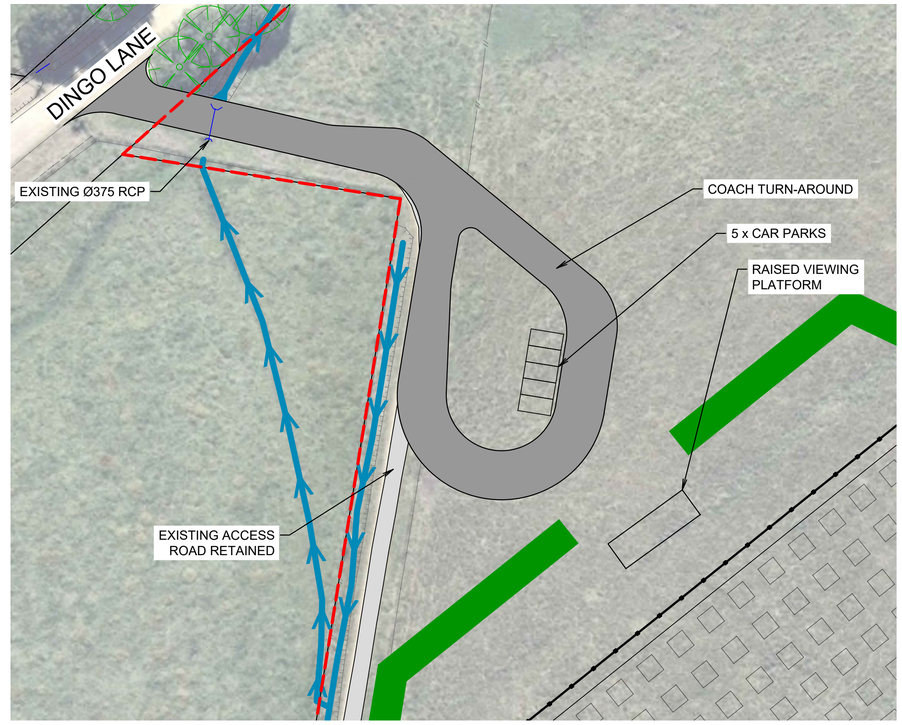
LEGEND

- SITE BOUNDARY
- PROPERTY BOUNDARY
- EXISTING SWALE
- EXISTING ROAD
- SOLAR ARRAY AREA (11ha)
- ROAD
- SECURITY FENCE
- LANDSCAPE SCREENING
- EXISTING TELSTRA SERVCE
- TELSTRA SERVICE DIVERSION

NOTES:

SOLAR ARRAY AREA ASSUMPTIONS:

- 5m SPACING BETWEEN PANEL ROWS
- SURFACE TO BE NAVIGABLE BY LIGHT VEHICLE FOR MAINTENANCE



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SCALE 1:500

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Scale (m)

0 5 10 20 30
Full Size 1:500 ; Half Size 1:1000
Scale (m)

DO NOT SCALE FROM DRAWING

DRAWN BY:
DESIGN BY:
APPROVED BY:
DATE:
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

PLANIT CONSULTING
SUITE 9A, 80-84 BALLINA STREET
PO BOX 161
LENNOX HEAD NSW 2478

TELEPHONE: 02 6687 4666
ABN: 20 099 261 711
EMAIL: administration@planitconsulting.com.au

CLIENT: BYRON SHIRE COUNCIL
PROJECT: DINGO LANE SOLAR FARM
DRAWING TITLE: CONCEPT SITE PLAN
LOCAL GOVERNMENT AUTHORITY: BYRON SHIRE COUNCIL

ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J6558	SK001	

CAD FILE: T:\J6558 - DINGO LANE SOLAR FARM BSC\7 - DRAFTING\SK001 CONCEPT SITE PLAN.DWG PLOTTED BY: BRENDANT PLOT DATE: 3/07/2020 9:58:46 AM

ATTACHMENT 2

FLORA SPECIES LIST

FLORA SURVEY SPECIES LIST DINGO LANE SOLAR FARM , MYOCUM

SPECIES LIST ALPHABETICALLY BY SPECIES<FAMILY

FamilyName	ScientificName	CommonName	NSWStatus	CommStatus	Exotic	SpeciesCode
Acanthaceae	Pseuderanthemum variabile	Pastel Flower				1010
Adiantaceae	Adiantum hispidulum	Rough Maidenhair	P			8000
Adiantaceae	Adiantum hispidulum var. hispidulum	Rough Maidenhair	P			11226
Adiantaceae	Adiantum silvaticum	Rough Maidenhair	P			8001
Alliaceae	Agapanthus praecox	African Lily			*	AGAP
Amaranthaceae	Alternanthera denticulata	Lesser Joyweed				6478
Amaranthaceae	Amaranthus blitum	Livid Amaranth			*	10420
Anacardiaceae	Mangifera indica	Mango			*	9351
Apocynaceae	Gomphocarpus physocarpus	Balloon Cotton Bush			*	1228
Apocynaceae	Marsdenia rostrata	Milk Vine				1234
Apocynaceae	Parsonsia straminea	Common Silkpod				1185
Apocynaceae	Plumeria rubra	Frangipani			*	11702
Apocynaceae	Tabernaemontana pandacaqui	Banana Bush				8620
Araceae	Syngonium podophyllum	Arrowhead vine			*	14537
Araliaceae	Schefflera actinophylla	Umbrella Tree			*	8701
Araliaceae	Schefflera arboricola	Dwarf Umbrella Tree			*	11728
Araucariaceae	Araucaria cunninghamii	Hoop Pine				1213
Arecaceae	Archontophoenix cunninghamiana	Bangalow Palm	P			6458
Arecaceae	Calamus muelleri	Southern Lawyer Cane	P			1215
Arecaceae	Caryota mitis	Fishtail Palm			*	CARY
Arecaceae	Phoenix canariensis	Canary Island Date Palm			*	11354
Arecaceae	Roystonea regia	Cuban Royal Palm			*	8467
Arecaceae	Syagrus romanzoffiana	Cocos Palm			*	11731
Asparagaceae	Asparagus aethiopicus	Asparagus Fern			*	11784
Asparagaceae	Beaucarnea recurvata	Ponytail Palm			*	11768
Asparagaceae	Dracaena marginata 'tricolor'	Dragon Tree			*	11918
Asphodelaceae	Aloe vera	Aloe			*	11778
Aspleniaceae	Asplenium australasicum	Bird's Nest Fern	P			8031
Asteliaceae	Cordyline rubra	Palm-Lily				7873

FamilyName	ScientificName	CommonName	NSWStatus	CommStatus	Exotic	SpeciesCode
Asteraceae	Ageratina adenophora	Crofton Weed			*	1255
Asteraceae	Ageratina riparia	Mistflower			*	1256
Asteraceae	Ageratum houstonianum	Blue Billygoat Weed			*	1258
Asteraceae	Ambrosia artemisiifolia	Annual Ragweed			*	1259
Asteraceae	Bidens pilosa	Cobbler's Pegs			*	1283
Asteraceae	Chrysanthemoides monilifera	Bitou Bush			*	1392
Asteraceae	Conyza bonariensis	Flaxleaf Fleabane			*	1404
Asteraceae	Eclipta prostrata	White Eclipta				1435
Asteraceae	Senecio madagascariensis	Fireweed			*	6465
Asteraceae	Sigesbeckia orientalis subsp. orientalis	Indian Weed				8789
Asteraceae	Sonchus oleraceus	Common Sowthistle			*	1690
Asteraceae	Sphagneticola trilobata	Singapore Daisy			*	12815
Bignoniaceae	Pandorea pandorana	Wonga Wonga Vine				1740
Blechnaceae	Blechnum cartilagineum	Gristle Fern				8052
Blechnaceae	Doodia australis	Common Rasp Fern				10523
Blechnaceae	Telmatoblechnum indicum	Swamp Water Fern				14930
Bromeliaceae	Aechmea gamosepala	Matchsticks			*	AECH
Casuarinaceae	Casuarina glauca	Swamp Oak				2022
Celastraceae	Denhamia celastroides	Denhamia				8387
Commelinaceae	Commelina benghalensis	Hairy Wandering Jew			*	2208
Commelinaceae	Commelina cyanea	Native Wandering Jew				2209
Convolvulaceae	Ipomoea purpurea	Common Morning Glory			*	2229
Cunoniaceae	Geissois benthamiana	Red Carabeen				2273
Cunoniaceae	Pseudoweinmannia lachnocarpa	Rose Marara				2274
Cyatheaceae	Cyathea cooperi	Straw Treefern	P			8076
Cyperaceae	Carex gaudichaudiana	Tea-tree Swamp Sedge				2322
Cyperaceae	Cyperus difformis	Dirty Dora				7143
Cyperaceae	Cyperus eragrostis	Umbrella Sedge			*	2364
Cyperaceae	Cyperus gracilis	Slender Flat-sedge				2374
Cyperaceae	Cyperus haspan subsp. haspan	Flat-sedge				9146
Cyperaceae	Cyperus polystachyos	Bunchy Sedge				8483
Cyperaceae	Fimbristylis dichotoma	Common Fringe-sedge				7435

FamilyName	ScientificName	CommonName	NSWStatus	CommStatus	Exotic	SpeciesCode
Cyperaceae	Gahnia aspera	Rough Saw-sedge				2431
Davalliaceae	Davallia solida var. pyxidata	Hare's Foot Fern				10647
Davalliaceae	Nephrolepis cordifolia	Fishbone Fern				8088
Dennstaedtiaceae	Hypolepis muelleri	Harsh Ground Fern				7749
Dennstaedtiaceae	Pteridium esculentum	Bracken				6403
Dicksoniaceae	Calochlaena dubia	Rainbow Fern				8341
Dilleniaceae	Hibbertia scandens	Climbing Guinea Flower				2548
Dioscoreaceae	Dioscorea transversa	Native Yam				6446
Elaeocarpaceae	Elaeocarpus grandis	Blue Quandong				2570
Elaeocarpaceae	Elaeocarpus obovatus	Hard Quandong				2573
Elaeocarpaceae	Elaeocarpus reticulatus	Blueberry Ash				2574
Ericaceae	Trochocarpa laurina	Tree Heath				2663
Euphorbiaceae	Macaranga tanarius	Blush Macaranga				2732
Euphorbiaceae	Mallotus discolor	White Kamala				2734
Euphorbiaceae	Mallotus philippensis	Red Kamala				2735
Eupomatiaceae	Eupomatia laurina	Bolwarra				2768
Fabaceae (Caesalpinioideae)	Caesalpinia scortechinii	Large Prickle-vine				1880
Fabaceae (Caesalpinioideae)	Caesalpinia subtropica	Corky Prickly-vine				1881
Fabaceae (Faboideae)	Desmodium rhytidophyllum	Hairy Trefoil				2839
Fabaceae (Faboideae)	Desmodium uncinatum	Silver-leaved Desmodium			*	8824
Fabaceae (Faboideae)	Glycine clandestina	Twining glycine				2860
Fabaceae (Faboideae)	Kennedia rubicunda	Dusky Coral Pea				2898
Fabaceae (Faboideae)	Macroptilium atropurpureum	Siratro			*	6550
Fabaceae (Mimosoideae)	Acacia longissima	Long-leaf Wattle				3817
Fabaceae (Mimosoideae)	Acacia melanoxylon	Blackwood				3824
Fabaceae (Mimosoideae)	Archidendron grandiflorum	Pink Lace Flower				7894
Fabaceae (Mimosoideae)	Inga edulis	Ice cream bean			*	11603
Fabaceae (Mimosoideae)	Pararchidendron pruinosum var. pruinosum	Snow Wood				8840
Juglandaceae	Carya illinoensis	Pecan			*	11369
Juncaceae	Juncus usitatus	Common Rush				3350
Lauraceae	Cinnamomum camphora	Camphor Laurel			*	3471
Lauraceae	Cryptocarya microneura	Murrogun				3483

FamilyName	ScientificName	CommonName	NSWStatus	CommStatus	Exotic	SpeciesCode
Lauraceae	Cryptocarya obovata	Pepperberry				3484
Lauraceae	Endiandra globosa	Black Walnut				3490
Lomandraceae	Lomandra longifolia	Spiny-headed Mat-rush				6308
Luzuriagaceae	Geitonoplesium cymosum	Scrambling Lily				6016
Lythraceae	Cuphea carthagenensis	Columbian Waxweed			*	3622
Malvaceae	Brachychiton acerifolius	Illawarra Flame Tree				6126
Malvaceae	Brachychiton populneus	Kurrajong				6128
Malvaceae	Sida rhombifolia	Paddy's Lucerne			*	3673
Meliaceae	Melia azedarach	White Cedar				3680
Meliaceae	Synoum glandulosum subsp. glandulosum	Scentless Rosewood				11178
Meliaceae	Toona ciliata	Red Cedar				8839
Monimiaceae	Wilkiea huegeliana	Veiny Wilkiea				3918
Moraceae	Ficus coronata	Creek Sandpaper Fig				7479
Moraceae	Ficus elastica	Rubber Fig			*	8778
Moraceae	Ficus fraseri	Sandpaper Fig				3921
Moraceae	Ficus lyrata	Fiddle-leaf Fig			*	11430
Moraceae	Ficus obliqua	Small-leaved Fig				7301
Moraceae	Ficus virens var. sublanceolata	White Fig				8426
Moraceae	Maclura cochinchinensis	Cockspur Thorn				3928
Moraceae	Streblus brunonianus	Whalebone Tree				3931
Moraceae	Trophis scandens	Burny Vine				10416
Myrtaceae	Acmena smithii	Lilly Pilly				3968
Myrtaceae	Austromyrtus dulcis	Midgen Berry				3979
Myrtaceae	Callistemon seiberi cult.	River Bottlebrush				4017
Myrtaceae	Callistemon viminalis	Weeping Bottlebrush				4019
Myrtaceae	Corymbia intermedia	Pink Bloodwood				9601
Myrtaceae	Eucalyptus microcorys	Tallowwood				4128
Myrtaceae	Eucalyptus robusta	Swamp Mahogany				4171
Myrtaceae	Eucalyptus saligna	Sydney Blue Gum				4177
Myrtaceae	Eugenia uniflora	Brazilian Cherry			*	11438
Myrtaceae	Lophostemon confertus	Brush Box				4242
Myrtaceae	Lophostemon suaveolens	Swamp Mahogany, Swamp Turpentine				4243

FamilyName	ScientificName	CommonName	NSWStatus	CommStatus	Exotic	SpeciesCode
Myrtaceae	Melaleuca alternifolia	Tea Tree				4245
Myrtaceae	Melaleuca quinquenervia	Broad-leaved Paperbark				4260
Myrtaceae	Pilidiostigma glabrum	Plum Myrtle				4277
Myrtaceae	Psidium cattleianum var. cattleianum	Strawberry Guava			*	10495
Myrtaceae	Psidium guajava	Common Guava			*	4279
Myrtaceae	Rhodamnia rubescens	Scrub Turpentine	E4A			4283
Myrtaceae	Sannantha similis	Twiggy Myrtle				13299
Myrtaceae	Syzygium australe	Brush Cherry				6778
Myrtaceae	Syzygium luehmannii	Small-leaved Lilly Pilly				4291
Myrtaceae	Syzygium moorei	Durobby	V	V		4292
Myrtaceae	Syzygium oleosum	Blue Lilly Pilly				7201
Myrtaceae	Waterhousea floribunda	Weeping Lilly Pilly				6799
Nymphaeaceae	Nymphaea caerulea subsp. zanzibarensis	Cape Waterlily			*	10779
Ochnaceae	Ochna serrulata	Mickey Mouse Plant			*	4306
Oleaceae	Ligustrum lucidum	Large-leaved Privet			*	4312
Oleaceae	Ligustrum sinense	Small-leaved Privet			*	4313
Oleaceae	Notelaea longifolia	Large Mock-olive				4318
Onagraceae	Ludwigia octovalvis	Willow Primrose				7297
Onagraceae	Ludwigia peploides subsp. montevidensis	Water Primrose				7375
Orchidaceae	Dipodium variegatum	Hyacinth Orchid	P			7888
Passifloraceae	Passiflora subpeltata	White Passionflower			*	4650
Phormiaceae	Dianella caerulea	Blue Flax-lily				3540
Phyllanthaceae	Breynia oblongifolia	Coffee Bush				2695
Phyllanthaceae	Glochidion ferdinandi	Cheese Tree				7866
Phytolaccaceae	Phytolacca octandra	Inkweed			*	4658
Phytolaccaceae	Rivina humilis	Coral Berry			*	4659
Pinaceae	Pinus elliottii	Slash Pine			*	11138
Pittosporaceae	Pittosporum revolutum	Rough Fruit Pittosporum				4683
Pittosporaceae	Pittosporum undulatum	Sweet Pittosporum				4685
Poaceae	Axonopus compressus	Broad-leaved Carpet Grass			*	4785
Poaceae	Axonopus fissifolius	Narrow-leafed Carpet Grass			*	11194
Poaceae	Chloris gayana	Rhodes Grass			*	4831

FamilyName	ScientificName	CommonName	NSWStatus	CommStatus	Exotic	SpeciesCode
Poaceae	Cynodon dactylon	Common Couch				6540
Poaceae	Digitaria didactyla	Queensland Blue Couch				4904
Poaceae	Digitaria violascens	Crabgrass			*	4918
Poaceae	Echinochloa crus-galli	Cockspur Grass			*	4923
Poaceae	Entolasia stricta	Wiry Panic				4947
Poaceae	Eragrostis tenuifolia	Elastic Grass			*	4974
Poaceae	Imperata cylindrica	Blady Grass				6803
Poaceae	Megathyrsus maximus	Guinea Grass			*	14001
Poaceae	Oplismenus aemulus	Creeping Beardgrass				5044
Poaceae	Ottochloa gracillima	Pademelon Grass				5048
Poaceae	Paspalum conjugatum	Johnston River Grass			*	5085
Poaceae	Paspalum dilatatum	Paspalum			*	5086
Poaceae	Paspalum mandiocanum	Broadleaf Paspalum			*	12421
Poaceae	Paspalum urvillei	Vasey Grass			*	5093
Poaceae	Pennisetum purpureum	Elephant Grass			*	5098
Poaceae	Phragmites australis	Common Reed				5113
Poaceae	Setaria sphacelata	South African Pigeon Grass			*	5167
Poaceae	Sporobolus creber	Slender Rat's Tail Grass				5179
Poaceae	Sporobolus fertilis	Giant Parramatta Grass			*	11172
Poaceae	Urochloa decumbens	Signal Grass			*	7093
Polygalaceae	Polygala paniculata	Devils Rice			*	8894
Polygonaceae	Persicaria attenuata	White Smartweed				5277
Polygonaceae	Persicaria decipiens	Slender Knotweed				7568
Polygonaceae	Persicaria hydropiper	Water Pepper				5281
Polygonaceae	Rumex crispus	Curled Dock			*	5298
Polypodiaceae	Platycerium bifurcatum	Elkhorn Fern	P			8159
Polypodiaceae	Platycerium superbum	Staghorn	P			8161
Polypodiaceae	Pyrrosia confluens var. confluens	Horseshoe Felt Fern				11148
Primulaceae	Ardisia crenata	Coralberry			*	10694
Primulaceae	Myrsine variabilis	Muttonwood				11953
Proteaceae	Grevillea cult 'Honey Gem'	Honey Gem			*	GREV
Proteaceae	Grevillea robusta	Silky Oak				5396

FamilyName	ScientificName	CommonName	NSWStatus	CommStatus	Exotic	SpeciesCode
Proteaceae	Macadamia integrifolia	Macadamia Nut		V		9680
Rhamnaceae	Alphitonia excelsa	Red Ash				7686
Ripogonaceae	Ripogonum elseyanum	Hairy Supplejack				6020
Rosaceae	Rubus moluccanus	Molucca Bramble				11587
Rutaceae	Acronychia oblongifolia	White Aspen				5722
Rutaceae	Citrus x taitensis	Rough Lemon			*	10758
Rutaceae	Flindersia australis	Crow's Ash				5792
Rutaceae	Flindersia schottiana	Cudgerie				5796
Rutaceae	Melicope elleryana	Pink-flowered Doughwood				8659
Rutaceae	Pentaceras australe	Bastard's Crow Ash				5808
Rutaceae	Sarcomelicope simplicifolia subsp. simplicifolia	Big Yellow Wood				8842
Rutaceae	Zieria smithii	Sandfly Zieria				5847
Salicaceae	Salix spp.	Weeping Willow			*	SALI
Salviniaceae	Salvinia molesta	Salvinia			*	8178
Sapindaceae	Arytera divaricata	Coogera				5879
Sapindaceae	Castanospora alphandii	Brown Tamarind				5883
Sapindaceae	Cupaniopsis anacardioides	Tuckeroo				5884
Sapindaceae	Cupaniopsis parvifolia	Small-leaved Tuckeroo				5886
Sapindaceae	Diploglottis australis	Native Tamarind				7432
Sapindaceae	Elattostachys nervosa	Beetroot Tree				5914
Sapindaceae	Guioa semiglauca	Wild Quince				5917
Sapindaceae	Jagera pseudorhus var. pseudorhus	Foambark Tree				12514
Sapindaceae	Mischocarpus pyriformis	Yellow Pear-fruit				5926
Sapindaceae	Sarcopteryx stipata	Steelwood				6452
Smilacaceae	Smilax australis	Lawyer Vine				7592
Solanaceae	Cestrum parqui	Green Cestrum			*	6027
Solanaceae	Solanum americanum	Glossy Nightshade				7043
Solanaceae	Solanum capsicoides	Devil's Apple			*	7325
Solanaceae	Solanum mauritianum	Wild Tobacco Bush			*	6090
Solanaceae	Solanum seaforthianum	Climbing Nightshade			*	6104
Strelitziaceae	Strelitzia reginae	Bird of Paradise			*	11726
Thelypteridaceae	Cyclosorus dentatus	Binung				14610

FamilyName	ScientificName	CommonName	NSWStatus	CommStatus	Exotic	SpeciesCode
Thymelaeaceae	Wikstroemia indica	Bootlace Bark				6197
Typhaceae	Typha orientalis	Broad-leaved Cumbungi				6217
Verbenaceae	Lantana camara	Lantana			*	6248
Verbenaceae	Verbena bonariensis	Purpletop			*	6256
Vitaceae	Cissus antarctica	Water Vine				6282

Codes:

Family Name: refers to the family name within the Bionet/Atlas of NSW Wildlife (B/ANW) database
Species Code: refers to A unique code attributed to an individual species, genus or family within the B/ANW database
Scientific Name: The internationally recognised Latin name given to an organism, following the International Codes of Botanical and Zoological Nomenclature.
Exotic: Denoted by * for all non-native species.
Common Name: Refers to the common name of an organism within the B/ANW database
NSW Status: This code identifies the Legal Status of the species within NSW under the Biodiversity Conservation Act 2016 No. 63 (BC Act 2016), the Fisheries Management Act 1994 No. 38 (FM Act 1994) and the Sensitive Species Data Policy (SSDP).

P-Protected_Refers to fauna listed in Schedule 5 of the BC Act 2016.
P 13-Protected Native Plants_Refers to flora listed in Schedule 6 of the BC Act 2016.
V-Vulnerable_Refers to fauna and flora species that are likely to become endangered unless the circumstances & factors threatening its survival or evolutionary development cease to operate (Schedule 1, part 3, BC Act 2016).
E1-Endangered_Refers to fauna and flora species that are likely to become extinct in nature in NSW unless the circumstances and factors threatening its survival or evolutionary developments cease to operate; or, its numbers have been reduced to such a critical level, or its habitats have been so drastically reduced, that it is in immediate danger of extinction; or, it might already be extinct, but it is not presumed extinct (Schedule 1, part 2, BC Act 2016).
E4A-Critically Endangered_Refers to a species that is eligible to be listed as a critically endangered species if, in the opinion of the Scientific Committee, it is facing an extremely high risk of extinction in New South Wales in the immediate future, as determined in accordance with criteria prescribed by the regulations. (Schedule 1, part 1, BC Act 2016

ATTACHMENT 3

BIONET/ATLAS NSW SPECIES RECORDS FOR LOCALITY

Data from the BioNet BioNet Atlas website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1Â°; ^^ rounded to 0.01Â°). Copyright the State of NSW through the Office of Environment and Heritage. Search criteria : Public Report of all Valid Records of Entities in selected area [North: -28.54 West: 153.45 East: 153.55 South: -28.64] returned a total of 27,374 records of 1,057 species.

Report generated on 23/01/2020 12:46 PM

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records
Animalia	Actinopterygii	Poeciliidae	T013	*Gambusia holbrooki*	*	Mosquito Fish			1
Animalia	Amphibia	Myobatrachidae	3131	*Crinia parinsignifera*		Eastern Sign-bearing Froglet	P		1
Animalia	Amphibia	Myobatrachidae	3134	*Crinia signifera*		Common Eastern Froglet	P		12
Animalia	Amphibia	Myobatrachidae	3137	*Crinia tinnula*		Wallum Froglet	V,P		15
Animalia	Amphibia	Myobatrachidae	3061	*Limnodynastes peronii*		Brown-striped Frog	P		10
Animalia	Amphibia	Myobatrachidae	3064	*Limnodynastes terraereginae*		Northern Banjo Frog	P		1
Animalia	Amphibia	Hylidae	3171	*Litoria caerulea*		Green Tree Frog	P		259
Animalia	Amphibia	Hylidae	3180	*Litoria dentata*		Bleating Tree Frog	P		1
Animalia	Amphibia	Hylidae	3183	*Litoria fallax*		Eastern Dwarf Tree Frog	P		14
Animalia	Amphibia	Hylidae	3184	*Litoria freycineti*		Freycinet's Frog	P		1
Animalia	Amphibia	Hylidae	3187	*Litoria gracilenta*		Dainty Green Tree Frog	P		3
Animalia	Amphibia	Hylidae	3199	*Litoria nasuta*		Rocket Frog	P		14
Animalia	Amphibia	Hylidae	3202	*Litoria olongburensis*		Olongburra Frog	V,P	V	1
Animalia	Amphibia	Hylidae	3204	*Litoria peronii*		Peron's Tree Frog	P		7
Animalia	Amphibia	Hylidae	3214	*Litoria tyleri*		Tyler's Tree Frog	P		1
Animalia	Amphibia	Hylidae	3314	*Litoria wilcoxii*			P		2
Animalia	Amphibia	Bufonidae	3269	*Rhinella marina*	*	Cane Toad			308
Animalia	Reptilia	Cheloniidae	2004	*Caretta caretta*		Loggerhead Turtle	E1,P	E	1
Animalia	Reptilia	Chelidae	2017	*Chelodina longicollis*		Eastern Snake-necked Turtle	P		13
Animalia	Reptilia	Chelidae	2029	*Wollumbinia latisternum*		Saw-shelled Turtle	P		2
Animalia	Reptilia	Pygopodidae	2170	*Lialis burtonis*		Burton's Snake-lizard	P		1
Animalia	Reptilia	Pygopodidae	2174	*Pygopus lepidopodus*		Common Scaly-foot	P		1
Animalia	Reptilia	Scincidae	2411	*Bellatorias frerei*		Major Skink	P		1
Animalia	Reptilia	Scincidae	2417	*Bellatorias major*		Land Mullet	P		1
Animalia	Reptilia	Scincidae	2331	*Cryptoblepharus virgatus*		Cream-striped Shinning-skink	P		2
Animalia	Reptilia	Scincidae	2386	*Ctenotus taeniolatus*		Copper-tailed Skink	P		1
Animalia	Reptilia	Scincidae	2575	*Cyclodomorphus gerrardii*		Pink-tongued Lizard	P		2
Animalia	Reptilia	Scincidae	2557	*Eulamprus quoyii*		Eastern Water-skink	P		2
Animalia	Reptilia	Scincidae	2450	*Lampropholis delicata*		Dark-flecked Garden Sunskink	P		14
Animalia	Reptilia	Scincidae	2542	*Saiphos equalis*		Three-toed Skink	P		1
Animalia	Reptilia	Scincidae	2580	*Tiliqua scincoides*		Eastern Blue-tongue	P		53
Animalia	Reptilia	Agamidae	2194	*Amphibolurus muricatus*		Jacky Lizard	P		34

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records
Animalia	Reptilia	Agamidae	2252	*Intellagama lesueurii*		Eastern Water Dragon	P		88
Animalia	Reptilia	Agamidae	2177	*Pogona barbata*		Bearded Dragon	P		8
Animalia	Reptilia	Varanidae	2271	*Varanus gouldii*		Gould's Goanna	P		2
Animalia	Reptilia	Varanidae	9056	*Varanus sp.*		Unidentified Goanna	P		4
Animalia	Reptilia	Varanidae	2283	*Varanus varius*		Lace Monitor	P		53
Animalia	Reptilia	Typhlopidae	2599	*Anilios nigrescens*		Blackish Blind Snake	P		2
Animalia	Reptilia	Pythonidae	2625	*Morelia spilota*		Carpet & Diamond Pythons	P		158
Animalia	Reptilia	Pythonidae	5095	*Morelia spilota mcdowelli*		Eastern Carpet Python	P		163
Animalia	Reptilia	Colubridae	2630	*Boiga irregularis*		Brown Tree Snake	P		14
Animalia	Reptilia	Colubridae	2633	*Dendrelaphis punctulatus*		Common Tree Snake	P		66
Animalia	Reptilia	Elapidae	5136	*Cryptophis nigrescens*		Eastern Small-eyed Snake	P		1
Animalia	Reptilia	Elapidae	2655	*Demansia psammophis*		Yellow-faced Whip Snake	P		59
Animalia	Reptilia	Elapidae	2674	*Hemiaspis signata*		Black-bellied Swamp Snake	P		2
Animalia	Reptilia	Elapidae	2681	*Notechis scutatus*		Tiger Snake	P		1
Animalia	Reptilia	Elapidae	2693	*Pseudechis porphyriacus*		Red-bellied Black Snake	P		16
Animalia	Reptilia	Elapidae	9075	*Pseudechis sp.*		Unidentified Black Snake	P		41
Animalia	Reptilia	Elapidae	T033	*Pseudonaja sp.*		Unidentified Brown Snake	P		2
Animalia	Reptilia	Elapidae	2699	*Pseudonaja textilis*		Eastern Brown Snake	P		62
Animalia	Reptilia	Elapidae	2723	*Tropidechis carinatus*		Rough-scaled Snake	P		8
Animalia	Reptilia	Elapidae	2734	*Vermicella annulata*		Bandy-bandy	P		25
Animalia	Aves	Megapodiidae	0008	*Alectura lathami*		Australian Brush-turkey	P		150
Animalia	Aves	Phasianidae	0011	*Coturnix ypsilophora*		Brown Quail	P		4
Animalia	Aves	Phasianidae	0012	*Excalfactoria chinensis*		King Quail	P		2
Animalia	Aves	Phasianidae	0903	*Pavo cristatus*	*	Indian Peafowl			46
Animalia	Aves	Anatidae	0210	*Anas castanea*		Chestnut Teal	P		2
Animalia	Aves	Anatidae	0211	*Anas gracilis*		Grey Teal	P		11
Animalia	Aves	Anatidae	0948	*Anas platyrhynchos*	*	Mallard			8
Animalia	Aves	Anatidae	0212	*Anas rhynchotis*		Australasian Shoveler	P		1
Animalia	Aves	Anatidae	0208	*Anas superciliosa*		Pacific Black Duck	P		72
Animalia	Aves	Anatidae	0215	*Aythya australis*		Hardhead	P		10
Animalia	Aves	Anatidae	0202	*Chenonetta jubata*		Australian Wood Duck	P		180
Animalia	Aves	Anatidae	0203	*Cygnus atratus*		Black Swan	P		9
Animalia	Aves	Anatidae	0205	*Dendrocygna eytoni*		Plumed Whistling-Duck	P		1
Animalia	Aves	Anatidae	0213	*Malacorhynchus membranaceus*		Pink-eared Duck	P		1
Animalia	Aves	Anatidae	0214	*Stictonetta naevosa*		Freckled Duck	V,P		6
Animalia	Aves	Podicipedidae	0062	*Poliocephalus poliocephalus*		Hoary-headed Grebe	P		1

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records
Animalia	Aves	Podicipedidae	0061	*Tachybaptus novaehollandiae*		Australasian Grebe	P		14
Animalia	Aves	Columbidae	0033	*Chalcophaps indica*		Emerald Dove	P		117
Animalia	Aves	Columbidae	0028	*Columba leucomela*		White-headed Pigeon	P		248
Animalia	Aves	Columbidae	0957	*Columba livia*	*	Rock Dove			15
Animalia	Aves	Columbidae	0032	*Geopelia humeralis*		Bar-shouldered Dove	P		280
Animalia	Aves	Columbidae	9931	*Geopelia striata*		Peaceful Dove	P		11
Animalia	Aves	Columbidae	0044	*Leucosarcia melanoleuca*		Wonga Pigeon	P		79
Animalia	Aves	Columbidae	0027	*Lopholaimus antarcticus*		Topknot Pigeon	P		143
Animalia	Aves	Columbidae	0029	*Macropygia amboinensis*		Brown Cuckoo-Dove	P		222
Animalia	Aves	Columbidae	0043	*Ocyphaps lophotes*		Crested Pigeon	P		354
Animalia	Aves	Columbidae	0034	*Phaps chalcoptera*		Common Bronzewing	P		2
Animalia	Aves	Columbidae	0035	*Phaps elegans*		Brush Bronzewing	P		2
Animalia	Aves	Columbidae	0025	*Ptilinopus magnificus*		Wompoo Fruit-Dove	V,P		8
Animalia	Aves	Columbidae	0021	*Ptilinopus regina*		Rose-crowned Fruit-Dove	V,P		64
Animalia	Aves	Columbidae	0023	*Ptilinopus superbus*		Superb Fruit-Dove	V,P		4
Animalia	Aves	Columbidae	0989	*Streptopelia chinensis*	*	Spotted Turtle-Dove			200
Animalia	Aves	Podargidae	0313	*Podargus strigoides*		Tawny Frogmouth	P		174
Animalia	Aves	Caprimulgidae	0330	*Eurostopodus mystacalis*		White-throated Nightjar	P		6
Animalia	Aves	Aegothelidae	0317	*Aegotheles cristatus*		Australian Owlet-nightjar	P		16
Animalia	Aves	Apodidae	0335	*Apus pacificus*		Fork-tailed Swift	P	C,J,K	9
Animalia	Aves	Apodidae	0334	*Hirundapus caudacutus*		White-throated Needletail	P	C,J,K	109
Animalia	Aves	Procellariidae	0069	*Ardenna pacificus*		Wedge-tailed Shearwater	P	J	1
Animalia	Aves	Spheniscidae	0005	*Eudyptula minor*		Little Penguin	P		1
Animalia	Aves	Sulidae	0104	*Morus serrator*		Australasian Gannet	P		2
Animalia	Aves	Anhingidae	8731	*Anhinga novaehollandiae*		Australasian Darter	P		20
Animalia	Aves	Phalacrocoracidae	0100	*Microcarbo melanoleucos*		Little Pied Cormorant	P		28
Animalia	Aves	Phalacrocoracidae	0096	*Phalacrocorax carbo*		Great Cormorant	P		18
Animalia	Aves	Phalacrocoracidae	T021	*Phalacrocorax sp.*		Unidentified Cormorant	P		4
Animalia	Aves	Phalacrocoracidae	0097	*Phalacrocorax sulcirostris*		Little Black Cormorant	P		21
Animalia	Aves	Phalacrocoracidae	0099	*Phalacrocorax varius*		Pied Cormorant	P		18
Animalia	Aves	Pelecanidae	0106	*Pelecanus conspicillatus*		Australian Pelican	P		55
Animalia	Aves	Ciconiidae	0183	*Ephippiorhynchus asiaticus*		Black-necked Stork	E1,P		8

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records
Animalia	Aves	Ardeidae	0977	*Ardea ibis*		Cattle Egret	P	C,J	253
Animalia	Aves	Ardeidae	0186	*Ardea intermedia*		Intermediate Egret	P		7
Animalia	Aves	Ardeidae	8712	*Ardea modesta*		Eastern Great Egret	P		13
Animalia	Aves	Ardeidae	0189	*Ardea pacifica*		White-necked Heron	P		31
Animalia	Aves	Ardeidae	T179	*Ardea/Egretta sp.*		Unidentified Egret	P		3
Animalia	Aves	Ardeidae	0197	*Botaurus poiciloptilus*		Australasian Bittern	E1,P	E	3
Animalia	Aves	Ardeidae	0193	*Butorides striatus*		Striated Heron	P		12
Animalia	Aves	Ardeidae	0185	*Egretta garzetta*		Little Egret	P		5
Animalia	Aves	Ardeidae	0188	*Egretta novaehollandiae*		White-faced Heron	P		255
Animalia	Aves	Ardeidae	0196	*Ixobrychus flavicollis*		Black Bittern	V,P		7
Animalia	Aves	Ardeidae	0192	*Nycticorax caledonicus*		Nankeen Night Heron	P		12
Animalia	Aves	Threskiornithidae	0182	*Platalea flavipes*		Yellow-billed Spoonbill	P		2
Animalia	Aves	Threskiornithidae	0181	*Platalea regia*		Royal Spoonbill	P		28
Animalia	Aves	Threskiornithidae	0178	*Plegadis falcinellus*		Glossy Ibis	P	C	2
Animalia	Aves	Threskiornithidae	0179	*Threskiornis molucca*		Australian White Ibis	P		279
Animalia	Aves	Threskiornithidae	0180	*Threskiornis spinicollis*		Straw-necked Ibis	P		166
Animalia	Aves	Accipitridae	0222	*Accipiter cirrocephalus*		Collared Sparrowhawk	P		2
Animalia	Aves	Accipitridae	0221	*Accipiter fasciatus*		Brown Goshawk	P		31
Animalia	Aves	Accipitridae	0220	*Accipiter novaehollandiae*		Grey Goshawk	P		32
Animalia	Aves	Accipitridae	0224	*Aquila audax*		Wedge-tailed Eagle	P		137
Animalia	Aves	Accipitridae	0234	*Aviceda subcristata*		Pacific Baza	P		196
Animalia	Aves	Accipitridae	0219	*Circus approximans*		Swamp Harrier	P		3
Animalia	Aves	Accipitridae	0218	*Circus assimilis*		Spotted Harrier	V,P		1
Animalia	Aves	Accipitridae	0232	*Elanus axillaris*		Black-shouldered Kite	P		75
Animalia	Aves	Accipitridae	0226	*Haliaeetus leucogaster*		White-bellied Sea-Eagle	V,P	C	13
Animalia	Aves	Accipitridae	0227	*Haliastur indus*		Brahminy Kite	P		9
Animalia	Aves	Accipitridae	0228	*Haliastur sphenurus*		Whistling Kite	P		72
Animalia	Aves	Accipitridae	0225	*Hieraaetus morphnoides*		Little Eagle	V,P		55
Animalia	Aves	Accipitridae	0229	*Milvus migrans*		Black Kite	P		1
Animalia	Aves	Accipitridae	8739	^^*Pandion cristatus*		Eastern Osprey	V,P,3		10
Animalia	Aves	Falconidae	0239	*Falco berigora*		Brown Falcon	P		3
Animalia	Aves	Falconidae	0240	*Falco cenchroides*		Nankeen Kestrel	P		23
Animalia	Aves	Falconidae	0237	*Falco peregrinus*		Peregrine Falcon	P		2
Animalia	Aves	Falconidae	0238	*Falco subniger*		Black Falcon	V,P		3
Animalia	Aves	Rallidae	0053	*Amaurornis moluccana*		Pale-vented Bush-hen	V,P		1
Animalia	Aves	Rallidae	0059	*Fulica atra*		Eurasian Coot	P		16
Animalia	Aves	Rallidae	0056	*Gallinula tenebrosa*		Dusky Moorhen	P		21
Animalia	Aves	Rallidae	0046	*Gallirallus philippensis*		Buff-banded Rail	P		2

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records
Animalia	Aves	Rallidae	0045	*Lewinia pectoralis*		Lewin's Rail	P		2
Animalia	Aves	Rallidae	0058	*Porphyrio porphyrio*		Purple Swamphen	P		30
Animalia	Aves	Burhinidae	0174	*Burhinus grallarius*		Bush Stone-curlew	E1,P		3
Animalia	Aves	Haematopodidae	0131	*Haematopus fuliginosus*		Sooty Oystercatcher	V,P		1
Animalia	Aves	Haematopodidae	0130	*Haematopus longirostris*		Pied Oystercatcher	E1,P		5
Animalia	Aves	Recurvirostridae	0146	*Himantopus himantopus*		Black-winged Stilt	P		3
Animalia	Aves	Charadriidae	0144	*Elseyornis melanops*		Black-fronted Dotterel	P		1
Animalia	Aves	Charadriidae	0136	*Pluvialis squatarola*		Grey Plover	P	C,J,K	1
Animalia	Aves	Charadriidae	0133	*Vanellus miles*		Masked Lapwing	P		330
Animalia	Aves	Jacanidae	0171	*Irediparra gallinacea*		Comb-crested Jacana	V,P		4
Animalia	Aves	Scolopacidae	0157	*Actitis hypoleucos*		Common Sandpiper	P	C,J,K	2
Animalia	Aves	Scolopacidae	0168	*Gallinago hardwickii*		Latham's Snipe	P	C,J,K	8
Animalia	Aves	Scolopacidae	0153	*Limosa lapponica*		Bar-tailed Godwit	P	C,J,K	1
Animalia	Aves	Scolopacidae	0149	*Numenius madagascariensis*		Eastern Curlew	P	CE,C,J,K	3
Animalia	Aves	Scolopacidae	0150	*Numenius phaeopus*		Whimbrel	P	C,J,K	9
Animalia	Aves	Scolopacidae	0155	*Tringa brevipes*		Grey-tailed Tattler	P	C,J,K	3
Animalia	Aves	Turnicidae	9037	*Turnix sp.*		Unidentified Button-quail	P		46
Animalia	Aves	Turnicidae	0014	*Turnix varius*		Painted Button-quail	P		3
Animalia	Aves	Laridae	0124	*Anous minutus*		Black Noddy	P		2
Animalia	Aves	Laridae	0125	*Chroicocephalus novaehollandiae*		Silver Gull	P		17
Animalia	Aves	Laridae	0953	*Sterna hirundo*		Common Tern	P	C,J,K	4
Animalia	Aves	Laridae	0117	*Sternula albifrons*		Little Tern	E1,P	C,J,K	5
Animalia	Aves	Laridae	0115	*Thalasseus bergii*		Crested Tern	P		7
Animalia	Aves	Cacatuidae	0269	*Cacatua galerita*		Sulphur-crested Cockatoo	P		207
Animalia	Aves	Cacatuidae	0271	*Cacatua sanguinea*		Little Corella	P		10
Animalia	Aves	Cacatuidae	T187	*Cacatua sp.*			P		3
Animalia	Aves	Cacatuidae	0267	*Calyptorhynchus funereus*		Yellow-tailed Black-Cockatoo	P		27
Animalia	Aves	Cacatuidae	0265	*^Calyptorhynchus lathami*		Glossy Black-Cockatoo	V,P,2		7
Animalia	Aves	Cacatuidae	9070	*Calyptorhynchus sp.*		Unidentified Black-cockatoo	P		69
Animalia	Aves	Cacatuidae	0273	*Eolophus roseicapillus*		Galah	P		228
Animalia	Aves	Cacatuidae	0274	*Nymphicus hollandicus*		Cockatiel	P		4
Animalia	Aves	Psittacidae	0281	*Alisterus scapularis*		Australian King-Parrot	P		9
Animalia	Aves	Psittacidae	8028	*^Cyclopsitta diophthalma coxeni*		Coxen's Fig-Parrot	E4A,P,2	E	1
Animalia	Aves	Psittacidae	0282	*Platycercus elegans*		Crimson Rosella	P		1
Animalia	Aves	Psittacidae	0288	*Platycercus eximius*		Eastern Rosella	P		327
Animalia	Aves	Psittacidae	T039	*Platycercus sp.*		Unidentified Rosella	P		9

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Animalia	Aves	Psittacidae	0256	*Trichoglossus chlorolepidotus*		Scaly-breasted Lorikeet	P		306
Animalia	Aves	Psittacidae	9947	*Trichoglossus haematodus*		Rainbow Lorikeet	P		168
Animalia	Aves	Centropodidae	0349	*Centropus phasianinus*		Pheasant Coucal	P		207
Animalia	Aves	Cuculidae	0338	*Cacomantis flabelliformis*		Fan-tailed Cuckoo	P		211
Animalia	Aves	Cuculidae	0337	*Cacomantis pallidus*		Pallid Cuckoo	P		3
Animalia	Aves	Cuculidae	0339	*Cacomantis variolosus*		Brush Cuckoo	P		119
Animalia	Aves	Cuculidae	0342	*Chalcites basalis*		Horsfield's Bronze-Cuckoo	P		31
Animalia	Aves	Cuculidae	0343	*Chalcites lucidus*		Shining Bronze-Cuckoo	P		45
Animalia	Aves	Cuculidae	0345	*Chalcites minutillus*		Little Bronze-Cuckoo	P		19
Animalia	Aves	Cuculidae	0347	*Eudynamys orientalis*		Eastern Koel	P		132
Animalia	Aves	Cuculidae	0348	*Scythrops novaehollandiae*		Channel-billed Cuckoo	P		106
Animalia	Aves	Strigidae	0246	^^*Ninox connivens*		Barking Owl	V,P,3		5
Animalia	Aves	Strigidae	9922	*Ninox novaeseelandiae*		Southern Boobook	P		30
Animalia	Aves	Tytonidae	9923	*Tyto javanica*		Eastern Barn Owl	P		13
Animalia	Aves	Tytonidae	0252	^^*Tyto longimembris*		Eastern Grass Owl	V,P,3		1
Animalia	Aves	Tytonidae	0250	^^*Tyto novaehollandiae*		Masked Owl	V,P,3		1
Animalia	Aves	Tytonidae	9924	^^*Tyto tenebricosa*		Sooty Owl	V,P,3		1
Animalia	Aves	Alcedinidae	0319	*Ceyx azureus*		Azure Kingfisher	P		33
Animalia	Aves	Alcedinidae	0322	*Dacelo novaeguineae*		Laughing Kookaburra	P		385
Animalia	Aves	Alcedinidae	0327	*Todiramphus chloris*		Collared Kingfisher	V,P		3
Animalia	Aves	Alcedinidae	0324	*Todiramphus macleayii*		Forest Kingfisher	P		20
Animalia	Aves	Alcedinidae	0326	*Todiramphus sanctus*		Sacred Kingfisher	P		123
Animalia	Aves	Meropidae	0329	*Merops ornatus*		Rainbow Bee-eater	P	J	230
Animalia	Aves	Coraciidae	0318	*Eurystomus orientalis*		Dollarbird	P		137
Animalia	Aves	Pittidae	0352	*Pitta versicolor*		Noisy Pitta	P		3
Animalia	Aves	Climacteridae	0558	*Cormobates leucophaea*		White-throated Treecreeper	P		3
Animalia	Aves	Ptilonorhynchidae	0676	*Ailuroedus crassirostris*		Green Catbird	P		5
Animalia	Aves	Ptilonorhynchidae	0679	*Ptilonorhynchus violaceus*		Satin Bowerbird	P		4
Animalia	Aves	Ptilonorhynchidae	0684	*Sericulus chrysocephalus*		Regent Bowerbird	P		74
Animalia	Aves	Maluridae	0529	*Malurus cyaneus*		Superb Fairy-wren	P		291
Animalia	Aves	Maluridae	0536	*Malurus lamberti*		Variegated Fairy-wren	P		221
Animalia	Aves	Maluridae	0541	*Malurus melanocephalus*		Red-backed Fairy-wren	P		111
Animalia	Aves	Maluridae	9038	*Malurus sp.*		Unidentified Fairy-wren	P		2
Animalia	Aves	Acanthizidae	0486	*Acanthiza chrysorrhoa*		Yellow-rumped Thornbill	P		7

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Animalia	Aves	Acanthizidae	0470	*Acanthiza lineata*		Striated Thornbill	P		2
Animalia	Aves	Acanthizidae	0471	*Acanthiza nana*		Yellow Thornbill	P		2
Animalia	Aves	Acanthizidae	0475	*Acanthiza pusilla*		Brown Thornbill	P		217
Animalia	Aves	Acanthizidae	0460	*Gerygone levigaster*		Mangrove Gerygone	P		11
Animalia	Aves	Acanthizidae	0454	*Gerygone mouki*		Brown Gerygone	P		1
Animalia	Aves	Acanthizidae	0453	*Gerygone olivacea*		White-throated Gerygone	P		215
Animalia	Aves	Acanthizidae	GERI	*Gerygone sp.*			P		1
Animalia	Aves	Acanthizidae	0493	*Sericornis citreogularis*		Yellow-throated Scrubwren	P		19
Animalia	Aves	Acanthizidae	0488	*Sericornis frontalis*		White-browed Scrubwren	P		177
Animalia	Aves	Acanthizidae	0494	*Sericornis magnirostra*		Large-billed Scrubwren	P		37
Animalia	Aves	Pardalotidae	0565	*Pardalotus punctatus*		Spotted Pardalote	P		33
Animalia	Aves	Pardalotidae	0976	*Pardalotus striatus*		Striated Pardalote	P		250
Animalia	Aves	Meliphagidae	0591	*Acanthorhynchus tenuirostris*		Eastern Spinebill	P		53
Animalia	Aves	Meliphagidae	0710	*Anthochaera chrysoptera*		Little Wattlebird	P		134
Animalia	Aves	Meliphagidae	T210	*Anthochaera sp.*		Unidentified Wattlebird	P		2
Animalia	Aves	Meliphagidae	0614	*Caligavis chrysops*		Yellow-faced Honeyeater	P		48
Animalia	Aves	Meliphagidae	0641	*Entomyzon cyanotis*		Blue-faced Honeyeater	P		179
Animalia	Aves	Meliphagidae	0610	*Lichenostomus fasciogularis*		Mangrove Honeyeater	V,P		1
Animalia	Aves	Meliphagidae	0597	*Lichmera indistincta*		Brown Honeyeater	P		274
Animalia	Aves	Meliphagidae	0634	*Manorina melanocephala*		Noisy Miner	P		398
Animalia	Aves	Meliphagidae	0605	*Meliphaga lewinii*		Lewin's Honeyeater	P		329
Animalia	Aves	Meliphagidae	0579	*Melithreptus albogularis*		White-throated Honeyeater	P		66
Animalia	Aves	Meliphagidae	0583	*Melithreptus brevirostris*		Brown-headed Honeyeater	P		9
Animalia	Aves	Meliphagidae	0586	*Myzomela sanguinolenta*		Scarlet Honeyeater	P		149
Animalia	Aves	Meliphagidae	0646	*Philemon citreogularis*		Little Friarbird	P		3
Animalia	Aves	Meliphagidae	0645	*Philemon corniculatus*		Noisy Friarbird	P		148
Animalia	Aves	Meliphagidae	T908	*Philemon sp.*			P		3
Animalia	Aves	Meliphagidae	0632	*Phylidonyris niger*		White-cheeked Honeyeater	P		117
Animalia	Aves	Meliphagidae	0585	*Plectorhyncha lanceolata*		Striped Honeyeater	P		3
Animalia	Aves	Meliphagidae	0613	*Ptilotula fuscus*		Fuscous Honeyeater	P		6
Animalia	Aves	Orthonychidae	0434	*Orthonyx temminckii*		Logrunner	P		2
Animalia	Aves	Psophodidae	0421	*Psophodes olivaceus*		Eastern Whipbird	P		295
Animalia	Aves	Campephagidae	0428	*Coracina lineata*		Barred Cuckoo-shrike	V,P		1
Animalia	Aves	Campephagidae	0424	*Coracina novaehollandiae*		Black-faced Cuckoo-shrike	P		302
Animalia	Aves	Campephagidae	0425	*Coracina papuensis*		White-bellied Cuckoo-shrike	P		17
Animalia	Aves	Campephagidae	0429	*Coracina tenuirostris*		Cicadabird	P		118
Animalia	Aves	Campephagidae	0431	*Lalage leucomela*		Varied Triller	P		263

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Animalia	Aves	Campephagidae	0430	*Lalage sueurii*		White-winged Triller	P		1
Animalia	Aves	Pachycephalidae	0408	*Colluricincla harmonica*		Grey Shrike-thrush	P		236
Animalia	Aves	Pachycephalidae	0413	*Colluricincla megarhyncha*		Little Shrike-thrush	P		187
Animalia	Aves	Pachycephalidae	0398	*Pachycephala pectoralis*		Golden Whistler	P		147
Animalia	Aves	Pachycephalidae	0401	*Pachycephala rufiventris*		Rufous Whistler	P		190
Animalia	Aves	Oriolidae	0671	*Oriolus sagittatus*		Olive-backed Oriole	P		162
Animalia	Aves	Oriolidae	0432	*Sphecotheres vieilloti*		Australasian Figbird	P		450
Animalia	Aves	Artamidae	8519	*Artamus cyanopterus cyanopterus*		Dusky Woodswallow	V,P		1
Animalia	Aves	Artamidae	0543	*Artamus leucorynchus*		White-breasted Woodswallow	P		114
Animalia	Aves	Artamidae	0545	*Artamus superciliosus*		White-browed Woodswallow	P		1
Animalia	Aves	Artamidae	0700	*Cracticus nigrogularis*		Pied Butcherbird	P		321
Animalia	Aves	Artamidae	T022	*Cracticus sp.*		Unidentified Butcherbird	P		5
Animalia	Aves	Artamidae	0705	*Cracticus tibicen*		Australian Magpie	P		462
Animalia	Aves	Artamidae	0702	*Cracticus torquatus*		Grey Butcherbird	P		199
Animalia	Aves	Artamidae	0694	*Strepera graculina*		Pied Currawong	P		348
Animalia	Aves	Artamidae	T906	*Strepera sp.*			P		8
Animalia	Aves	Dicruridae	0673	*Dicrurus bracteatus*		Spangled Drongo	P		269
Animalia	Aves	Rhipiduridae	0361	*Rhipidura albiscapa*		Grey Fantail	P		252
Animalia	Aves	Rhipiduridae	0364	*Rhipidura leucophrys*		Willie Wagtail	P		314
Animalia	Aves	Rhipiduridae	0362	*Rhipidura rufifrons*		Rufous Fantail	P		97
Animalia	Aves	Corvidae	0930	*Corvus coronoides*		Australian Raven	P		259
Animalia	Aves	Corvidae	9902	*Corvus orru*		Torresian Crow	P		98
Animalia	Aves	Corvidae	9067	*Corvus sp.*		Unidentified Corvid	P		5
Animalia	Aves	Monarchidae	0376	*Carterornis leucotis*		White-eared Monarch	V,P		5
Animalia	Aves	Monarchidae	0415	*Grallina cyanoleuca*		Magpie-lark	P		172
Animalia	Aves	Monarchidae	0373	*Monarcha melanopsis*		Black-faced Monarch	P		57
Animalia	Aves	Monarchidae	0366	*Myiagra cyanoleuca*		Satin Flycatcher	P		27
Animalia	Aves	Monarchidae	9955	*Myiagra inquieta*		Restless Flycatcher	P		90
Animalia	Aves	Monarchidae	0365	*Myiagra rubecula*		Leaden Flycatcher	P		187
Animalia	Aves	Monarchidae	0375	*Symposiachrus trivirgatus*		Spectacled Monarch	P		30
Animalia	Aves	Petroicidae	0392	*Eopsaltria australis*		Eastern Yellow Robin	P		228
Animalia	Aves	Petroicidae	0377	*Microeca fascinans*		Jacky Winter	P		2
Animalia	Aves	Petroicidae	0380	*Petroica boodang*		Scarlet Robin	V,P		4
Animalia	Aves	Petroicidae	0384	*Petroica rosea*		Rose Robin	P		23
Animalia	Aves	Cisticolidae	0525	*Cisticola exilis*		Golden-headed Cisticola	P		30
Animalia	Aves	Acrocephalidae	0524	*Acrocephalus australis*		Australian Reed-Warbler	P		4
Animalia	Aves	Megaluridae	0509	*Cincloramphus mathewsi*		Rufous Songlark	P		1

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Animalia	Aves	Megaluridae	0522	*Megalurus gramineus*		Little Grassbird	P		1
Animalia	Aves	Megaluridae	0523	*Megalurus timoriensis*		Tawny Grassbird	P		8
Animalia	Aves	Timaliidae	0574	*Zosterops lateralis*		Silvereye	P		289
Animalia	Aves	Hirundinidae	0357	*Hirundo neoxena*		Welcome Swallow	P		301
Animalia	Aves	Hirundinidae	0879	*Hirundo rustica*		Barn Swallow	P	C,J,K	1
Animalia	Aves	Hirundinidae	0360	*Petrochelidon ariel*		Fairy Martin	P		5
Animalia	Aves	Hirundinidae	0359	*Petrochelidon nigricans*		Tree Martin	P		16
Animalia	Aves	Sturnidae	0998	*Sturnus tristis*	*	Common Myna			2
Animalia	Aves	Sturnidae	0999	*Sturnus vulgaris*	*	Common Starling			85
Animalia	Aves	Nectariniidae	0564	*Dicaeum hirundinaceum*		Mistletoebird	P		96
Animalia	Aves	Estrildidae	0657	*Lonchura castaneothorax*		Chestnut-breasted Mannikin	P		26
Animalia	Aves	Estrildidae	0983	*Lonchura punctulata*	*	Nutmeg Mannikin			12
Animalia	Aves	Estrildidae	0662	*Neochmia temporalis*		Red-browed Finch	P		287
Animalia	Aves	Estrildidae	0655	*Taeniopygia bichenovii*		Double-barred Finch	P		7
Animalia	Aves	Passeridae	0995	*Passer domesticus*	*	House Sparrow			3
Animalia	Aves	Motacillidae	0647	*Anthus novaeseelandiae*		Australian Pipit	P		33
Animalia	Mammalia	Ornithorhynchidae	1001	*Ornithorhynchus anatinus*		Platypus	P		25
Animalia	Mammalia	Tachyglossidae	1003	*Tachyglossus aculeatus*		Short-beaked Echidna	P		244
Animalia	Mammalia	Dasyuridae	T093	*Antechinus sp.*		Unidentified Antechinus	P		8
Animalia	Mammalia	Dasyuridae	1674	*Antechinus stuartii*		Brown Antechinus	P		5
Animalia	Mammalia	Dasyuridae	1008	*Dasyurus maculatus*		Spotted-tailed Quoll	V,P	E	3
Animalia	Mammalia	Dasyuridae	1045	*Planigale maculata*		Common Planigale	V,P		4
Animalia	Mammalia	Peramelidae	1093	*Isoodon macrourus*		Northern Brown Bandicoot	P		25
Animalia	Mammalia	Peramelidae	9047	*Isoodon sp.*		Unidentified Brown Bandicoot	P		80
Animalia	Mammalia	Peramelidae	T081	*Isoodon/Perameles sp.*		unidentified Bandicoot	P		98
Animalia	Mammalia	Peramelidae	1097	*Perameles nasuta*		Long-nosed Bandicoot	P		39
Animalia	Mammalia	Phascolarctidae	1162	*Phascolarctos cinereus*		Koala	V,P	V	1460
Animalia	Mammalia	Vombatidae	1165	*Vombatus ursinus*		Common Wombat	P		2
Animalia	Mammalia	Petauridae	1138	*Petaurus breviceps*		Sugar Glider	P		62
Animalia	Mammalia	Petauridae	1137	*Petaurus norfolcensis*		Squirrel Glider	V,P		3
Animalia	Mammalia	Petauridae	T084	*Petaurus sp.*		Glider	P		1
Animalia	Mammalia	Pseudocheiridae	1129	*Pseudocheirus peregrinus*		Common Ringtail Possum	P		137
Animalia	Mammalia	Acrobatidae	1147	*Acrobates pygmaeus*		Feathertail Glider	P		9
Animalia	Mammalia	Phalangeridae	1735	*Trichosurus caninus*		Short-eared Possum	P		4
Animalia	Mammalia	Phalangeridae	T082	*Trichosurus sp.*		brushtail possum	P		47
Animalia	Mammalia	Phalangeridae	1113	*Trichosurus vulpecula*		Common Brushtail Possum	P		9
Animalia	Mammalia	Potoroidae	1175	*Potorous tridactylus*		Long-nosed Potoroo	V,P	V	5

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Animalia	Mammalia	Macropodidae	T108	*Macropod sp.*		unidentified macropod	P		1
Animalia	Mammalia	Macropodidae	1265	*Macropus giganteus*		Eastern Grey Kangaroo	P		3
Animalia	Mammalia	Macropodidae	1261	*Macropus rufogriseus*		Red-necked Wallaby	P		12
Animalia	Mammalia	Macropodidae	T085	*Macropus sp.*		kangaroo / wallaby	P		21
Animalia	Mammalia	Macropodidae	T102	*Thylogale sp.*		Unidentified Pademelon	P		1
Animalia	Mammalia	Macropodidae	1236	*Thylogale thetis*		Red-necked Pademelon	P		12
Animalia	Mammalia	Macropodidae	1242	*Wallabia bicolor*		Swamp Wallaby	P		284
Animalia	Mammalia	Pteropodidae	1290	*Nyctimene robinsoni*		Eastern Tube-nosed Bat	V,P		1
Animalia	Mammalia	Pteropodidae	1282	*Pteropus alecto*		Black Flying-fox	P		88
Animalia	Mammalia	Pteropodidae	1280	*Pteropus poliocephalus*		Grey-headed Flying-fox	V,P	V	49
Animalia	Mammalia	Pteropodidae	1281	*Pteropus scapulatus*		Little Red Flying-fox	P		1
Animalia	Mammalia	Pteropodidae	T087	*Pteropus sp.*		Flying-fox	P		208
Animalia	Mammalia	Pteropodidae	1294	*Syconycteris australis*		Common Blossom-bat	V,P		7
Animalia	Mammalia	Rhinolophidae	1303	*Rhinolophus megaphyllus*		Eastern Horseshoe-bat	P		3
Animalia	Mammalia	Molossidae	1324	*Austronomus australis*		White-striped Freetail-bat	P		5
Animalia	Mammalia	Molossidae	1938	*Mormopterus ridei*		Eastern Free-tailed Bat	P		3
Animalia	Mammalia	Molossidae	T091	*Mormopterus sp.*		mastiff-bat	P		1
Animalia	Mammalia	Vespertilionidae	1349	*Chalinolobus gouldii*		Gould's Wattled Bat	P		3
Animalia	Mammalia	Vespertilionidae	1357	*Myotis macropus*		Southern Myotis	V,P		6
Animalia	Mammalia	Vespertilionidae	1336	*Nyctophilus bifax*		Eastern Long-eared Bat	V,P		18
Animalia	Mammalia	Vespertilionidae	1334	*Nyctophilus gouldi*		Gould's Long-eared Bat	P		8
Animalia	Mammalia	Vespertilionidae	T092	*Nyctophilus sp.*		long-eared bat	P		1
Animalia	Mammalia	Vespertilionidae	1361	*Scoteanax rueppellii*		Greater Broad-nosed Bat	V,P		1
Animalia	Mammalia	Vespertilionidae	1365	*Scotorepens orion*		Eastern Broad-nosed Bat	P		4
Animalia	Mammalia	Vespertilionidae	1022	*Vespadelus darlingtoni*		Large Forest Bat	P		1
Animalia	Mammalia	Vespertilionidae	1377	*Vespadelus pumilus*		Eastern Forest Bat	P		4
Animalia	Mammalia	Muridae	1415	*Hydromys chrysogaster*		Water-rat	P		1
Animalia	Mammalia	Muridae	1500	*Melomys burtoni*		Grassland Melomys	P		5
Animalia	Mammalia	Muridae	T101	*Melomys sp.*		Unidentified Melomys	P		4
Animalia	Mammalia	Muridae	T104	*Muridae sp.*		unidentified murid rodent	P		1
Animalia	Mammalia	Muridae	1412	*Mus musculus*	*	House Mouse			7
Animalia	Mammalia	Muridae	1455	*Pseudomys novaehollandiae*		New Holland Mouse	P	V	3
Animalia	Mammalia	Muridae	1395	*Rattus fuscipes*		Bush Rat	P		37
Animalia	Mammalia	Muridae	1398	*Rattus lutreolus*		Swamp Rat	P		10
Animalia	Mammalia	Muridae	1409	*Rattus norvegicus*	*	Brown Rat			3
Animalia	Mammalia	Muridae	1408	*Rattus rattus*	*	Black Rat			13
Animalia	Mammalia	Canidae	1531	*Canis lupus*	*	Dingo, domestic dog			22
Animalia	Mammalia	Canidae	1904	*Canis lupus dingo*	*	Dingo			1

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Animalia	Mammalia	Canidae	1905	*Canis lupus familiaris*	*	Dog			3
Animalia	Mammalia	Canidae	1532	*Vulpes vulpes*	*	Fox			106
Animalia	Mammalia	Felidae	1536	*Felis catus*	*	Cat			3
Animalia	Mammalia	Leporidae	1510	*Oryctolagus cuniculus*	*	Rabbit			10
Animalia	Mammalia	Suidae	1514	*Sus scrofa*	*	Pig			1
Animalia	Mammalia	Bovidae	1518	*Bos taurus*	*	European cattle			4
Animalia	Mammalia	Delphinidae	1616	*Delphinus delphis*		Common Dolphin	P		1
Animalia	Arachnida	Buthidae	I129	*Lychas marmoreus*		Marbled Scorpion			6
Animalia	Insecta	Nymphalidae	I115	*Euploea core*		Common Crow			228
Animalia	Unknown	Unknown Fauna	T202	*(Microchiroptera suborder) (Microchiroptera suborder)*		Unidentified Microbat			15
Animalia	Unknown	Unknown Fauna	T350	*Fauna sp.*		Unidentified Fauna			82
Animalia	Unknown	Unknown Fauna	T351	*Mammal sp.*		Unidentified Mammal			6
Plantae	Flora	Acanthaceae	10427	*Avicennia marina subsp. australasica*		Grey Mangrove			6
Plantae	Flora	Acanthaceae	10847	*Harnieria hygrophiloides*			E1		3
Plantae	Flora	Acanthaceae	10771	*Hypoestes phyllostachya*	*				1
Plantae	Flora	Acanthaceae	1010	*Pseuderanthemum variabile*		Pastel Flower			1
Plantae	Flora	Adiantaceae	7997	*Adiantum aethiopicum*		Common Maidenhair	P		2
Plantae	Flora	Adiantaceae	8000	*Adiantum hispidulum*		Rough Maidenhair	P		9
Plantae	Flora	Adiantaceae	11226	*Adiantum hispidulum var. hispidulum*		Rough Maidenhair	P		1
Plantae	Flora	Akaniaceae	8978	*Akania bidwillii*		Turnipwood			1
Plantae	Flora	Amaranthaceae	6478	*Alternanthera denticulata*		Lesser Joyweed			1
Plantae	Flora	Amaranthaceae	1067	*Nyssanthes diffusa*		Barbwire Weed			1
Plantae	Flora	Amaryllidaceae	3539	*Crinum pedunculatum*		Swamp Lily			4
Plantae	Flora	Anacardiaceae	7734	*Euroschinus falcatus var. falcatus*		Ribbonwood			12
Plantae	Flora	Anacardiaceae	9351	*Mangifera indica*	*	Mango			5
Plantae	Flora	Anacardiaceae	10918	*Schinus terebinthifolius*	*	Brazilian Pepper Tree			5
Plantae	Flora	Annonaceae	10534	*Meiogyne stenopetala subsp. stenopetala*					2
Plantae	Flora	Annonaceae	14224	*Uvaria leichhardtii*					2
Plantae	Flora	Apiaceae	1106	*Centella asiatica*		Indian Pennywort			10
Plantae	Flora	Apiaceae	1108	*Daucus carota*	*	Wild Carrot			2
Plantae	Flora	Apiaceae	1113	*Eryngium expansum*					1
Plantae	Flora	Apiaceae	7959	*Hydrocotyle acutiloba*					1
Plantae	Flora	Apiaceae	1144	*Platysace lanceolata*		Shrubby Platysace			1

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Plantae	Flora	Apocynaceae	1167	*Alyxia ruscifolia*		Prickly Alyxia			4
Plantae	Flora	Apocynaceae	1224	*Asclepias curassavica*	*	Blood Flower			1
Plantae	Flora	Apocynaceae	14951	*Carissa spinarum*					1
Plantae	Flora	Apocynaceae	1225	*Cynanchum carnosum*					2
Plantae	Flora	Apocynaceae	1227	*Gomphocarpus fruticosus*	*	Narrow-leaved Cotton Bush			5
Plantae	Flora	Apocynaceae	1228	*Gomphocarpus physocarpus*	*	Balloon Cotton Bush			3
Plantae	Flora	Apocynaceae	7742	*Hoya australis subsp. australis*		Native Hoya			3
Plantae	Flora	Apocynaceae	1232	*Marsdenia fraseri*		Narrow-leaved Milk Vine			2
Plantae	Flora	Apocynaceae	9827	*Marsdenia hemiptera*					1
Plantae	Flora	Apocynaceae	8662	*Marsdenia liisae*		Large-flowered Milk Vine			1
Plantae	Flora	Apocynaceae	1233	*Marsdenia longiloba*		Slender Marsdenia	E1	V	1
Plantae	Flora	Apocynaceae	1234	*Marsdenia rostrata*		Milk Vine			13
Plantae	Flora	Apocynaceae	1172	*Melodinus australis*		Southern Melodinus			3
Plantae	Flora	Apocynaceae	1174	*Neisosperma poweri*					1
Plantae	Flora	Apocynaceae	1185	*Parsonsia straminea*		Common Silkpod			34
Plantae	Flora	Apocynaceae	7039	*Parsonsia velutina*					1
Plantae	Flora	Apocynaceae	8620	*Tabernaemontana pandacaqui*		Banana Bush			3
Plantae	Flora	Apocynaceae	1245	*Tylophora woollsii*		Cryptic Forest Twiner	E1	E	1
Plantae	Flora	Araceae	8672	*Alocasia brisbanensis*		Cunjevoi			10
Plantae	Flora	Araliaceae	1209	*Polyscias elegans*		Celery Wood			4
Plantae	Flora	Araliaceae	1211	*Polyscias sambucifolia*		Elderberry Panax			2
Plantae	Flora	Araliaceae	8701	*Schefflera actinophylla*	*	Umbrella Tree			24
Plantae	Flora	Araucariaceae	1213	*Araucaria cunninghamii*		Hoop Pine			7
Plantae	Flora	Arecaceae	11435	*Archontophoenix alexandrae*	*	Alexandra Palm			3
Plantae	Flora	Arecaceae	6458	*Archontophoenix cunninghamiana*		Bangalow Palm	P		22
Plantae	Flora	Arecaceae	1215	*Calamus muelleri*		Southern Lawyer Cane	P		2
Plantae	Flora	Arecaceae	11671	*Dypsis lutescens*	*	Yellow Butterfly Palm			1
Plantae	Flora	Arecaceae	1220	*Linospadix monostachyos*		Walking-stick Palm	P		1
Plantae	Flora	Arecaceae	1221	*Livistona australis*		Cabbage Palm	P		13
Plantae	Flora	Arecaceae	11731	*Syagrus romanzoffiana*	*	Cocos Palm			6
Plantae	Flora	Arecaceae	11732	*Washingtonia filifera*	*				1
Plantae	Flora	Aristolochiaceae	12684	*Aristolochia meridionalis subsp. meridionalis*					1
Plantae	Flora	Aristolochiaceae	10537	*Pararistolochia praevenosa*					1
Plantae	Flora	Asparagaceae	11784	*Asparagus aethiopicus*	*	Asparagus Fern			4

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Plantae	Flora	Asparagaceae	12136	*Asparagus africanus*	*				2
Plantae	Flora	Asparagaceae	11785	*Asparagus plumosus*	*	Climbing Asparagus Fern			3
Plantae	Flora	Asparagaceae	8984	*Sansevieria trifasciata*	*	Mother-in-law's Tongue			3
Plantae	Flora	Aspleniaceae	8031	*Asplenium australasicum*		Bird's Nest Fern	P		13
Plantae	Flora	Asteliaceae	7527	*Cordyline congesta*					4
Plantae	Flora	Asteliaceae	7386	*Cordyline petiolaris*		Broad-leaved Palm Lily			7
Plantae	Flora	Asteliaceae	7873	*Cordyline rubra*		Palm-Lily			4
Plantae	Flora	Asteliaceae	1018	*Cordyline stricta*		Narrow-leaved Palm Lily	P		1
Plantae	Flora	Asteraceae	1255	*Ageratina adenophora*	*	Crofton Weed			21
Plantae	Flora	Asteraceae	1256	*Ageratina riparia*	*	Mistflower			16
Plantae	Flora	Asteraceae	1258	*Ageratum houstonianum*	*				12
Plantae	Flora	Asteraceae	1259	*Ambrosia artemisiifolia*	*	Annual Ragweed			12
Plantae	Flora	Asteraceae	1280	*Aster subulatus*	*	Wild Aster			1
Plantae	Flora	Asteraceae	1281	*Baccharis halimifolia*	*	Groundsel Bush			5
Plantae	Flora	Asteraceae	1283	*Bidens pilosa*	*	Cobbler's Pegs			14
Plantae	Flora	Asteraceae	1370	*Cassinia quinquefaria*					4
Plantae	Flora	Asteraceae	8686	*Chrysanthemoides monilifera subsp. rotundata*	*	Bitou Bush			1
Plantae	Flora	Asteraceae	1400	*Cirsium vulgare*	*	Spear Thistle			7
Plantae	Flora	Asteraceae	1404	*Conyza bonariensis*	*	Flaxleaf Fleabane			3
Plantae	Flora	Asteraceae	10138	*Conyza canadensis var. canadensis*	*	Canadian Fleabane			3
Plantae	Flora	Asteraceae	10442	*Conyza sumatrensis*	*	Tall fleabane			2
Plantae	Flora	Asteraceae	1421	*Crassocephalum crepidioides*	*	Thickhead			11
Plantae	Flora	Asteraceae	1435	*Eclipta prostrata*					3
Plantae	Flora	Asteraceae	14807	*Enydra woollsii*					3
Plantae	Flora	Asteraceae	1439	*Erechtites valerianifolia*	*	Brazilian Fireweed			2
Plantae	Flora	Asteraceae	1450	*Galinsoga parviflora*	*	Potato Weed			1
Plantae	Flora	Asteraceae	8960	*Hypochaeris microcephala var. albiflora*	*	White Flatweed			1
Plantae	Flora	Asteraceae	8788	*Hypochaeris radicata*	*	Catsear			7
Plantae	Flora	Asteraceae	11373	*Leucochrysum albicans subsp. albicans var. albicans*					1
Plantae	Flora	Asteraceae	1605	*Olearia nernstii*					1
Plantae	Flora	Asteraceae	8557	*Ozothamnus diosmifolius*		White Dogwood			1
Plantae	Flora	Asteraceae	6465	*Senecio madagascariensis*	*	Fireweed			6
Plantae	Flora	Asteraceae	8789	*Sigesbeckia orientalis subsp. orientalis*		Indian Weed			1

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Plantae	Flora	Asteraceae	1686	*Soliva anthemifolia*	*	Dwarf Jo-jo			1
Plantae	Flora	Asteraceae	7851	*Soliva sessilis*	*	Bindyi			5
Plantae	Flora	Asteraceae	1690	*Sonchus oleraceus*	*	Common Sowthistle			3
Plantae	Flora	Asteraceae	12815	*Sphagneticola trilobata*	*				1
Plantae	Flora	Asteraceae	1695	*Tagetes minuta*	*	Stinking Roger			2
Plantae	Flora	Asteraceae	1698	*Taraxacum officinale*	*	Dandelion			1
Plantae	Flora	Asteraceae	7433	*Vernonia cinerea*					1
Plantae	Flora	Basellaceae	1733	*Anredera cordifolia*	*	Madeira Vine			5
Plantae	Flora	Bignoniaceae	8688	*Jacaranda mimosifolia*	*	Jacaranda			2
Plantae	Flora	Bignoniaceae	1738	*Pandorea baileyana*		Large-leaved Wonga Vine			3
Plantae	Flora	Bignoniaceae	1739	*Pandorea jasminoides*		Bower Vine			1
Plantae	Flora	Bignoniaceae	1740	*Pandorea pandorana*		Wonga Wonga Vine			14
Plantae	Flora	Blechnaceae	8051	*Blechnum camfieldii*					6
Plantae	Flora	Blechnaceae	8052	*Blechnum cartilagineum*		Gristle Fern			5
Plantae	Flora	Blechnaceae	14900	*Blechnum neohollandicum*					4
Plantae	Flora	Blechnaceae	BLEC	*Blechnum spp.*					1
Plantae	Flora	Blechnaceae	14930	*Telmatoblechnum indicum*		Swamp Water Fern			16
Plantae	Flora	Brassicaceae	7746	*Cardamine paucijuga*					1
Plantae	Flora	Brassicaceae	1839	*Raphanus raphanistrum*	*	Wild Radish			1
Plantae	Flora	Brassicaceae	1855	*Sisymbrium orientale*	*	Indian Hedge Mustard			1
Plantae	Flora	Burseraceae	1865	*Canarium australasicum*					1
Plantae	Flora	Cactaceae	1871	*Hylocereus undatus*	*	Night-blooming Cactus			2
Plantae	Flora	Campanulaceae	14415	*Lobelia purpurascens*		whiteroot			7
Plantae	Flora	Caprifoliaceae	1952	*Lonicera japonica*	*	Japanese Honeysuckle			1
Plantae	Flora	Caryophyllaceae	10546	*Drymaria cordata subsp. cordata*	*				1
Plantae	Flora	Casuarinaceae	2012	*Allocasuarina littoralis*		Black She-Oak			2
Plantae	Flora	Casuarinaceae	2022	*Casuarina glauca*		Swamp Oak			2
Plantae	Flora	Celastraceae	6794	*Celastrus subspicata*		Large-leaved Staff Vine			3
Plantae	Flora	Celastraceae	14671	*Denhamia bilocularis*					1
Plantae	Flora	Celastraceae	8387	*Denhamia celastroides*		Denhamia			6
Plantae	Flora	Celastraceae	14673	*Denhamia disperma*		Orange Boxwood			1
Plantae	Flora	Celastraceae	7278	*Denhamia pittosporoides subsp. pittosporoides*		Veiny Denhamia			1
Plantae	Flora	Celastraceae	12523	*Elaeodendron australe var. australe*					2
Plantae	Flora	Celastraceae	7408	*Hippocratea barbata*		Knot Vine			1
Plantae	Flora	Celastraceae	6516	*Siphonodon australis*		Ivorywood			2

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Plantae	Flora	Colchicaceae	3533	*Burchardia umbellata*		Milkmaids			1
Plantae	Flora	Colchicaceae	3548	*Gloriosa superba*	*	Glory Lily			1
Plantae	Flora	Commelinaceae	2207	*Aneilema biflorum*					1
Plantae	Flora	Commelinaceae	2208	*Commelina benghalensis*	*				3
Plantae	Flora	Commelinaceae	2209	*Commelina cyanea*		Native Wandering Jew			12
Plantae	Flora	Commelinaceae	2210	*Dichorisandra thyrsiflora*	*	Blue Ginger			2
Plantae	Flora	Commelinaceae	10508	*Tradescantia fluminensis*	*	Wandering Jew			8
Plantae	Flora	Commelinaceae	8969	*Tradescantia zebrina*	*	Silvery Inch Plant			1
Plantae	Flora	Convolvulaceae	2222	*Dichondra repens*		Kidney Weed			2
Plantae	Flora	Convolvulaceae	2225	*Ipomoea cairica*	*				6
Plantae	Flora	Convolvulaceae	2227	*Ipomoea indica*	*	Morning Glory			2
Plantae	Flora	Convolvulaceae	2229	*Ipomoea purpurea*	*	Common Morning Glory			2
Plantae	Flora	Crassulaceae	8813	*Bryophyllum delagoense*	*	Mother of millions			4
Plantae	Flora	Crassulaceae	6827	*Bryophyllum pinnatum*	*	Resurrection Plant			1
Plantae	Flora	Cunoniaceae	2269	*Caldcluvia paniculosa*		Soft Corkwood			1
Plantae	Flora	Cunoniaceae	2270	*Callicoma serratifolia*		Black Wattle			5
Plantae	Flora	Cunoniaceae	2271	*Ceratopetalum apetalum*		Coachwood			1
Plantae	Flora	Cunoniaceae	10943	*^Davidsonia jerseyana*		Davidson's Plum	E1,2	E	23
Plantae	Flora	Cunoniaceae	10944	*Davidsonia johnsonii*		Smooth Davidson's Plum	E1	E	1
Plantae	Flora	Cunoniaceae	2273	*Geissois benthamiana*		Red Carabeen			1
Plantae	Flora	Cunoniaceae	2274	*Pseudoweinmannia lachnocarpa*		Rose Marara			4
Plantae	Flora	Cupressaceae	2278	*Callitris columellaris*					7
Plantae	Flora	Cyatheaceae	8074	*Cyathea australis*		Rough Treefern	P		3
Plantae	Flora	Cyatheaceae	8076	*Cyathea cooperi*		Straw Treefern	P		2
Plantae	Flora	Cyatheaceae	8079	*Cyathea leichhardtiana*		Prickly Treefern	P		2
Plantae	Flora	Cyperaceae	2296	*Baumea articulata*		Jointed Twig-rush			3
Plantae	Flora	Cyperaceae	2300	*Baumea muelleri*					2
Plantae	Flora	Cyperaceae	2310	*Carex appressa*		Tall Sedge			8
Plantae	Flora	Cyperaceae	2321	*Carex fascicularis*		Tassel Sedge			2
Plantae	Flora	Cyperaceae	2322	*Carex gaudichaudiana*					2
Plantae	Flora	Cyperaceae	8855	*Carex maculata*					7
Plantae	Flora	Cyperaceae	CARE	*Carex spp.*					5
Plantae	Flora	Cyperaceae	2343	*Caustis recurvata*			P		2
Plantae	Flora	Cyperaceae	9315	*Caustis recurvata var. recurvata*			P		2
Plantae	Flora	Cyperaceae	2353	*Cyperus brevifolius*	*				2
Plantae	Flora	Cyperaceae	7143	*Cyperus difformis*		Dirty Dora			1

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Plantae	Flora	Cyperaceae	2363	*Cyperus enervis*					2
Plantae	Flora	Cyperaceae	2366	*Cyperus exaltatus*					2
Plantae	Flora	Cyperaceae	2374	*Cyperus gracilis*		Slender Flat-sedge			1
Plantae	Flora	Cyperaceae	2383	*Cyperus lucidus*		Leafy Flat Sedge			8
Plantae	Flora	Cyperaceae	2387	*Cyperus pilosus*					3
Plantae	Flora	Cyperaceae	8483	*Cyperus polystachyos*					4
Plantae	Flora	Cyperaceae	12052	*Cyperus prolifer*	*				1
Plantae	Flora	Cyperaceae	2399	*Cyperus sphaeroideus*					1
Plantae	Flora	Cyperaceae	CYPE	*Cyperus spp.*					1
Plantae	Flora	Cyperaceae	2400	*Cyperus stradbrokensis*					4
Plantae	Flora	Cyperaceae	2403	*Cyperus tetraphyllus*					2
Plantae	Flora	Cyperaceae	2404	*Cyperus trinervis*					3
Plantae	Flora	Cyperaceae	2411	*Eleocharis cylindrostachys*					1
Plantae	Flora	Cyperaceae	9109	*Exocarya sclerioides*					1
Plantae	Flora	Cyperaceae	7435	*Fimbristylis dichotoma*		Common Fringe-sedge			2
Plantae	Flora	Cyperaceae	7328	*Fimbristylis ferruginea*					1
Plantae	Flora	Cyperaceae	2431	*Gahnia aspera*		Rough Saw-sedge			1
Plantae	Flora	Cyperaceae	2432	*Gahnia clarkei*		Tall Saw-sedge			21
Plantae	Flora	Cyperaceae	2442	*Gahnia sieberiana*		Red-fruit Saw-sedge	P		7
Plantae	Flora	Cyperaceae	8379	*Lepidosperma elatius*					1
Plantae	Flora	Cyperaceae	6402	*Lepidosperma laterale*		Variable Sword-sedge			1
Plantae	Flora	Cyperaceae	2483	*Rhynchospora corymbosa*					1
Plantae	Flora	Davalliaceae	10647	*Davallia solida var. pyxidata*		Hare's Foot Fern			3
Plantae	Flora	Davalliaceae	8088	*Nephrolepis cordifolia*		Fishbone Fern			10
Plantae	Flora	Dennstaedtiaceae	7271	*Histiopteris incisa*		Bat's Wing Fern			6
Plantae	Flora	Dennstaedtiaceae	7749	*Hypolepis muelleri*		Harsh Ground Fern			22
Plantae	Flora	Dennstaedtiaceae	6403	*Pteridium esculentum*		Bracken			19
Plantae	Flora	Dicksoniaceae	8341	*Calochlaena dubia*		Rainbow Fern			13
Plantae	Flora	Dilleniaceae	2532	*Hibbertia dentata*		Twining Guinea Flower			1
Plantae	Flora	Dilleniaceae	2548	*Hibbertia scandens*		Climbing Guinea Flower			24
Plantae	Flora	Dioscoreaceae	6446	*Dioscorea transversa*		Native Yam			5
Plantae	Flora	Droseraceae	2557	*Drosera binata*		Forked Sundew			1
Plantae	Flora	Droseraceae	2561	*Drosera spatulata*					1
Plantae	Flora	Dryopteridaceae	9113	*Lastreopsis marginans*		Bordered Shield Fern			2
Plantae	Flora	Ebenaceae	2564	*Diospyros mabacea*		Red-fruited Ebony	E1	E	5

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Plantae	Flora	Ebenaceae	2566	*Diospyros pentamera*		Myrtle Ebony			2
Plantae	Flora	Elaeocarpaceae	2569	*Elaeocarpus eumundi*		Eumundi Quandong			1
Plantae	Flora	Elaeocarpaceae	2572	*Elaeocarpus kirtonii*		Silver Quandong			1
Plantae	Flora	Elaeocarpaceae	2573	*Elaeocarpus obovatus*		Hard Quandong			15
Plantae	Flora	Elaeocarpaceae	2574	*Elaeocarpus reticulatus*		Blueberry Ash			16
Plantae	Flora	Elaeocarpaceae	2576	*Sloanea australis*		Maiden's Blush			5
Plantae	Flora	Ericaceae	2580	*Acrotriche aggregata*		Red Cluster Heath			10
Plantae	Flora	Ericaceae	2602	*Epacris obtusifolia*		Blunt-leaf Heath			1
Plantae	Flora	Ericaceae	2613	*Leucopogon biflorus*					1
Plantae	Flora	Ericaceae	2623	*Leucopogon juniperinus*		Prickly Beard-heath			1
Plantae	Flora	Ericaceae	6845	*Leucopogon lanceolatus var. gracilis*					2
Plantae	Flora	Ericaceae	2625	*Leucopogon leptospermoides*					2
Plantae	Flora	Ericaceae	2647	*Monotoca elliptica*		Tree Broom-heath			7
Plantae	Flora	Ericaceae	MONO	*Monotoca spp.*					2
Plantae	Flora	Ericaceae	2663	*Trochocarpa laurina*		Tree Heath			7
Plantae	Flora	Escalloniaceae	3221	*Anopterus macleayanus*		Queensland Laurel			1
Plantae	Flora	Escalloniaceae	3222	*Argophyllum nullumense*		Silver Leaf			2
Plantae	Flora	Escalloniaceae	3225	*Cuttsia viburnea*		Elderberry			2
Plantae	Flora	Escalloniaceae	3227	*Polyosma cunninghamii*		Featherwood			2
Plantae	Flora	Euphorbiaceae	2698	*Claoxylon australe*		Brittlewood			3
Plantae	Flora	Euphorbiaceae	2706	*Croton verreauxii*		Green Native Cascarilla			1
Plantae	Flora	Euphorbiaceae	7288	*Excoecaria agallocha*		Milky Mangrove			3
Plantae	Flora	Euphorbiaceae	11947	*Homalanthus populifolius*					7
Plantae	Flora	Euphorbiaceae	2732	*Macaranga tanarius*		Blush Macaranga			8
Plantae	Flora	Euphorbiaceae	2734	*Mallotus discolor*		White Kamala			2
Plantae	Flora	Euphorbiaceae	2735	*Mallotus philippensis*		Red Kamala			19
Plantae	Flora	Euphorbiaceae	2756	*Pseudanthus orientalis*					1
Plantae	Flora	Eupomatiaceae	2768	*Eupomatia laurina*		Bolwarra			3
Plantae	Flora	Fabaceae (Caesalpinioideae)	1881	*Caesalpinia subtropica*		Corky Prickly-vine			2
Plantae	Flora	Fabaceae (Caesalpinioideae)	8772	*Senna acclinis*		Rainforest Cassia	E1		1
Plantae	Flora	Fabaceae (Caesalpinioideae)	7377	*Senna pendula var. glabrata*	*				17

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Plantae	Flora	Fabaceae (Caesalpinioideae)	10505	*Senna septemtrionalis*	*	Arsenic Bush			3
Plantae	Flora	Fabaceae (Faboideae)	2771	*Aotus lanigera*					1
Plantae	Flora	Fabaceae (Faboideae)	10818	*Austrosteenisia blackii var. blackii*		Blood Vine			1
Plantae	Flora	Fabaceae (Faboideae)	6807	*Austrosteenisia glabristyla*		Giant Blood Vine			2
Plantae	Flora	Fabaceae (Faboideae)	10992	*Callerya megasperma*		Native Wistaria			2
Plantae	Flora	Fabaceae (Faboideae)	CROT	*Crotalaria spp.*					1
Plantae	Flora	Fabaceae (Faboideae)	2832	*Derris involuta*					4
Plantae	Flora	Fabaceae (Faboideae)	2833	*Desmodium acanthocladum*		Thorny Pea	V	V	10
Plantae	Flora	Fabaceae (Faboideae)	2834	*Desmodium brachypodum*		Large Tick-trefoil			1
Plantae	Flora	Fabaceae (Faboideae)	6621	*Desmodium gunnii*		Slender Tick-trefoil			1
Plantae	Flora	Fabaceae (Faboideae)	9280	*Desmodium intortum*	*	Green-leaved Desmodium			1
Plantae	Flora	Fabaceae (Faboideae)	2839	*Desmodium rhytidophyllum*					2
Plantae	Flora	Fabaceae (Faboideae)	8824	*Desmodium uncinatum*	*	Silver-leaved Desmodium			6
Plantae	Flora	Fabaceae (Faboideae)	2843	*Dillwynia floribunda*					2
Plantae	Flora	Fabaceae (Faboideae)	9357	*Erythrina crista-galli*	*	Cockspur Coral Tree			1
Plantae	Flora	Fabaceae (Faboideae)	8689	*Erythrina x sykesii*	*	Coral tree			2
Plantae	Flora	Fabaceae (Faboideae)	2860	*Glycine clandestina*		Twining glycine			2
Plantae	Flora	Fabaceae (Faboideae)	2873	*Hardenbergia violacea*		False Sarsaparilla			1

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Plantae	Flora	Fabaceae (Faboideae)	2874	*Hovea acutifolia*					1
Plantae	Flora	Fabaceae (Faboideae)	2878	*Hovea longipes*					1
Plantae	Flora	Fabaceae (Faboideae)	2882	*Indigofera australis*		Australian Indigo			1
Plantae	Flora	Fabaceae (Faboideae)	2898	*Kennedia rubicunda*		Dusky Coral Pea			1
Plantae	Flora	Fabaceae (Faboideae)	8690	*Lespedeza juncea subsp. sericea*					1
Plantae	Flora	Fabaceae (Faboideae)	6550	*Macroptilium atropurpureum*	*	Siratro			5
Plantae	Flora	Fabaceae (Faboideae)	2928	*Melilotus indicus*	*	Hexham Scent			1
Plantae	Flora	Fabaceae (Faboideae)	12041	*Mucuna gigantea subsp. gigantea*		Burny Bean			2
Plantae	Flora	Fabaceae (Faboideae)	2948	*Oxylobium arborescens*		Tall Shaggy Pea			2
Plantae	Flora	Fabaceae (Faboideae)	13038	*Pueraria lobata var. lobata*	*				2
Plantae	Flora	Fabaceae (Faboideae)	3085	*Trifolium repens*	*	White Clover			4
Plantae	Flora	Fabaceae (Faboideae)	11703	*Vicia sativa subsp. nigra*	*	Narrow-leaved Vetch			1
Plantae	Flora	Fabaceae (Mimosoideae)	3711	*Acacia bakeri*		Marblewood	V		45
Plantae	Flora	Fabaceae (Mimosoideae)	3745	*Acacia concurrens*		Curracabah			1
Plantae	Flora	Fabaceae (Mimosoideae)	3754	*Acacia cultriformis*		Knife-leaved Wattle			1
Plantae	Flora	Fabaceae (Mimosoideae)	10786	*Acacia disparrima subsp. disparrima*		Brush Ironbark Wattle			6
Plantae	Flora	Fabaceae (Mimosoideae)	10791	*Acacia longifolia subsp. sophorae*		Coastal Wattle			1
Plantae	Flora	Fabaceae (Mimosoideae)	3821	*Acacia maidenii*		Maiden's Wattle			1
Plantae	Flora	Fabaceae (Mimosoideae)	3824	*Acacia melanoxylon*		Blackwood			16

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Plantae	Flora	Fabaceae (Mimosoideae)	ACAC	*Acacia spp.*		Wattle			1
Plantae	Flora	Fabaceae (Mimosoideae)	3881	*Acacia suaveolens*		Sweet Wattle			2
Plantae	Flora	Fabaceae (Mimosoideae)	3893	*Acacia ulicifolia*		Prickly Moses			4
Plantae	Flora	Fabaceae (Mimosoideae)	7757	*Archidendron hendersonii*		White Lace Flower	V		12
Plantae	Flora	Fabaceae (Mimosoideae)	8324	*Archidendron muellerianum*		Veiny Lace Flower			17
Plantae	Flora	Fabaceae (Mimosoideae)	11603	*Inga edulis*	*	Ice cream bean			1
Plantae	Flora	Fabaceae (Mimosoideae)	8840	*Pararchidendron pruinosum var. pruinosum*		Snow Wood			1
Plantae	Flora	Flacourtiaceae	3108	*Casearia multinervosa*		Casearia			1
Plantae	Flora	Flacourtiaceae	3114	*Xylosma terrae-reginae*		Queensland Xylosma	E1		4
Plantae	Flora	Flagellariaceae	7106	*Flagellaria indica*		Whip Vine			4
Plantae	Flora	Gleicheniaceae	11175	*Sticherus flabellatus var. flabellatus*		Umbrella Fern	P		4
Plantae	Flora	Gleicheniaceae	7035	*Sticherus lobatus*		Spreading Shield Fern			1
Plantae	Flora	Goodeniaceae	7057	*Goodenia paniculata*					1
Plantae	Flora	Grammitidaceae	10518	*Grammitis billardierei*		Finger Fern			2
Plantae	Flora	Haloragaceae	3247	*Gonocarpus tetragynus*		Poverty Raspwort			1
Plantae	Flora	Haloragaceae	3259	*Myriophyllum aquaticum*	*	Parrots Feather			2
Plantae	Flora	Hydrocharitaceae	3269	*Elodea canadensis*	*	Elodea			1
Plantae	Flora	Juncaceae	3327	*Juncus effusus*	*				1
Plantae	Flora	Juncaceae	7430	*Juncus kraussii subsp. australiensis*		Sea Rush			1
Plantae	Flora	Juncaceae	3350	*Juncus usitatus*					1
Plantae	Flora	Lamiaceae	6240	*Callicarpa pedunculata*		Velvet Leaf			1
Plantae	Flora	Lamiaceae	6484	*Clerodendrum tomentosum*		Hairy Clerodendrum			3
Plantae	Flora	Lamiaceae	6247	*Gmelina leichhardtii*		White Beech			3
Plantae	Flora	Lamiaceae	9076	*Mentha x piperita*	*	Peppermint			1
Plantae	Flora	Lamiaceae	10230	*Plectranthus verticillatus*	*				1
Plantae	Flora	Lamiaceae	3452	*Teucrium corymbosum*		Forest Germander			2
Plantae	Flora	Lauraceae	3466	*Beilschmiedia obtusifolia*		Blush Walnut			1
Plantae	Flora	Lauraceae	7220	*Cassytha filiformis*					2
Plantae	Flora	Lauraceae	3467	*Cassytha glabella*					3

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Plantae	Flora	Lauraceae	3469	*Cassytha pubescens*		Downy Dodder-laurel			2
Plantae	Flora	Lauraceae	3471	*Cinnamomum camphora*	*	Camphor Laurel			47
Plantae	Flora	Lauraceae	3472	*Cinnamomum oliveri*		Oliver's Sassafras			3
Plantae	Flora	Lauraceae	3477	*Cryptocarya foetida*		Stinking Cryptocarya	V	V	6
Plantae	Flora	Lauraceae	3479	*Cryptocarya glaucescens*		Jackwood			4
Plantae	Flora	Lauraceae	3483	*Cryptocarya microneura*		Murrogun			2
Plantae	Flora	Lauraceae	3484	*Cryptocarya obovata*		Pepperberry			4
Plantae	Flora	Lauraceae	8390	*Cryptocarya triplinervis var. pubens*					4
Plantae	Flora	Lauraceae	9275	*Cryptocarya triplinervis var. triplinervis*					1
Plantae	Flora	Lauraceae	3489	*Endiandra discolor*		Rose Walnut			3
Plantae	Flora	Lauraceae	3490	*Endiandra globosa*		Black Walnut			33
Plantae	Flora	Lauraceae	3491	*Endiandra hayesii*		Rusty Rose Walnut	V	V	2
Plantae	Flora	Lauraceae	8480	*Endiandra muelleri subsp. bracteata*		Green-leaved Rose Walnut	E1		2
Plantae	Flora	Lauraceae	3495	*Endiandra sieberi*		Hard Corkwood			13
Plantae	Flora	Lauraceae	8675	*Litsea australis*		Brown Bolly Gum			9
Plantae	Flora	Lauraceae	3499	*Neolitsea dealbata*		Hairy-leaved Bolly Gum			4
Plantae	Flora	Lauraceae	9363	*Persea americana*	*	Avocado			1
Plantae	Flora	Lentibulariaceae	3508	*Utricularia lateriflora*		Small Bladderwort			1
Plantae	Flora	Lindsaeaceae	8126	^^*Lindsaea brachypoda*		Short-footed Screw Fern	E1,3		3
Plantae	Flora	Lindsaeaceae	6401	*Lindsaea microphylla*		Lacy Wedge Fern			1
Plantae	Flora	Lomandraceae	6297	*Lomandra confertifolia*		Matrush			1
Plantae	Flora	Lomandraceae	6302	*Lomandra filiformis*		Wattle Matt-rush			2
Plantae	Flora	Lomandraceae	8776	*Lomandra hystrix*					2
Plantae	Flora	Lomandraceae	6308	*Lomandra longifolia*		Spiny-headed Mat-rush			19
Plantae	Flora	Lomandraceae	LOMA	*Lomandra spp.*		Mat-rush			1
Plantae	Flora	Loranthaceae	3619	*Muellerina celastroides*					2
Plantae	Flora	Luzuriagaceae	6015	*Eustrephus latifolius*		Wombat Berry			2
Plantae	Flora	Luzuriagaceae	6016	*Geitonoplesium cymosum*		Scrambling Lily			15
Plantae	Flora	Lycopodiaceae	10641	*Lycopodiella cernua*		Scrambling Clubmoss			3
Plantae	Flora	Lythraceae	3622	*Cuphea carthagenensis*	*				7
Plantae	Flora	Malaceae	5618	*Eriobotrya japonica*	*	Loquat			4
Plantae	Flora	Malaceae	5631	*Rhaphiolepis indica*	*	Indian Hawthorn			4
Plantae	Flora	Malvaceae	8401	*Argyrodendron trifoliolatum*					2
Plantae	Flora	Malvaceae	6129	*Commersonia bartramia*		Brown Kurrajong			15
Plantae	Flora	Malvaceae	3647	*Hibiscus tiliaceus*		Cottonwood Hibiscus			2

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Plantae	Flora	Malvaceae	6143	*Lasiopetalum parviflorum*					1
Plantae	Flora	Malvaceae	3659	*Malvastrum coromandelianum*		Prickly Malvastrum			1
Plantae	Flora	Malvaceae	6780	*Sida cordifolia*					1
Plantae	Flora	Malvaceae	3673	*Sida rhombifolia*	*	Paddy's Lucerne			8
Plantae	Flora	Melastomataceae	3675	*Melastoma affine*		Blue Tongue			1
Plantae	Flora	Meliaceae	3676	*Dysoxylum fraserianum*		Rosewood			2
Plantae	Flora	Meliaceae	11079	*Dysoxylum mollissimum subsp. molle*		Red Bean			5
Plantae	Flora	Meliaceae	3679	*Dysoxylum rufum*		Hairy Rosewood			3
Plantae	Flora	Meliaceae	3680	*Melia azedarach*		White Cedar			2
Plantae	Flora	Meliaceae	11178	*Synoum glandulosum subsp. glandulosum*		Scentless Rosewood			7
Plantae	Flora	Meliaceae	8839	*Toona ciliata*		Red Cedar			5
Plantae	Flora	Menispermaceae	11933	*Echinostephia aculeata*					4
Plantae	Flora	Menispermaceae	3690	*Stephania japonica*		Snake vine			7
Plantae	Flora	Menispermaceae	8428	*Stephania japonica var. discolor*		Snake Vine			5
Plantae	Flora	Menispermaceae	3691	*Tinospora tinosporoides*		Arrow-head Vine	V		23
Plantae	Flora	Menyanthaceae	14804	*Liparophyllum exaltatum*					1
Plantae	Flora	Monimiaceae	13218	*Daphnandra apatela*					2
Plantae	Flora	Monimiaceae	13221	*Palmeria foremanii*					2
Plantae	Flora	Monimiaceae	3917	*Wilkiea austroqueenslandica*		Smooth Wilkiea			1
Plantae	Flora	Monimiaceae	3918	*Wilkiea huegeliana*		Veiny Wilkiea			11
Plantae	Flora	Moraceae	7479	*Ficus coronata*		Creek Sandpaper Fig			14
Plantae	Flora	Moraceae	3921	*Ficus fraseri*		Sandpaper Fig			7
Plantae	Flora	Moraceae	3922	*Ficus macrophylla*					1
Plantae	Flora	Moraceae	8446	*Ficus microcarpa*	*				1
Plantae	Flora	Moraceae	7301	*Ficus obliqua*		Small-leaved Fig			9
Plantae	Flora	Moraceae	3924	*Ficus rubiginosa*		Port Jackson Fig			1
Plantae	Flora	Moraceae	8407	*Ficus superba var. henneana*		Deciduous Fig			1
Plantae	Flora	Moraceae	8426	*Ficus virens var. sublanceolata*					1
Plantae	Flora	Moraceae	3927	*Ficus watkinsiana*		Strangling Fig			2
Plantae	Flora	Moraceae	3928	*Maclura cochinchinensis*		Cockspur Thorn			28
Plantae	Flora	Moraceae	3930	*Morus alba*	*	White Mulberry			1
Plantae	Flora	Moraceae	3931	*Streblus brunonianus*		Whalebone Tree			2

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Plantae	Flora	Moraceae	10416	*Trophis scandens*		Burny Vine			7
Plantae	Flora	Musaceae	11327	*Musa acuminata*	*	Edible banana			1
Plantae	Flora	Myoporaceae	7906	*Myoporum acuminatum*		Boobialla			2
Plantae	Flora	Myrtaceae	8977	*Acmena hemilampra subsp. hemilampra*		Broad-leaved Lilly Pilly			4
Plantae	Flora	Myrtaceae	6640	*Acmena ingens*		Red Apple			2
Plantae	Flora	Myrtaceae	3968	*Acmena smithii*		Lilly Pilly			16
Plantae	Flora	Myrtaceae	3976	*Archirhodomyrtus beckleri*		Rose Myrtle			1
Plantae	Flora	Myrtaceae	3979	*Austromyrtus dulcis*		Midgen Berry			11
Plantae	Flora	Myrtaceae	3984	*Backhousia myrtifolia*		Grey Myrtle			2
Plantae	Flora	Myrtaceae	9835	*Baeckea frutescens*					11
Plantae	Flora	Myrtaceae	4010	*Callistemon pachyphyllus*		Wallum Bottlebrush			2
Plantae	Flora	Myrtaceae	4015	*Callistemon salignus*		Willow Bottlebrush			16
Plantae	Flora	Myrtaceae	4019	*Callistemon viminalis*		Weeping Bottlebrush			1
Plantae	Flora	Myrtaceae	9601	*Corymbia intermedia*		Pink Bloodwood			7
Plantae	Flora	Myrtaceae	CRYM	*Corymbia spp.*					1
Plantae	Flora	Myrtaceae	7027	*Eucalyptus acmenoides*		White Mahogany			1
Plantae	Flora	Myrtaceae	4101	*Eucalyptus grandis*		Flooded Gum			10
Plantae	Flora	Myrtaceae	4128	*Eucalyptus microcorys*		Tallowwood			8
Plantae	Flora	Myrtaceae	4155	*Eucalyptus pilularis*		Blackbutt			7
Plantae	Flora	Myrtaceae	4170	*Eucalyptus resinifera*		Red Mahogany			1
Plantae	Flora	Myrtaceae	8694	*Eucalyptus resinifera subsp. hemilampra*					2
Plantae	Flora	Myrtaceae	4171	*Eucalyptus robusta*		Swamp Mahogany			18
Plantae	Flora	Myrtaceae	4177	*Eucalyptus saligna*		Sydney Blue Gum			1
Plantae	Flora	Myrtaceae	4180	*Eucalyptus siderophloia*		Grey Ironbark			1
Plantae	Flora	Myrtaceae	4183	*Eucalyptus signata*		Scribbly Gum			2
Plantae	Flora	Myrtaceae	4191	*Eucalyptus tereticornis*		Forest Red Gum			16
Plantae	Flora	Myrtaceae	14137	*Eucalyptus x kirtoniana*					1
Plantae	Flora	Myrtaceae	11438	*Eugenia uniflora*	*	Brazilian Cherry			3
Plantae	Flora	Myrtaceae	11397	*Gossia acmenoides*		Scrub Ironwood			2
Plantae	Flora	Myrtaceae	11894	*Gossia fragrantissima*		Sweet Myrtle	E1	E	18
Plantae	Flora	Myrtaceae	4224	*Leptospermum liversidgei*		Olive Tea-tree			4
Plantae	Flora	Myrtaceae	7245	*Leptospermum polygalifolium*		Tantoon			3
Plantae	Flora	Myrtaceae	8199	*Leptospermum polygalifolium subsp. cismontanum*					3

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Plantae	Flora	Myrtaceae	8197	*Leptospermum polygalifolium subsp. polygalifolium*					2
Plantae	Flora	Myrtaceae	8486	*Leptospermum trinervium*		Slender Tea-tree			10
Plantae	Flora	Myrtaceae	8600	*Leptospermum variabile*					1
Plantae	Flora	Myrtaceae	4242	*Lophostemon confertus*		Brush Box			10
Plantae	Flora	Myrtaceae	4243	*Lophostemon suaveolens*		Swamp Mahogany, Swamp Turpentine			9
Plantae	Flora	Myrtaceae	4258	*Melaleuca nodosa*					4
Plantae	Flora	Myrtaceae	4260	*Melaleuca quinquenervia*		Broad-leaved Paperbark			34
Plantae	Flora	Myrtaceae	6474	*Ochrosperma lineare*					1
Plantae	Flora	Myrtaceae	4277	*Pilidiostigma glabrum*					7
Plantae	Flora	Myrtaceae	10495	*Psidium cattleianum var. cattleianum*	*	Strawberry Guava			2
Plantae	Flora	Myrtaceae	4279	*Psidium guajava*	*	Common Guava			4
Plantae	Flora	Myrtaceae	PSID	*Psidium spp.*	*				2
Plantae	Flora	Myrtaceae	4282	*Rhodamnia maideniana*		Smooth Scrub Turpentine			8
Plantae	Flora	Myrtaceae	4283	*Rhodamnia rubescens*		Scrub Turpentine	E4A		10
Plantae	Flora	Myrtaceae	4284	*Rhodomyrtus psidioides*		Native Guava	E4A		5
Plantae	Flora	Myrtaceae	6778	*Syzygium australe*		Brush Cherry			2
Plantae	Flora	Myrtaceae	4287	*Syzygium crebrinerve*		Rose Satinash			1
Plantae	Flora	Myrtaceae	4289	*Syzygium francisii*		Giant Water Gum			3
Plantae	Flora	Myrtaceae	4290	*Syzygium hodgkinsoniae*		Red Lilly Pilly	V	V	11
Plantae	Flora	Myrtaceae	4291	*Syzygium luehmannii*		Small-leaved Lilly Pilly			7
Plantae	Flora	Myrtaceae	4292	*Syzygium moorei*		Durobby	V	V	56
Plantae	Flora	Myrtaceae	7201	*Syzygium oleosum*		Blue Lilly Pilly			6
Plantae	Flora	Myrtaceae	4298	*Uromyrtus australis*		Peach Myrtle	E1	E	2
Plantae	Flora	Myrtaceae	6799	*Waterhousea floribunda*		Weeping Lilly Pilly			6
Plantae	Flora	Nelumbonaceae	13302	*Nelumbo nucifera*	*				1
Plantae	Flora	Nymphaeaceae	10779	*Nymphaea caerulea subsp. zanzibarensis*	*	Cape Waterlily			1
Plantae	Flora	Ochnaceae	4306	*Ochna serrulata*	*	Mickey Mouse Plant			20
Plantae	Flora	Oleaceae	4311	*Jasminum volubile*					2
Plantae	Flora	Oleaceae	4312	*Ligustrum lucidum*	*	Large-leaved Privet			12
Plantae	Flora	Oleaceae	4313	*Ligustrum sinense*	*	Small-leaved Privet			25
Plantae	Flora	Oleaceae	4316	*Notelaea johnsonii*		Veinless Mock-olive			2
Plantae	Flora	Oleaceae	4318	*Notelaea longifolia*		Large Mock-olive			5

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Plantae	Flora	Onagraceae	7375	*Ludwigia peploides subsp. montevidensis*		Water Primrose			1
Plantae	Flora	Ophioglossaceae	8146	*Ophioglossum pendulum*					2
Plantae	Flora	Orchidaceae	9014	*Arthrochilus prolixus*			P		2
Plantae	Flora	Orchidaceae	7814	*Chiloglottis diphylla*			P		1
Plantae	Flora	Orchidaceae	6881	*Chiloglottis sylvestris*			P		1
Plantae	Flora	Orchidaceae	4414	*Cryptostylis erecta*		Tartan Tongue Orchid	P		6
Plantae	Flora	Orchidaceae	CRYT	*Cryptostylis spp.*			P		1
Plantae	Flora	Orchidaceae	4418	*Cymbidium madidum*			P		2
Plantae	Flora	Orchidaceae	4419	*Cymbidium suave*		Snake Orchid	P		3
Plantae	Flora	Orchidaceae	6945	*Dendrobium bowmanii*			P		1
Plantae	Flora	Orchidaceae	13968	*Diteilis simmondsii*			P		1
Plantae	Flora	Orchidaceae	7622	*Microtis parviflora*		Slender Onion Orchid	P		1
Plantae	Flora	Orchidaceae	4480	*^Phaius australis*		Southern Swamp Orchid	E1,P,2	E	1
Plantae	Flora	Orchidaceae	4483	*Plectorrhiza tridentata*		Tangle Orchid	P		1
Plantae	Flora	Orchidaceae	4539	*Pterostylis baptistii*		King Greenhood	P		1
Plantae	Flora	Orchidaceae	4545	*Pterostylis curta*		Blunt Greenhood	P		1
Plantae	Flora	Orchidaceae	4580	*Sarcochilus ceciliae*		Fairy Bells	P		2
Plantae	Flora	Orchidaceae	7110	*Taeniophyllum muelleri*			P		1
Plantae	Flora	Orchidaceae	4602	*Thelymitra pauciflora*		Slender Sun Orchid	P		1
Plantae	Flora	Orchidaceae	4605	*Zeuxine oblonga*			P		1
Plantae	Flora	Osmundaceae	8151	*Todea barbara*		King Fern	P		4
Plantae	Flora	Oxalidaceae	4612	*Oxalis chnoodes*					2
Plantae	Flora	Oxalidaceae	4615	*Oxalis exilis*					1
Plantae	Flora	Oxalidaceae	4618	*Oxalis latifolia*	*				2
Plantae	Flora	Oxalidaceae	4623	*Oxalis purpurea*	*				1
Plantae	Flora	Passifloraceae	4643	*Passiflora edulis*	*	Common Passionfruit			9
Plantae	Flora	Passifloraceae	8697	*Passiflora foetida var. hispida*	*	Stinking Passionflower			2
Plantae	Flora	Passifloraceae	PASS	*Passiflora spp.*					2
Plantae	Flora	Passifloraceae	4649	*Passiflora suberosa*	*	Cork Passionfruit			9
Plantae	Flora	Passifloraceae	4650	*Passiflora subpeltata*	*	White Passionflower			9
Plantae	Flora	Phormiaceae	3540	*Dianella caerulea*		Blue Flax-lily			10
Plantae	Flora	Phormiaceae	7337	*Dianella caerulea var. producta*					1
Plantae	Flora	Phormiaceae	7864	*Dianella congesta*					1
Plantae	Flora	Phormiaceae	DIAN	*Dianella spp.*					3
Plantae	Flora	Phyllanthaceae	12956	*Actephila grandifolia*					3

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Plantae	Flora	Phyllanthaceae	2675	*Actephila lindleyi*		Actephila			2
Plantae	Flora	Phyllanthaceae	2695	*Breynia oblongifolia*		Coffee Bush			11
Plantae	Flora	Phyllanthaceae	2696	*Bridelia exaltata*		Brush Ironbark			3
Plantae	Flora	Phyllanthaceae	7866	*Glochidion ferdinandi*		Cheese Tree			22
Plantae	Flora	Phyllanthaceae	8464	*Glochidion sumatranum*		Umbrella Cheese Tree			14
Plantae	Flora	Phyllanthaceae	9833	*Phyllanthus microcladus*		Brush Sauropus	E1		10
Plantae	Flora	Phytolaccaceae	4658	*Phytolacca octandra*	*	Inkweed			2
Plantae	Flora	Phytolaccaceae	4659	*Rivina humilis*	*	Coral Berry			5
Plantae	Flora	Pinaceae	11138	*Pinus elliottii*	*	Slash Pine			5
Plantae	Flora	Pittosporaceae	4678	*Hymenosporum flavum*		Native Frangipani			1
Plantae	Flora	Pittosporaceae	11203	*Pittosporum lancifolium*					1
Plantae	Flora	Pittosporaceae	11204	*Pittosporum multiflorum*		Orange Thorn			6
Plantae	Flora	Pittosporaceae	4683	*Pittosporum revolutum*		Rough Fruit Pittosporum			6
Plantae	Flora	Pittosporaceae	4685	*Pittosporum undulatum*		Sweet Pittosporum			25
Plantae	Flora	Plantaginaceae	4699	*Plantago lanceolata*	*	Lamb's Tongues			2
Plantae	Flora	Plantaginaceae	6009	*Veronica plebeia*		Trailing Speedwell			1
Plantae	Flora	Poaceae	4748	*Andropogon virginicus*	*	Whisky Grass			6
Plantae	Flora	Poaceae	4780	*Avena fatua*	*	Wild Oats			4
Plantae	Flora	Poaceae	4785	*Axonopus compressus*	*	Broad-leaved Carpet Grass			3
Plantae	Flora	Poaceae	11194	*Axonopus fissifolius*	*	Narrow-leafed Carpet Grass			5
Plantae	Flora	Poaceae	7559	*Bothriochloa decipiens var. decipiens*		Pitted Bluegrass			1
Plantae	Flora	Poaceae	14903	*Cenchrus clandestinus*	*	Kikuyu Grass			7
Plantae	Flora	Poaceae	4831	*Chloris gayana*	*	Rhodes Grass			4
Plantae	Flora	Poaceae	4833	*Chloris truncata*		Windmill Grass			2
Plantae	Flora	Poaceae	6655	*Chloris virgata*	*	Feathertop Rhodes Grass			1
Plantae	Flora	Poaceae	4841	*Cymbopogon refractus*		Barbed Wire Grass			2
Plantae	Flora	Poaceae	6540	*Cynodon dactylon*		Common Couch			5
Plantae	Flora	Poaceae	4904	*Digitaria didactyla*		Queensland Blue Couch			1
Plantae	Flora	Poaceae	4946	*Entolasia marginata*		Bordered Panic			1
Plantae	Flora	Poaceae	4947	*Entolasia stricta*		Wiry Panic			2
Plantae	Flora	Poaceae	4952	*Eragrostis curvula*	*	African Lovegrass			1
Plantae	Flora	Poaceae	4955	*Eragrostis elongata*		Clustered Lovegrass			1
Plantae	Flora	Poaceae	4974	*Eragrostis tenuifolia*	*	Elastic Grass			1
Plantae	Flora	Poaceae	5001	*Hemarthria uncinata*		Matgrass			1
Plantae	Flora	Poaceae	6803	*Imperata cylindrica*		Blady Grass			8
Plantae	Flora	Poaceae	6867	*Ischaemum australe*					1
Plantae	Flora	Poaceae	5018	*Ischaemum triticeum*					1

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records
Plantae	Flora	Poaceae	5024	*Leersia hexandra*		Swamp Ricegrass			5
Plantae	Flora	Poaceae	14001	*Megathyrsus maximus*	*				2
Plantae	Flora	Poaceae	7291	*Melinis minutiflora*	*	Molasses Grass			8
Plantae	Flora	Poaceae	5044	*Oplismenus aemulus*					6
Plantae	Flora	Poaceae	5045	*Oplismenus imbecillis*					5
Plantae	Flora	Poaceae	OPLI	*Oplismenus spp.*					2
Plantae	Flora	Poaceae	5046	*Oplismenus undulatifolius*					2
Plantae	Flora	Poaceae	5048	*Ottochloa gracillima*					7
Plantae	Flora	Poaceae	5056	*Panicum lachnophyllum*		Don't Panic			1
Plantae	Flora	Poaceae	5063	*Panicum pygmaeum*		Pygmy Panic			5
Plantae	Flora	Poaceae	5065	*Panicum repens*	*	Torpedo Grass			1
Plantae	Flora	Poaceae	5066	*Panicum simile*		Two-colour Panic			1
Plantae	Flora	Poaceae	7172	*Paspalidium distans*					5
Plantae	Flora	Poaceae	5085	*Paspalum conjugatum*	*	Johnston River Grass			2
Plantae	Flora	Poaceae	5086	*Paspalum dilatatum*	*	Paspalum			5
Plantae	Flora	Poaceae	12421	*Paspalum mandiocanum*	*	Broadleaf Paspalum			28
Plantae	Flora	Poaceae	5088	*Paspalum notatum*	*	Bahia Grass			3
Plantae	Flora	Poaceae	7806	*Paspalum scrobiculatum*	*	Scrobic			1
Plantae	Flora	Poaceae	5093	*Paspalum urvillei*	*	Vasey Grass			2
Plantae	Flora	Poaceae	5098	*Pennisetum purpureum*	*	Elephant Grass			1
Plantae	Flora	Poaceae	5113	*Phragmites australis*		Common Reed			1
Plantae	Flora	Poaceae	5165	*Setaria palmifolia*	*	Palm Grass			3
Plantae	Flora	Poaceae	5167	*Setaria sphacelata*	*	South African Pigeon Grass			10
Plantae	Flora	Poaceae	5172	*Sorghum halepense*	*	Johnson Grass			1
Plantae	Flora	Poaceae	5179	*Sporobolus creber*		Slender Rat's Tail Grass			2
Plantae	Flora	Poaceae	11172	*Sporobolus fertilis*	*	Giant Parramatta Grass			1
Plantae	Flora	Poaceae	9224	*Sporobolus virginicus var. minor*		Marine Couch			2
Plantae	Flora	Poaceae	7770	*Themeda triandra*					2
Plantae	Flora	Polygalaceae	5256	*Comesperma sphaerocarpum*					2
Plantae	Flora	Polygonaceae	5266	*Emex australis*	*	Spiny Emex			1
Plantae	Flora	Polygonaceae	5277	*Persicaria attenuata*					2
Plantae	Flora	Polygonaceae	5278	*Persicaria capitata*	*				1
Plantae	Flora	Polygonaceae	7568	*Persicaria decipiens*		Slender Knotweed			1
Plantae	Flora	Polygonaceae	5279	*Persicaria dichotoma*					8
Plantae	Flora	Polygonaceae	5281	*Persicaria hydropiper*		Water Pepper			3
Plantae	Flora	Polygonaceae	5286	*Persicaria strigosa*					8
Plantae	Flora	Polygonaceae	5296	*Rumex brownii*		Swamp Dock			4

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records
Plantae	Flora	Polygonaceae	5298	*Rumex crispus*	*	Curled Dock			3
Plantae	Flora	Polygonaceae	5302	*Rumex obtusifolius*	*	Broadleaf Dock			1
Plantae	Flora	Polypodiaceae	8156	^^*Drynaria rigidula*		Basket Fern	E1,3		2
Plantae	Flora	Polypodiaceae	9041	*Microsorum pustulatum*		Kangaroo Fern			1
Plantae	Flora	Polypodiaceae	8159	*Platycerium bifurcatum*		Elkhorn Fern	P		8
Plantae	Flora	Polypodiaceae	8161	*Platycerium superbum*		Staghorn	P		7
Plantae	Flora	Polypodiaceae	11148	*Pyrrosia confluens var. confluens*		Horseshoe Felt Fern			3
Plantae	Flora	Polypodiaceae	8163	*Pyrrosia rupestris*		Rock Felt Fern			6
Plantae	Flora	Primulaceae	7459	*Aegiceras corniculatum*		River Mangrove			3
Plantae	Flora	Primulaceae	10694	*Ardisia crenata*	*	Coralberry			9
Plantae	Flora	Primulaceae	3959	*Embelia australiana*					3
Plantae	Flora	Primulaceae	11948	*Myrsine howittiana*		Brush Muttonwood			12
Plantae	Flora	Primulaceae	12035	*Myrsine subsessilis subsp. subsessilis*					1
Plantae	Flora	Primulaceae	11953	*Myrsine variabilis*					13
Plantae	Flora	Proteaceae	5339	*Banksia aemula*		Wallum Banksia			5
Plantae	Flora	Proteaceae	11050	*Banksia ericifolia subsp. macrantha*					3
Plantae	Flora	Proteaceae	5343	*Banksia integrifolia*		Coast Banksia			1
Plantae	Flora	Proteaceae	6603	*Banksia integrifolia subsp. integrifolia*		Coastal Banksia			1
Plantae	Flora	Proteaceae	10817	*Banksia integrifolia subsp. monticola*					1
Plantae	Flora	Proteaceae	5345	*Banksia oblongifolia*		Fern-leaved Banksia			2
Plantae	Flora	Proteaceae	5348	*Banksia serrata*		Old-man Banksia			1
Plantae	Flora	Proteaceae	5354	*Floydia praealta*		Ball Nut	V	V	9
Plantae	Flora	Proteaceae	5372	*Grevillea hilliana*		White Yiel Yiel	E1		3
Plantae	Flora	Proteaceae	5396	*Grevillea robusta*		Silky Oak			3
Plantae	Flora	Proteaceae	5430	*Helicia ferruginea*		Rusty Helicia			1
Plantae	Flora	Proteaceae	5431	*Helicia glabriflora*		Smooth Helicia			4
Plantae	Flora	Proteaceae	5432	*Hicksbeachia pinnatifolia*		Red Boppel Nut	V	V	10
Plantae	Flora	Proteaceae	5446	*Macadamia tetraphylla*		Rough-shelled Bush Nut	V	V	40
Plantae	Flora	Proteaceae	5448	*Orites excelsus*		Prickly Ash			2
Plantae	Flora	Proteaceae	8769	*Persoonia adenantha*			P		1
Plantae	Flora	Proteaceae	8596	*Persoonia stradbrokensis*			P		1
Plantae	Flora	Proteaceae	5481	*Stenocarpus salignus*		Scrub Beefwood			2
Plantae	Flora	Proteaceae	5482	*Stenocarpus sinuatus*		Firewheel Tree			2

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records
Plantae	Flora	Proteaceae	5483	*Strangea linearis*					2
Plantae	Flora	Psilotaceae	8165	*Psilotum nudum*		Skeleton Fork-Fern			2
Plantae	Flora	Putranjivaceae	11864	*Drypetes deplanchei*		Yellow Tulipwood			3
Plantae	Flora	Ranunculaceae	5507	*Ranunculus inundatus*		River Buttercup			1
Plantae	Flora	Ranunculaceae	5511	*Ranunculus muricatus*	*	Sharp Buttercup			1
Plantae	Flora	Ranunculaceae	5524	*Ranunculus sceleratus*	*	Celery Buttercup			1
Plantae	Flora	Restionaceae	10609	*Baloskion pallens*					2
Plantae	Flora	Restionaceae	10612	*Baloskion tetraphyllum*					9
Plantae	Flora	Restionaceae	10614	*Baloskion tetraphyllum subsp. meiostachyum*		Plume Rush			4
Plantae	Flora	Restionaceae	5532	*Empodisma minus*					5
Plantae	Flora	Rhamnaceae	7686	*Alphitonia excelsa*		Red Ash			7
Plantae	Flora	Rhamnaceae	5553	*Alphitonia petriei*		White Ash			2
Plantae	Flora	Rhamnaceae	5565	*Emmenosperma alphitonioides*		Yellow Ash			1
Plantae	Flora	Rhamnaceae	5570	*Pomaderris argyrophylla*		Silver Pomaderris			1
Plantae	Flora	Ripogonaceae	6018	*Ripogonum album*		White Supplejack			6
Plantae	Flora	Ripogonaceae	6020	*Ripogonum elseyanum*		Hairy Supplejack			5
Plantae	Flora	Ripogonaceae	6021	*Ripogonum fawcettianum*		Small Supplejack			2
Plantae	Flora	Rosaceae	11955	*Potentilla indica*	*	Indian Strawberry			1
Plantae	Flora	Rosaceae	11587	*Rubus moluccanus*		Molucca Bramble			4
Plantae	Flora	Rosaceae	11236	*Rubus moluccanus var. trilobus*		Molucca Bramble			4
Plantae	Flora	Rosaceae	5642	*Rubus parvifolius*		Native Raspberry			1
Plantae	Flora	Rosaceae	5645	*Rubus rosifolius*		Rose-leaf Bramble			4
Plantae	Flora	Rosaceae	10813	*Rubus rosifolius var. rosifolius*					1
Plantae	Flora	Rubiaceae	12109	*Caelospermum paniculatum*					1
Plantae	Flora	Rubiaceae	11599	*Cyclophyllum longipetalum*		Coast Canthium			1
Plantae	Flora	Rubiaceae	14922	*Gynochthodes jasminoides*		Sweet Morinda			12
Plantae	Flora	Rubiaceae	5692	*Ixora beckleri*		Native Ixora			1
Plantae	Flora	Rubiaceae	5703	*Pomax umbellata*		Pomax			9
Plantae	Flora	Rubiaceae	5706	*Psychotria loniceroides*		Hairy Psychotria			2
Plantae	Flora	Rubiaceae	8297	*Randia moorei*		Spiny Gardenia	E1	E	6
Plantae	Flora	Rubiaceae	5711	*Richardia brasiliensis*	*	Mexican Clover			1
Plantae	Flora	Rutaceae	5720	*Acronychia baeuerlenii*		Byron Bay Acronychia			3
Plantae	Flora	Rutaceae	8418	*Acronychia imperforata*		Logan Apple			5
Plantae	Flora	Rutaceae	5722	*Acronychia oblongifolia*		White Aspen			1

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records
Plantae	Flora	Rutaceae	5726	*Acronychia wilcoxiana*		Silver Aspen			2
Plantae	Flora	Rutaceae	9017	*Bosistoa pentacocca var. pentacocca*		Ferny-leaved Bosistoa			2
Plantae	Flora	Rutaceae	5765	*Bosistoa transversa*		Yellow Satinheart	V	V	1
Plantae	Flora	Rutaceae	10759	*Citrus australasica*		Finger Lime			1
Plantae	Flora	Rutaceae	11689	*Citrus X aurantium*	*	Sour Orange			1
Plantae	Flora	Rutaceae	10758	*Citrus x taitensis*	*	Rough Lemon			3
Plantae	Flora	Rutaceae	5792	*Flindersia australis*		Crow's Ash			3
Plantae	Flora	Rutaceae	15043	*Flindersia bennettii*		Bennett's Ash			5
Plantae	Flora	Rutaceae	5796	*Flindersia schottiana*		Cudgerie			8
Plantae	Flora	Rutaceae	5801	*Geijera salicifolia*		Brush Wilga			1
Plantae	Flora	Rutaceae	5802	*Halfordia kendack*		Saffron Heart			1
Plantae	Flora	Rutaceae	8659	*Melicope elleryana*		Pink-flowered Doughwood			30
Plantae	Flora	Rutaceae	8625	*Melicope micrococca*		Hairy-leaved Doughwood			1
Plantae	Flora	Rutaceae	9042	*Murraya paniculata*	*				3
Plantae	Flora	Rutaceae	10742	*Nematolepis squamea subsp. squamea*		Satinwood			6
Plantae	Flora	Rutaceae	5808	*Pentaceras australe*		Bastard's Crow Ash			3
Plantae	Flora	Rutaceae	8374	*Phebalium squamulosum subsp. squamulosum*			P		1
Plantae	Flora	Rutaceae	8842	*Sarcomelicope simplicifolia subsp. simplicifolia*		Big Yellow Wood			2
Plantae	Flora	Rutaceae	5847	*Zieria smithii*		Sandfly Zieria			3
Plantae	Flora	Salviniaceae	8178	*Salvinia molesta*	*				1
Plantae	Flora	Santalaceae	5865	*Leptomeria acida*		Sour Currant Bush			1
Plantae	Flora	Santalaceae	5866	*Leptomeria drupacea*					1
Plantae	Flora	Sapindaceae	5875	*Alectryon subcinereus*		Wild Quince			1
Plantae	Flora	Sapindaceae	5878	*Arytera distylis*		Twin-leaved Coogera			8
Plantae	Flora	Sapindaceae	5884	*Cupaniopsis anacardioides*		Tuckeroo			28
Plantae	Flora	Sapindaceae	7384	*Cupaniopsis newmanii*					7
Plantae	Flora	Sapindaceae	5886	*Cupaniopsis parvifolia*		Small-leaved Tuckeroo			2
Plantae	Flora	Sapindaceae	7432	*Diploglottis australis*		Native Tamarind			6
Plantae	Flora	Sapindaceae	5889	*^Diploglottis campbellii*		Small-leaved Tamarind	E1,2	E	2
Plantae	Flora	Sapindaceae	5917	*Guioa semiglauca*		Guioa			26
Plantae	Flora	Sapindaceae	5918	*Harpullia alata*					1
Plantae	Flora	Sapindaceae	5919	*Harpullia hillii*					1
Plantae	Flora	Sapindaceae	12514	*Jagera pseudorhus var. pseudorhus*		Foambark Tree			29

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records
Plantae	Flora	Sapindaceae	8447	*Mischocarpus australis*					3
Plantae	Flora	Sapindaceae	5926	*Mischocarpus pyriformis*		Yellow Pear-fruit			10
Plantae	Flora	Sapindaceae	6452	*Sarcopteryx stipata*		Steelwood			9
Plantae	Flora	Sapindaceae	5930	*Toechima dasyrrhache*					3
Plantae	Flora	Sapotaceae	11957	*Niemeyera whitei*		Rusty Plum, Plum Boxwood	V		1
Plantae	Flora	Sapotaceae	5936	*Planchonella australis*		Black Apple			1
Plantae	Flora	Sapotaceae	5937	*Planchonella chartacea*		Thin-leaved Coondoo			1
Plantae	Flora	Sapotaceae	PLAN	*Planchonella spp.*					1
Plantae	Flora	Schizaeaceae	8179	*Lygodium microphyllum*		Climbing Snake Fern			8
Plantae	Flora	Schizaeaceae	8181	*Schizaea bifida*		Forked Comb Fern			2
Plantae	Flora	Selaginellaceae	8187	*Selaginella uliginosa*		Swamp Selaginella			2
Plantae	Flora	Simaroubaceae	6012	*Ailanthus altissima*	*	Tree of Heaven			1
Plantae	Flora	Simaroubaceae	11306	*Quassia sp. 'Mt Nardi'*					4
Plantae	Flora	Smilacaceae	7592	*Smilax australis*		Lawyer Vine			22
Plantae	Flora	Smilacaceae	6022	*Smilax glyciphylla*		Sweet Sarsparilla			8
Plantae	Flora	Solanaceae	6026	*Cestrum aurantiacum*	*	Orange Cestrum			2
Plantae	Flora	Solanaceae	7108	*Cestrum nocturnum*	*	Lady-of-the-night			5
Plantae	Flora	Solanaceae	6036	*Duboisia myoporoides*		Corkwood			1
Plantae	Flora	Solanaceae	7043	*Solanum americanum*		Glossy Nightshade			1
Plantae	Flora	Solanaceae	7325	*Solanum capsicoides*	*	Devil's Apple			8
Plantae	Flora	Solanaceae	12297	*Solanum chrysotrichum*	*	Devil`s Fig			1
Plantae	Flora	Solanaceae	6090	*Solanum mauritianum*	*	Wild Tobacco Bush			16
Plantae	Flora	Solanaceae	6091	*Solanum nigrum*	*	Black-berry Nightshade			8
Plantae	Flora	Solanaceae	6101	*Solanum pseudocapsicum*	*	Madeira Winter Cherry			2
Plantae	Flora	Solanaceae	6104	*Solanum seaforthianum*	*	Climbing Nightshade			2
Plantae	Flora	Solanaceae	6109	*Solanum stelligerum*		Devil's Needles			1
Plantae	Flora	Symplocaceae	6165	*Symplocos stawellii*		White Hazelwood			3
Plantae	Flora	Symplocaceae	6166	*Symplocos thwaitesii*		Buff Hazelwood			2
Plantae	Flora	Thelypteridaceae	14610	*Cyclosorus dentatus*		Binung			4
Plantae	Flora	Thymelaeaceae	6182	*Pimelea linifolia*		Slender Rice Flower			1
Plantae	Flora	Thymelaeaceae	6197	*Wikstroemia indica*					5
Plantae	Flora	Ulmaceae	6218	*Aphananthe philippinensis*		Rough-leaved Elm			2
Plantae	Flora	Ulmaceae	8436	*Celtis sinensis*	*	Japanese Hackberry			1
Plantae	Flora	Ulmaceae	6761	*Trema tomentosa var. aspera*		Native Peach			3
Plantae	Flora	Urticaceae	6230	*Elatostema stipitatum*					1
Plantae	Flora	Uvulariaceae	7346	*Tripladenia cunninghamii*					1
Plantae	Flora	Verbenaceae	6248	*Lantana camara*	*	Lantana			35
Plantae	Flora	Verbenaceae	6256	*Verbena bonariensis*	*	Purpletop			6

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records
Plantae	Flora	Verbenaceae	10718	*Verbena incompta*	*				1
Plantae	Flora	Violaceae	9769	*Hybanthus stellarioides*					1
Plantae	Flora	Violaceae	11863	*Viola banksii*					8
Plantae	Flora	Violaceae	6272	*Viola hederacea*		Ivy-leaved Violet			1
Plantae	Flora	Vitaceae	6281	*Cayratia clematidea*		Native Grape			4
Plantae	Flora	Vitaceae	6282	*Cissus antarctica*		Water Vine			9
Plantae	Flora	Vitaceae	6283	*Cissus hypoglauca*		Giant Water Vine			8
Plantae	Flora	Vittariaceae	8193	*Vittaria elongata*		Tape Fern			2
Plantae	Flora	Winteraceae	6290	*Tasmannia insipida*		Brush Pepperbush			1
Plantae	Flora	Xanthorrhoeaceae	8771	*Xanthorrhoea fulva*			P		4
Plantae	Flora	Xanthorrhoeaceae	6317	*Xanthorrhoea johnsonii*		Johnson's Grass Tree	P		1
Plantae	Flora	Xanthorrhoeaceae	6318	*Xanthorrhoea macronema*			P		2
Plantae	Flora	Xyridaceae	6323	*Xyris juncea*		Dwarf Yellow-eye			1
Plantae	Flora	Zingiberaceae	6913	*Alpinia arundelliana*		Native Ginger			1
Plantae	Flora	Zingiberaceae	6340	*Alpinia caerulea*		Native Ginger			3
Plantae	Flora	Zingiberaceae	6787	*Hedychium gardnerianum*	*	Ginger Lily			2
Animalia	Mammalia	Miniopteridae	1346	*Miniopterus australis*		Little Bent-winged Bat	V,P		37
Animalia	Mammalia	Miniopteridae	3330	*Miniopterus orianae oceanensis*		Large Bent-winged Bat	V,P		3

ATTACHMENT 4

BIODIVERSITY VALUES MAP AND THRESHOLD TOOL

Biodiversity Values Map and Threshold Tool

ATTACHMENT 5

BYRON DCP 2014: CHAPTER B1 BIODIVERSITY ASSESSMENT

BYRON DCP 2014: CHAPTER B1 BIODIVERSITY

Performance Requirements/ Prescriptive Measures	Comment
B1.2.1 Development Envelope Controls	
1. When defining the development envelope red flags and ecological setbacks set out in Table 3 of Chapter B1 must be retained on site (including any native vegetation therein).	Complies. The solar farm development footprint complies with the prescribed red-flag setbacks of Table 3 of DCP-B1 as discussed in the following compliance assessment table.
2. Unless adequate pre-existing biodiversity offset arrangements have been made under a Council-endorsed strategic planning process (e.g. a master plan) or a State or Federal government approval, clearing of native vegetation or other habitat not red flagged in Table 3 will generally not be supported unless all of the following apply: a. the area to be cleared is less than 5000 m²; b. the clearing does not result in a significant decrease in habitat connectivity; c. there are no other suitable locations on the site; d. an ecological setback of 20m is maintained; and e. adequate provision is made to compensate for any clearing ensuring no net loss to biodiversity.	a. Complies. The area of native vegetation is below 5000m² as the solar farm development footprint has been carefully located within an existing pasture. b. The proposal is considered to have insignificant impacts on habitat connectivity in as the solar farm development footprint has been previously cleared, is modified and managed for grazing purposes c. Although other suitable grazed/grassland locations occur on the site, the solar farm development footprint selected in the north of the land is considered optimal as it enables maximization of buffers to native vegetation communities located in the northeast, east and south d. Setbacks are discussed in the following table and are compliant with DCP-B1 Table 3. e. Although native vegetation clearing will be extremely minor and limited to sporadic native ground layer flora within the existing paddocks/pasture, a conceptual medium to long term rehabilitation strategy is presented in Figure 17 of the Flora and Fauna Assessment (Planit, 2020) to progressively rehabilitate and improve EEC and koala habitat within the larger land holding. Perimeter buffer planting to the solar farm development footprint is also proposed in accordance with the prepared statement of landscaping intent.
3. Where pre-existing offset arrangements or other biodiversity management measures secured under a Council-endorsed strategic planning process (e.g. a master plan) or a State or Federal government approval exists, such arrangements shall be: a. implemented to the extent to which they are relevant to the development application under consideration; and	Not applicable

Performance Requirements/ Prescriptive Measures	Comment
b. only varied because of specific impacts of the development, changed circumstances, or new information not previously considered.	
4. In the case of HEV vegetation on the coastal floodplain (as per Council's current flooding information) consideration shall be given to increasing the ecological setbacks required under Table 3 to allow for future landward migration of native vegetation affected by climate change induced increases in tidal inundation and rises in the water table	Complies. The solar farm development footprint setback to all vegetation communities containing significant native elements (including camphor laurel forest) has been increased to 50m
5. Despite DCP 2014 Chapter D6 Subdivision, development involving the subdivision of land where HEV vegetation exists, or is adjacent to that land, must; a. formally define development envelopes on each proposed lot to ensure future development of the subdivided lots avoid any relevant red flagged areas associated with ecological setbacks. b. with the exception of individual very large trees, stags or hollow-bearing trees, any proposed lot(s) with an area less than 1 hectare shall not include red flagged areas.	Not applicable. No subdivision proposed.
6. Minor variations to the red flagged areas identified in Table 3 may be considered to achieve practical outcomes. Some examples include: a. minor incursions into the ecological setbacks; b. ecological setbacks that necessarily overlap with access roads or other linear infrastructure (e.g. a narrow access road that does not require clearing with native vegetation on each side); c. isolated patches of native vegetation with an area of less than 1000m2; d. ecological setbacks arising from adjoining land not in the same ownership e. threatened or other significant fauna that are considered vagrant, highly nomadic, or are not closely associated with the habitat on site; f. areas subject to a controlled activity approval under the Water Management Act 2000. g. threatened or other significant flora that occur as seedlings or saplings outside of their natural habitat.	Complies. No variations to red flagged areas are proposed.

Performance Requirements/ Prescriptive Measures	Comment
7. Any minor variation referred to above must not: a. trigger a subsequent red flag in another area defined within Table 3, or b. conflict with any statutory consideration that requires the retention of that area	Not applicable.
8. A development application seeking a minor variation must: a. clearly demonstrate the variation sought; b. demonstrate that alternative layouts have been considered and that the impacts cannot be reasonably be avoided; c. show how the variation impact is consistent with the relevant planning principles and objectives of this DCP Chapter.	Not applicable.
9. Where a proposed development adjoins waterways or riparian areas Council may, where considered appropriate require bank stabilisation works, adequate arrangements for public access, measures to minimise pollution and sedimentation and or measures to reduce impacts of biting insects.	Not applicable.
10. Development setbacks required to manage potential bushfire risk shall not overlap with red flagged areas referred to in Table 3 or other retained native vegetation.	Not applicable.
11. A development setback required to manage potential bushfire risk may overlap with an ecological setback (Figure 4) and be managed as an environmental management buffer (Figure 4) where: a. The highest feasible Bushfire Attack Level (BAL) rating has been applied, and b. no more than 50% of the ecological setback is used for that purpose; and c. the overlap is managed within a vegetation management plan to maximise ecological values within the scope of the bushfire management requirements (i.e. maintaining a minimum of 30% native tree canopy cover and a fuel reduced understory).	Not applicable.
12. Any clearing entitlement under the NSW Rural Fire Service 10/50 Vegetation Clearing Code of Practice for NSW (or similar subsequent provision) shall be regarded as a development setback	Not applicable.

Performance Requirements/ Prescriptive Measures	Comment
13. Other acceptable solutions may be appropriate, however the application must demonstrate that: a. there is no net loss to biodiversity; and b. a clearly equivalent or superior long-term outcome can be assured; and c. the variation is consistent with all the relevant planning principles and objectives of this DCP Chapter.	Not applicable.
14. It is strongly advised that any proposal that involves variations to the measures within this DCP Chapter, or any proposed offsetting are discussed through Council's pre-lodgement consultation process prior to lodgement (See B1.3.3).	Not applicable.
15. If the development application is required to enter the Biodiversity Offset Scheme (BOS) under the Biodiversity Conservation Act 2016, the accompanying Biodiversity Development Assessment Report (BDAR) is to include assessment of all entities for serious and irreversible impacts on biodiversity values as defined under the Biodiversity Assessment Method (BAM). Additional entities for assessment may further be required by Council as per BAM (s10.2.1.5	Not applicable.
16. If the development application **is not** required to enter the Biodiversity Offset Scheme (BOS) under the Biodiversity Conservation Act 2016, any native vegetation, threatened or other significant fauna habitat cleared, damaged, or degraded as a result of development shall be offset or otherwise compensated for in accordance with contemporary best practice or adopted Council policy. Such areas are to be secured in perpetuity as protected habitat and managed under a vegetation or biodiversity conservation management plan (see B1.2.5).	Complies. No threatened or other significant fauna habitat cleared, damaged, or degraded as a result of the solar farm development. Although native vegetation clearing will be extremely minor and limited to sporadic native ground layer flora within the existing paddocks/pasture, a conceptual medium to long term rehabilitation strategy is presented in Figure 17 to progressively rehabilitate and improve EEC and koala habitat within the larger land holding. Perimeter buffer planting to the solar farm development footprint is also proposed in accordance with the prepared statement of landscaping intent.
17. Council may waive the requirement for offsetting where the proponent can demonstrate that they have voluntarily created equivalent habitat on the land (or adjoining land in the same ownership) which is subject to the development application. Such areas are to be secured in	Not applicable.

Performance Requirements/ Prescriptive Measures	Comment
perpetuity as protected habitat and managed under a vegetation or biodiversity conservation management plan (VMP or BCMP see B1.2.5).	
B1.2.2 DEVELOPMENT INFRASTRUCTURE AND OTHER CONTROLS	
ROADS 1. Roads and associated infrastructure are considered part of the development envelope and their location should be consistent with the provisions outlined (above) in Table 3	Complies. No new public roads are proposed although the existing entry driveway along its existing cleared alignment will be upgraded. This internal roadway is considered part of the solar farm development footprint is considered to not have a significant impact on any environmental values and maintains the required setbacks of DCP-B1 table 3
2. Wherever Council considers that on-going impacts to wildlife are likely to arise from new or upgraded roads, the proponent may be requested to carry out additional fauna surveys to determine the likely impacts on biodiversity values and explore fauna friendly road design such as; speed limits, traffic calming, signage, exclusion fencing and fauna crossing structures (under passes, overpasses etc.).	Not applicable. The entry roadway maintains the existing cleared driveway alignment between pastoral paddocks.
3. Where on-going impacts to wildlife are likely, the road design is to incorporate best practice fauna sensitive design features to facilitate unimpeded wildlife movement as well as minimising any other ongoing impacts on biodiversity values, paying particular attention to the requirements of any threatened fauna or other significant fauna. Such design features are to be monitored and maintained to minimise impacts on wildlife.	Not applicable. The entry roadway maintains the existing cleared driveway alignment between pastoral paddocks.
4. During road construction and upgrading, appropriate environmental safeguards are to be employed to minimise any biodiversity impacts.	Complies. During the upgrading of the internal roadway erosion and sediment control measures shall be implemented in accordance with: – Planit (2020) Engineering Assessment Section 5.4; and – Planit (2021) Byron Shire Council Dingo Lane Solar Farm Byron Bay, NSW Drawing Numbers 0100 Erosion and Sediment Control Plan and 0110 Erosion and Sediment Control Notes and Details
5. Fauna friendly road design structures shall be maintained by the proponent for a minimum period of five years after road dedication unless otherwise agreed by Council.	Not applicable.
6. Where a vegetation or biodiversity conservation management plan is required, any measures or related conditions of consent to mitigate road impacts on biodiversity shall be incorporated into the management plan and implemented accordingly	Not applicable.

Performance Requirements/ Prescriptive Measures	Comment
FENCING 7. Where wildlife are likely to move between areas of suitable habitat (e.g. rural residential development), fencing must be designed to permit the free movement of native fauna (unless designed to specifically exclude movement such as along roads).	Not applicable. Only the perimeter of the solar farm panel array will be fenced to exclude persons and animals. No other fencing is associated with the proposal.
8. Development design shall consider the potential impacts on biodiversity, paying particular attention to threatened fauna to ensure that fencing or other structures do not inadvertently direct native animals into danger.	Not applicable. Only the perimeter of the solar farm panel array will be fenced to exclude persons and animals. No other fencing is associated with the proposal.
9. Fauna exclusion fencing (or other measures) shall be used where there is a significant fauna mortality risk as a result of crossing from one area of suitable habitat to another (e.g. busy roads) or entering built up areas (e.g. urban development with dogs).	Not applicable. Only the perimeter of the solar farm panel array will be fenced to exclude persons and animals. No other fencing is associated with the proposal.
10. Any fauna exclusion fencing or other measures (including temporary structures to perform the same task) shall be constructed and operational prior to the physical commencement of works (including clearing vegetation, the use of heavy equipment for the purpose of breaking ground for bulk earthworks, or infrastructure for the proposed development).	Not applicable. Only the perimeter of the solar farm panel array will be fenced to exclude persons and animals. No other fencing is associated with the proposal.
11. Fencing design shall include suitable clearances to maintain functionality and allow for access for replacement and routine maintenance	Not applicable.
12. All exclusion fencing, fauna friendly fencing or other structures designed to protect fauna shall be monitored and maintained to minimise impacts on wildlife	Not applicable.
13. Where appropriate, fencing, barriers or other measures shall be used to limit or control human access (e.g. motor vehicles) to environmentally sensitive areas	Only the perimeter of the solar farm panel array will be fenced to exclude persons and animals. No other fencing is associated with the proposal.
14. Where a vegetation or biodiversity conservation management plan is required, any wildlife fencing measures or related conditions of consent shall be incorporated into the management plan and implemented accordingly.	Not applicable.
NOISE AND LIGHTING 15. Where Council considers that wildlife impacts are likely to arise from noise, the proponent may be requested to carry out additional fauna surveys to determine the likely impacts on biodiversity, paying particular attention to threatened fauna or other significant fauna and explore appropriate	Not applicable

Performance Requirements/ Prescriptive Measures	Comment
mitigation measures including, but not limited to, suitable buffers to environmentally sensitive areas, traffic speed restrictions, timing of noisy activities and/or installing appropriate noise barriers.	
16. Council will not support development where the impacts of noise on biodiversity values cannot be adequately mitigated.	Not applicable.
17. Where the development envelope contains or adjoins known bush stone curlew habitat or microbar colonies, street lighting must be of a type that does not attract insects.	Not applicable.
18. Sports field lighting (or similar high intensity outdoor lighting) shall be designed to avoid light spill into natural areas.	Not applicable.
19. Development adjacent to beaches must prevent light arising from development spilling onto beaches to avoid potential impacts on shorebird and turtle behaviour (e.g. nesting).	Not applicable.
20. Where a vegetation or biodiversity conservation management plan is required, any measures or related conditions of consent to mitigate noise and lighting shall be incorporated into the management plan and implemented accordingly.	Not applicable.
DOMESTIC ANIMALS 21. Council may prohibit the keeping of domestic animals where there is an unacceptable residual risk (i.e. a risk that cannot be adequately mitigated by other measures such as exclusion fencing) arising from the development to threatened or other significant species. In such cases Council will require: a. a restrictive covenant under Part 6 (Division 4) of the Conveyancing Act 1919 to ensure that the domestic animal(s) in question (e.g. dogs) are not kept or brought onto the allotment; and b. conditions of consent to prohibit domestic animals entering the site during construction.	Not applicable. No domestic animals will be introduced in association with the solar farm proposal.
22. The application of the above measure (21) does not apply to: a. "assistance animals" as defined under the Disability Discrimination Act 1992 or b. a "working dog" as defined under the Companion Animals Act 1998, in the case of non-urban zoned land.	Not applicable.

Performance Requirements/ Prescriptive Measures	Comment
23. Where permitted, all domestic animals are to be contained within the landholder's property and prevented from roaming in natural areas	Not applicable.
24. In larger scale developments involving subdivision, where domestic dogs are permitted, adequate provision should be made for exercising them off leash. Such areas shall be designed to prevent dogs from accessing natural areas	Not applicable.
25. Where a vegetation or biodiversity conservation management plan is required, any measures or related conditions of consent to manage domestic animals shall be incorporated into the management plan and implemented accordingly.	Not applicable.
PEST ANIMALS 26. Developments must be designed to minimise the likelihood of pest animal establishment/proliferation and where relevant, include measures to control pest animals	Complies. The use of existing grazing land to install the solar farm is unlikely to establish any new pest animals or increase the proliferation of any existing pest animals known to inhabit the locality.
27. Standing water bodies and constructed wetlands shall be designed to minimise their suitability for cane toads and other aquatic pest species (e.g. Mosquitofish (*Gambusia spp.)*). Such areas shall be regularly monitored and managed to contain and adequately control pest animal populations	Not applicable. No waterbodies or wetlands will be created in association with the solar farm development proposal. The existing drains/swales through the paddocks associated with the pastural use are proposed to be retained.
28. Where a vegetation or biodiversity conservation management plan is required, any measures or related conditions of consent to manage pest animals shall be incorporated into the management plan and implemented accordingly	Not applicable.
29. For developments involving subdivision a restrictive covenant under Part 6 (Division 4) of the *Conveyancing Act* 1919 shall be applied to prohibit the keeping of declared pest animals (foxes, rabbits etc.) and/or other pest animals considered to pose a significant risk to biodiversity relevant to the site	Not applicable. No subdivision is proposed.
PEST PLANTS 30. Developments must be designed to minimise the establishment/proliferation of pest plant species (weeds) declared under the *Biosecurity Act* 2015, and where present, include measures to control them.	Complies. Although weeds are abundant on the property, and dominate the area proposed for the solar farm development footprint, the proposal is unlikely to increase the establishment of new weed species or the abundance of existing weed coverage. A reduction in overall weed (particularly pasture species) will occur through the modification of the northern area of paddock.

Performance Requirements/ Prescriptive Measures	Comment
	Regardless a conceptual medium to long term rehabilitation strategy is presented in Figure 17 to progressively rehabilitate and improve EEC and koala habitat within the larger land holding. Perimeter buffer planting to the solar farm development footprint is also proposed in accordance with the prepared statement of landscaping intent which will utilize native species only.
31. All landscaping and landscape design shall be consistent with DCP 2014 Chapter B9 Landscaping.	Complies. A statement of landscaping intent has been prepared (refer Planit, 2020)
32. Where a vegetation or biodiversity conservation management plan is required, any measures or related conditions of consent to manage pest plants shall be incorporated into the management plan and implemented accordingly	Not applicable.
B1.2.3 KOALA HABITAT	
1. For development in areas identified in the Byron Coast Comprehensive Koala Plan of Management (CKPoM), the provisions of Part 2 within the CKPoM apply.	The site, which is greater than 1ha, is mapped within the Byron Coast Comprehensive Koala Plan of Management (CKPoM) as being located within: – The koala planning area (CKPoM Figure 1) – The South coast koala management area (CKPoM Figure 3) – Not within a koala management precinct (CKPoM Figure 6) The following additional particulars are relevant: – The land contains 'potential koala habitat' including vegetation mapped as Secondary (Class A) habitat on Figure 2 of the CKPoM. Field survey confirms the mapped area as VT4 (Closed Camphor Laurel Forest (Camphor 51-80%) with Emergent Eucalyptus spp)] which occurs on a small knoll in the NE of the site. Site survey of this community identifies that composition of this community does not meet the definition of either primary, secondary (A) or secondary (B) as defined within the CKPoM. However, there is no formal need to contest the mapping as the solar panel development footprint is located 50m from the western edge of the mapped secondary habitat. – No koala activity was recorded on the land as determined via survey which included: – 3 SAT surveys (zero scats recorded) [note: the number of SAT sites exceeded that required by the CKPoM 250m x 250m grid due to the limited extent of habitat on the land] – Spotlight surveys (no koalas recorded) – Amplified call playback (no responses recorded)

Performance Requirements/ Prescriptive Measures	Comment
	– The solar panel development footprint is located >50 metres from any preferred koala habitat trees as defined within the CKPoM – The solar panel development footprint is located >50 metres from any Koala Use Tree Species for the North Coast Koala Management Area (as defined within Appendix 1 of DCP2014-B1 and/or Schedule 2 of State Environmental Planning Policy (Koala Habitat Protection) 2021 [NSW]) – Core Koala Habitat Considerations: The land does not contain Core Koala Habitat per the CKPoM definition: "In this Plan potential koala habitat within a Koala Management Precinct is considered to meet the definition of core koala habitat" This is due to the land not being located within a koala management precinct and the results of the surveys performed "core koala habitat means an area of land with a resident population of koalas, evidenced by attributes such as breeding females (that is, females with young) and recent sightings of and historical records of a population." The development assessment flowchart (CKPoM Figure 10) indicates the pathway to be used when determining the requirements of this Plan and has been developed in accordance with SEPP44 [now 2021]. Development on land containing core koala habitat is required to meet the Development Standards in Section 12.3 which for many development types will be easily achieved. However, as the site does not contain core koala habitat the development standards of Section 12.3 of the CKPoM do not apply. An assessment of the proposal against the development standards of B1.2.3 Koala Habitat does remain applicable which is presented below. Regardless of the above, it is important to reiterate that the Solar Farm Development Footprint/Envelope has been carefully located to be >50 metres away from any preferred koala food trees or Koala Use Tree Species and as such impacts to koalas or koala habitats is considered unlikely.

Performance Requirements/ Prescriptive Measures	Comment
2. For development in areas outside of the identified areas within the CKPoM that have koala use trees (Appendix 1) and or koala habitat on or adjacent to their Lot, irrespective of the size of the Lot, the requirements of this DCP Chapter apply.	The site contains defined koala use trees and potential koala habitat as identified within the Flora and Fauna Assessment report although no koala activity was recorded. The solar panel development footprint has been carefully located to be >50 metres from any Koala Use Tree and as such the proposal is considered unlikely to have an impact on koalas or koala habitat.
3. The following mitigation measures are required to be addressed within any development application that has the potential to impact koalas and or koala habitat irrespective of Lot size.	
a. Habitat buffer i. The entire development envelope must illustrate the required ecological setback as outlined in Table 3 to koala use trees (Appendix 1) and koala habitat.	Complies. No koala use trees or koala habitat occurs within 50m of the Solar Farm development footprint
b. Disturbance i. Establishment of tree protections zones around retained koala use tree species as per the Australian Standards (AS 4970-2009 Protection of trees on development sites) before any construction or clearing commences and preclusion of any development activities within the tree protection zones until after all construction is completed.	Will comply in accordance with the prepared erosion and sediment control plan which will establish silt fencing at the outer extent of the works. It must be noted that the solar farm footprint is located >50m from any koala use tree species and also separated from such trees by existing drainage channels created within the pastoral holdings.
ii. Any clearing of land not to commence until the proposed clearing area has been inspected for koala presence and written approval has been obtained from a suitably qualified person.	Will comply prior to clearing. No impact expected.
iii. Clearing of native vegetation and or earthworks as part of any development must be temporarily suspended within a range of 25m from any tree that is occupied by a koala and must not resume until the koala has moved from the tree of its own volition	Will comply prior to clearing. No impact expected.
iv. Clearing in accordance with (ii) may only proceed for the day on which the inspection has been undertaken and where the suitably qualified person remains on site.	Will comply prior to clearing. No impact expected.
v. Where (i)-(iv) do not apply, sites where koalas are within a 2.5km range of koala habitat are to be protected from disturbance through appropriate exclusion fencing from urban areas and roads. Such fencing should still allow for koalas to readily disperse through habitat and linkages within the landscape.	Not applicable.

Performance Requirements/ Prescriptive Measures	Comment
c. Dog attack i. The keeping of dogs is prohibited on the title of land for any new lots arising from a subdivision of land, where that land is adjacent to or forms part of koala habitat, wildlife corridors or refugia. ii. A restriction on the movement of dogs; including the use of dog and koala proof fencing that effectively contains dogs and excludes koalas, with the provision of koala furniture that allows koalas to escape yards should they gain entry. iii. Dog exclusion from koala habitat areas, and only allowed off leash in areas determined as to not contain linkages to koala habitat, wildlife corridors or refugia. iv. Signage and education as appropriate regarding koala conservation and habitat where dog exclusion applies. v. Exemption from (i)-(iii) may only apply to dogs who are assistance animals as defined under the Companion Animals Act 1998.	Not applicable. No subdivision is proposed and Solar Farm use will not introduce domestic dogs into the site.
d. Vehicle Strike i. Traffic speed limit (40km) and calming measures where appropriate. ii. Consideration of fauna appropriate lighting where applicable given koalas are mostly active at night, for example 'down lighting' within 30m of koala habitat. iii. Use of koala proof fencing that includes the provision of escape mechanisms. iv. Inclusion of land bridges and or underpasses where appropriate in combination with koala proof fencing.	Not applicable. No new roadways are proposed and no nocturnal vehicle movements will be introduced in association with the Solar Farm proposal.
e. Swimming Pools i. Incorporation of features and koala furniture that allows koalas to escape pools and the fenced area; such as a shallow ramp or thick taut rope (minimum 50mm diameter) that is secured to a poolside fixture and trails in the pool at all times. ii. Use of pool fencing that effectively excludes koalas. iii. No structures near pool fences that allow koalas to gain access over fencing.	Not applicable. The Solar Farm proposal will not introduce pools into the site.
f. Bushfire i. Bushfire asset protection zones required for development shall not include koala habitat. ii. The development and implementation of a bushfire management plan that specifically addresses risks to koala habitat where appropriate.	Complies. No bushfire asset protection zones are proposed within or proximate to koala habitat.

Performance Requirements/ Prescriptive Measures	Comment
g. Impediments to movement i. Infrastructure or development must be designed in such a way that is reliably known to not impede the natural movements of koalas between koala use trees and or koala habitat and or wildlife corridors and or natural water sources. ii. Infrastructure or development must be designed in such a way that facilitates koala movement by incorporating the retention of koala use trees and where it is safe to do so, planting koala use trees (Appendix 1) to provide safe passage and refugia. iii. Infrastructure or development must retain existing koala habitat, wildlife corridors and refugia while minimising any adverse impacts from such infrastructure or development. In some instances this may mean the use of koala exclusion fencing in order to protect koala habitat or wildlife corridors from impacts.	Complies. All potential koala use trees and koala habitat will be retained with a minimum 50m buffer provided to the Solar Farm development footprint.
4. All koala use tree species (Appendix 1) planted or otherwise, are to be retained	Complies.
5. All koala use tree species (Appendix 1) that have been planted with public monies are to be retained and protected in perpetuity regardless of land tenure.	Not applicable.
6. All koala habitat and individual koala use trees (Appendix 1) are to be illustrated on all site plans by stadia metric survey and include: location, area size (where applicable), plant community type (where applicable), species name, height and DBH.	Complies. The vegetation map provides the location of vegetation types which contain koala use trees. As no koala use trees occur within 50m of the Solar Farm footprint a survey of individual trees is not required.
7. All plantings of koala use trees (Appendix 1) as a result of consent conditions under the *Environmental Planning and Assessment Act* 1979 are to be protected in perpetuity by an effective legal restriction on the title of land.	The adoption of the conceptual site rehabilitation strategy (refer Figure 17 of the Flora and Fauna Assessment) will be considered by Byron Shire Council via the conditions of consent. As the land is currently within council ownership a title restriction is unnecessary in this instance.
8. All restoration of koala habitat as a result of consent conditions under the *Environmental Planning and Assessment Act* 1979 shall be protected in perpetuity by an effective legal restriction on the title of land.	The adoption of the conceptual site rehabilitation strategy (refer Figure 17 of the Flora and Fauna Assessment) will be considered by Byron Shire Council via the conditions of consent. As the land is currently within council ownership a title restriction is unnecessary in this instance.

Performance Requirements/ Prescriptive Measures	Comment
B1.2.4 ECOLOGICAL ASSESSMENT	
1. For development where the proposed development envelope does not overlap with red flagged areas or associated ecological setbacks in Table 3 and a vegetation or biodiversity conservation management plan is not required: a. A site plan and current aerial photo (at a scale of 1:200 or better) showing the extent of any red flagged areas and ecological setbacks as defined in Table 3 in relation to the proposed development envelope. b. A signed statement from a qualified ecologist stating that the proposed development envelope does not impinge on any *red flagged* areas or ecological setbacks in Table 3, or require a vegetation or biodiversity management plan. c. A signed statement from a qualified ecologist stating that the Biodiversity Offset Scheme (BOS) does not apply to the development including: i. Information to support the conclusion that the proposal does not exceed the BOS threshold; and ii. A response to the five-part test of significance set out under s7.3(1) of the BC Act. d. Details of any site visits, ecological surveys (including historical) or previous vegetation/restoration activities conducted on the site.	Complies. The proposed solar farm development footprint/envelope is displayed on the Concept Plan which includes the 50m setbacks from existing native vegetation boundaries which exceed the requirements of Table 3. However, an ecological assessment report was commissioned by the proponent (Byron Shire Council) which is presented in the attached report.
2.For development where the proposed development envelope does overlap with redflagged areas or associated ecological setbacks in Table 3, or a vegetation or biodiversity conservation management plan is required: a.A signed statement from a qualified ecologist stating that the Biodiversity OffsetScheme (BOS) does not apply to the development including: i.Information to support the conclusion that the proposal does not exceed the BOS threshold; and ii.A response to the five part test of significance set out under s7.3(1) of the BC Act. b.An ecological assessment (Appendix 2) or management plan (where applicable)prepared in accordance with the requirements of B1.2.5 Vegetation Management Plans and Biodiversity Conservation Management Plans.	Complies. The attached Terrestrial Flora and Fauna Assessment (Planit, 2020) contains the required information including the five part tests of significance.
3.For development where the proposed also triggers entry into the Biodiversity Offset Scheme (BOS): a. A Biodiversity and Development Assessment Report (BDAR) prepared ina ccordance with the Biodiversity Assessment Method (BAM) under the BC Act.	Not applicable

Performance Requirements/ Prescriptive Measures	Comment
b. Consistent with the BAM (s10.2.1.5) the BDAR shall include an assessment of any additional candidate entities as required by Council. c. A vegetation or biodiversity conservation management plan (where applicable) prepared in accordance with the requirements of B1.2.5 Vegetation Management Plans and Biodiversity Conservation Management Plans.	
B1.2.5 Vegetation Management Plans & Biodiversity Conservation Management Plans	
1. A Vegetation Management Plan (VMP) is required for any proposal: a. that will impact High Environmental Value (HEV) vegetation and/or a *red flagged* area, or requires management of an environmental management buffer within an ecological setback (Table 3); and/or b. that has such a requirement under any other DCP Chapter (e.g. DCP Chapters D2, D3 and D6).	Not applicable. The solar farm development footprint has been carefully designed and located to avoid HEV, red flagged areas and ensure the prescribed setbacks of Table 3 are achievable. However, it is considered likely and reasonable, that council would impose upon the conditions of consent preparation of a Vegetation Management Plan to govern the future management of the native vegetation communities which will be retained elsewhere on the landholding.
2. A Biodiversity Conservation Management Plan (BCMP) is required for any development that triggers the requirement of a VMP and also either: a. impacts a threatened fauna species known to occur on site (e.g. koala habitat); and or b. includes the subdivision of land (determined on a case by case basis).	Not applicable.
3. The requirement of a BCMP overrides the necessity of a VMP as both contain similar information and management actions. However, a BCMP generally has increased management actions over a longer period of time (See Table 4) and requires more detailed information.	Not applicable.

COMPLIANCE WITH TABLE 3 ECOLOGICAL SETBACKS FOR RED-FLAGGED AREAS		
DCP RED FLAG AREA	**DCP PRESCRIBED SETBACK (M)**	**COMMENT**
HEV VEGETATION		
Threatened Ecological Communities (includes Critically Endangered, Endangered or Vulnerable listed under State or Commonwealth legislation)	30	Complies. The solar farm development footprint is located >50m from the closest threatened ecological community which is VT5 (Closed *Melaleuca quinquenervia* Swamp Forest) which is reflective of Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions
Over-cleared vegetation types (A vegetation type of which more than 70% has been cleared in the Catchment Management Area).	20	Complies. No over-cleared vegetation types occur within 20m of the Solar Farm development footprint
Over-cleared landscapes (A Mitchell landscape in which more than 70% native vegetation cover has been cleared. NSW is divided into 580 relatively homogeneous landscape units in terms of geomorphology, soils and broad vegetation types mapped at a scale of 1: 250000 (Mitchell 2002, 2003), which are colloquially termed "Mitchell Landscapes" after their author).	20	Complies. Although the entire landholding is mapped as being within an over-cleared landscape the Solar Farm development footprint has been carefully located to avoid native vegetation communities with a minimum buffer of 50 metres provided. Mitchell Landscape v3.1 Overcleared Landscape Status: Ecosystem Meso Grouping: SEQ Clarence Basin Landscape Code: Btp Landscape Name: Byron - Tweed Alluvial Plains Over Cleared Status: Over-cleared Estimate Fraction Cleared: 0.81
Old growth (old-growth forests are ecologically mature forests, often diverse in structure and species with relatively large old trees, some of which may contain tree hollows).	30	Complies. No old growth forests are present within 30m of the solar farm development footprint
Important wetlands (Wetlands protected under NSW State or Commonwealth legislation or policy. Includes wetlands mapped under the NSW State Environmental Planning Policy (SEPP) Coastal Management 2018, previously SEPP 14 Wetlands).	50	Complies. No important wetlands are present within 30m of the solar farm development footprint

COMPLIANCE WITH TABLE 3 ECOLOGICAL SETBACKS FOR RED-FLAGGED AREAS		
DCP RED FLAG AREA	**DCP PRESCRIBED SETBACK (M)**	**COMMENT**
Other wetlands (Any other wetland other than an Important wetland. Wetland has the same meaning as defined within NSW Wetland Policy: • Wetlands are areas of land that are wet by surface water or groundwater, or both, for long enough periods that the plants and animals in them are adapted to, and depend upon moist conditions for at least part of their lifecycle. They include areas that are inundated cyclically, intermittently or permanently with fresh, brackish, or saline water, which is generally still or slow moving except in distributary channels such as tidal creeks which may have higher peak flows. • Examples of wetlands include; mangroves, backwaters, sedgelands, wet heathlands, lakes, lagoons, estuaries, rivers, floodplains, swamps, bogs, billabongs, marshes, coral reefs and seagrass beds).	20	Complies. The solar farm development footprint is located >50m from VT5 (Closed *Melaleuca quinquenervia* Swamp Forest) which is considered to meet the definition of 'other wetland'
Other bushland on a slope >18 degrees	20	Complies. The solar farm development footprint includes neither bushland or slopes >18 degrees.
Pre-existing protected habitat (Areas of existing habitat (or other land) provided with formal long-term protection designed to limit further development. Protected habitat can be established by various mechanisms including but not limited to; restrictive covenants, rezoning, voluntary planning agreements, formal conservation agreements, biodiversity stewardship agreements, or in some cases dedication to Council or other public authority. The mechanism(s) to establish protected habitat must be conditioned or otherwise approved by Council).	20m or as above, whichever is larger	Not applicable
WILDLIFE CORRIDORS		
Land within a defined wildlife corridor (Refers to linear areas that link wildlife habitat and provide a crucial role in maintaining connectivity between plant and animal populations that would otherwise be at greater risk of extinction. Such corridors are critical	20	Complies. No defined wildlife corridors occur within 20m of the Solar Farm development footprint

COMPLIANCE WITH TABLE 3 ECOLOGICAL SETBACKS FOR RED-FLAGGED AREAS		
DCP RED FLAG AREA	**DCP PRESCRIBED SETBACK (M)**	**COMMENT**
for the maintenance of ecological processes, enabling migration, colonisation and interbreeding of plants and animals).		
THREATENED AND SIGNIFICANT SPECIES		
Areas with a species polygon for threatened fauna or other significant fauna that are known or predicted to occur at the site. (Threatened fauna or flora is any species listed as critically endangered, endangered or vulnerable under NSW State or Commonwealth legislation).	20	Complies. No threatened fauna species habitat occurs within 20m of the Solar Farm development footprint
Areas with a species polygon for threatened flora or other significant flora that are known or predicted to occur at the site. (A species polygon is an area of land enclosing the known or predicted habitat of targeted flora or fauna. In most cases known records will be used for flora and predicted habitat will be used for fauna).	10	Complies. The nearest threatened flora species to the Solar Farm Development footprint is a stem of Rhodamnia rubescens within the Dingo Lane Road reserve which is located >50m from the development footprint
KOALA HABITAT		
Koala habitat outside of areas defined within a Comprehensive Koala Plan of Management.	20	Complies. VT4 (Closed Camphor Laurel Forest (Camphor 51-80%) with Emergent Eucalyptus spp)] is mapped as Secondary Habitat (Class A) although no koala activity was recorded in this habitat during fauna survey. The solar farm development footprint is setback a minimum of 50m from this vegetation/potential habitat.
Isolated or scattered koala use trees with evidence of koala activity	20	n/a - Koala resources do not occur within or proximate to the solar farm development footprint. No evidence of Koala activity was confirmed at the site during fauna survey.
Any other areas where koalas are present and/or koala habitat is planted with public monies	20	Not applicable

COMPLIANCE WITH TABLE 3 ECOLOGICAL SETBACKS FOR RED-FLAGGED AREAS		
DCP RED FLAG AREA	**DCP PRESCRIBED SETBACK (M)**	**COMMENT**
WATERWAYS AND RIPARIAN AREAS (FROM THE TOP OF THE BANK)		
Stream order First order stream	10	Not applicable. The only waterbodies proximate to the Solar Farm development footprint are the drainage channels/swales constructed through the paddocks servicing the pastoral use.
Second order stream	20	Not applicable
Third order stream	30	Not applicable
Fourth order stream	40	Not applicable
Estuarine area (Any part of a river, lake, lagoon or coastal creek whose level is periodically or intermittently affected by coastal tides, up to the highest astronomical tide).	50	Not applicable
FLYING FOX CAMPS		
Year round or intermittent	100	Not applicable
OTHER HABITAT FEATURES		
Very large native trees (Local native trees that have a trunk diameter of greater than or equal to 0.8 metres at 1.4 metres above the natural ground level. Local native trees are trees that existed in the Byron Shire before European settlement).	10	Complies. No very large native trees are present within 10m of the solar farm development footprint
Stags and hollow-bearing trees	10	Complies. No stags or HBTs are present within 10m of the solar farm development footprint
Raptor nests	50	Not applicable

PLANIT CONSULTING

ATTACHMENT6

SUPPORTING PLANS [EROSION AND SEDIMENT CONTROL, LANDSCAPING INTENT]

100mm AT ORIGINAL SIZE

BYRON SHIRE COUNCIL
DINGO LANE SOLAR FARM
BYRON BAY, NSW

DRAWING REGISTER		
DRAWING NUMBER	TITLE	DRAWING REVISION
0001	COVER SHEET AND DRAWING REGISTER	A
0020	GENERAL ARRANGMENT PLAN	A
0100	EROSION AND SEDIMENT CONTROL PLAN	A
0110	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS	A
0301	MYOCUM ROAD & DINGO LANE INTERSECTION	A
0310	SITE ACCESS ARRANGEMENT	A

LOCALITY PLAN
NOT TO SCALE

SOURCE: NEARMAP

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	PRELIMINARY ISSUE	28.08.20	RD	BT	JT	JT

SCALES: NTS

DO NOT SCALE FROM DRAWING

DRAWN BY:
DESIGN BY:
APPROVED BY:
DATE:

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PLANIT CONSULTING
SUITE 9A, 80-84 BALLINA STREET
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TELEPHONE: 02 6687 4666
ABN: 20 099 261 711
EMAIL: administration@planitconsulting.com.au

CLIENT: BYRON SHIRE COUNCIL

LOCAL GOVERNMENT AUTHORITY: BYRON SHIRE COUNCIL

PROJECT: DINGO LANE SOLAR FARM

DRAWING TITLE: COVER SHEET AND DRAWING REGISTER

ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J6558	0001	A

CAD FILE: T:\J6558 - DINGO LANE SOLAR FARM BSC\7 - DRAFTING\0001 COVER SHEET AND DRAWING REGISTER.DWG PLOTTED BY: RUSSELL.DEVALTER PLOT DATE: 28/08/2020 12:53:49 PM

100mm AT ORIGINAL SIZE

N

DINGO LANE

REFER INSET 'A'

50m SETBACK FROM EXISTING VEGETATION

50m SETBACK FROM EXISTING VEGETATION

RELOCATE EXISTING TELSTRA SERVICE

EXISTING ACCESS ROAD RETAINED. PASSING BAYS TO BE PROVIDED.

EXISTING Ø450 RCP

EXISTING Ø375 RCP

EXISTING SWALE CONVEYING EXTERNAL CATCHMENT

EXISTING Ø600 RCP

SOLAR INVERTER AND STORAGE AREA POSITIONED ABOVE Q100 FLOOD LEVEL

PLAN
SCALE 1:2,000

LEGEND

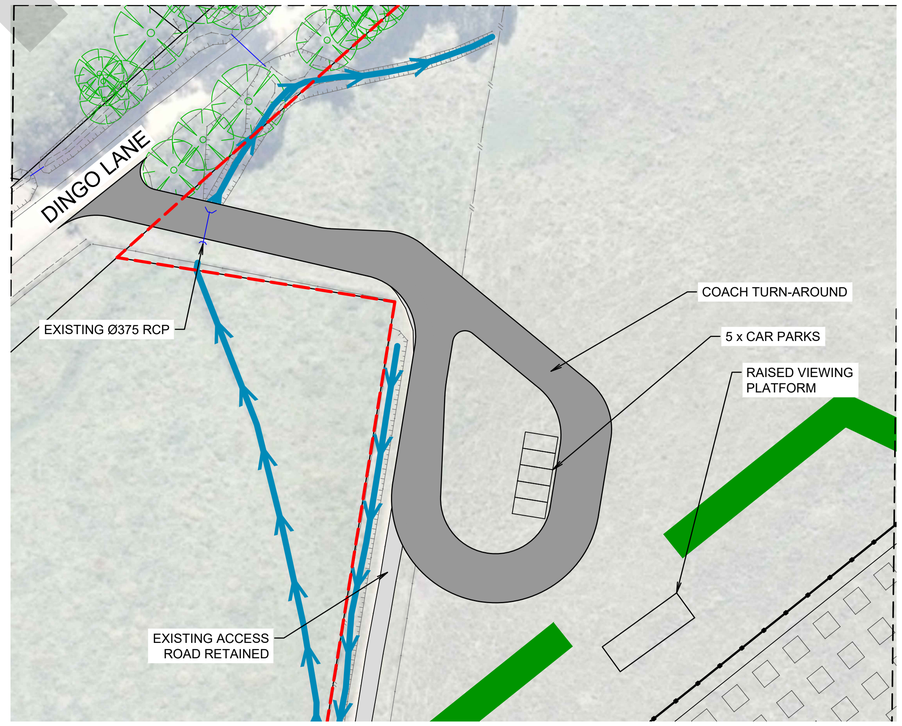
- SITE BOUNDARY
- PROPERTY BOUNDARY
- EXISTING SWALE
- DESIGN DRAIN
- OVERLAND FLOW PATH
- EXISTING ROAD
- SOLAR ARRAY AREA (11ha)
- ROAD
- SECURITY FENCE
- LANDSCAPE SCREENING
- EXISTING TELSTRA SERVCE
- TELSTRA SERVICE DIVERSION

NOTES:

SOLAR ARRAY AREA ASSUMPTIONS:

- 5m SPACING BETWEEN PANEL ROWS
- SURFACE TO BE NAVIGABLE BY LIGHT VEHICLE FOR MAINTENANCE

THIS PLAN SHOULD BE READ IN CONJUNCTION WITH PLANIT'S ENGINEERING ASSESMENT (J6558- DINGO_LN-EA01) AND PLANIT'S TRAFFIC IMPACT STATEMENT (J6558-DINGO_LN-TIS01)



INSET 'A'
SCALE 1:500

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	PRELIMINARY ISSUE	28.08.20	RD	BT	JT	JT

SCALES:

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Full Size 1:2000 ; Half Size 1:4000
Scale (m)

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Full Size 1:500 ; Half Size 1:1000
Scale (m)

DO NOT SCALE FROM DRAWING

DRAWN BY:
DESIGN BY:
APPROVED BY:
DATE:
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CLIENT: BYRON SHIRE COUNCIL

LOCAL GOVERNMENT AUTHORITY: BYRON SHIRE COUNCIL

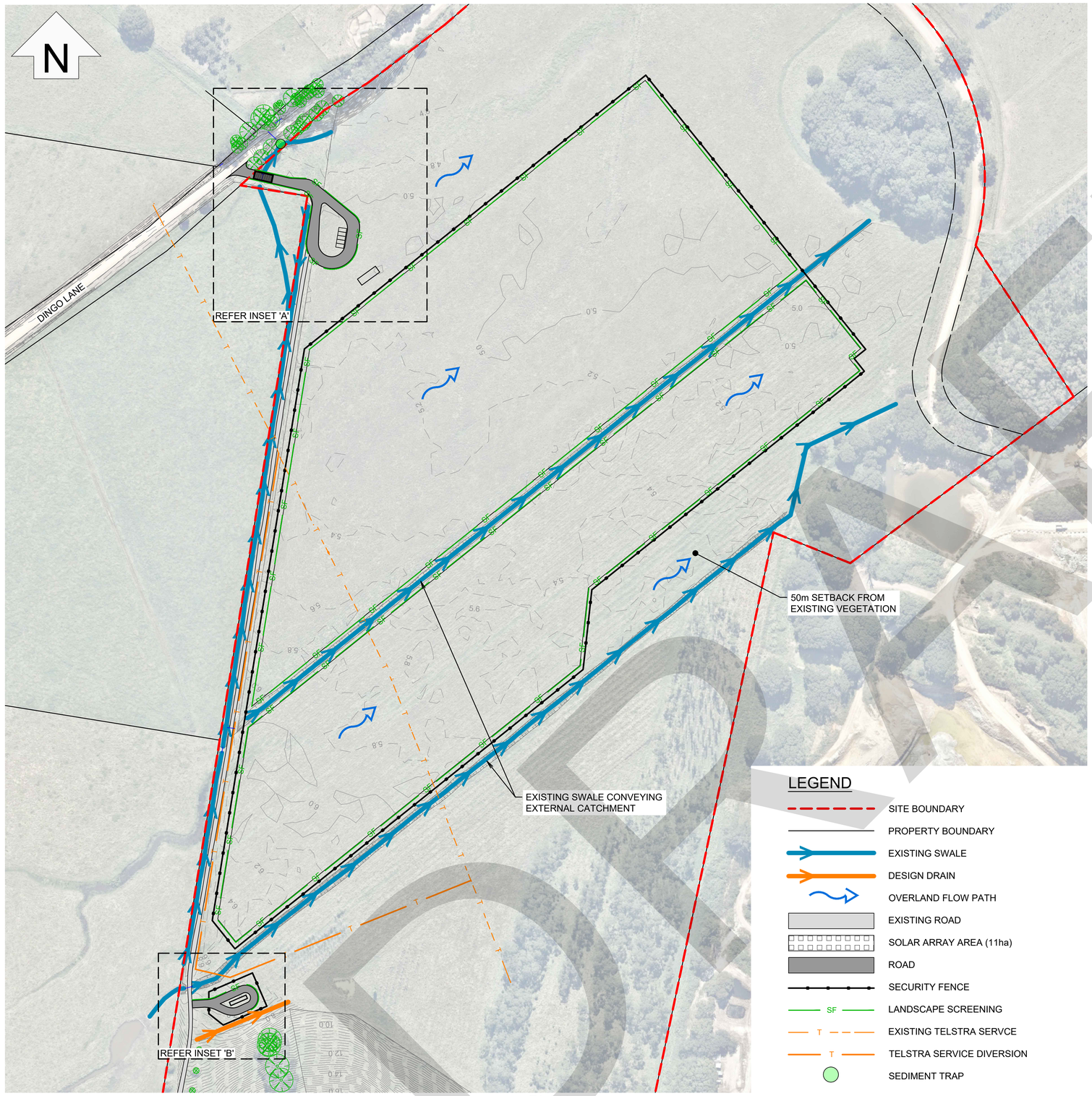
PROJECT: DINGO LANE SOLAR FARM

DRAWING TITLE: GENERAL ARRANGMENT PLAN

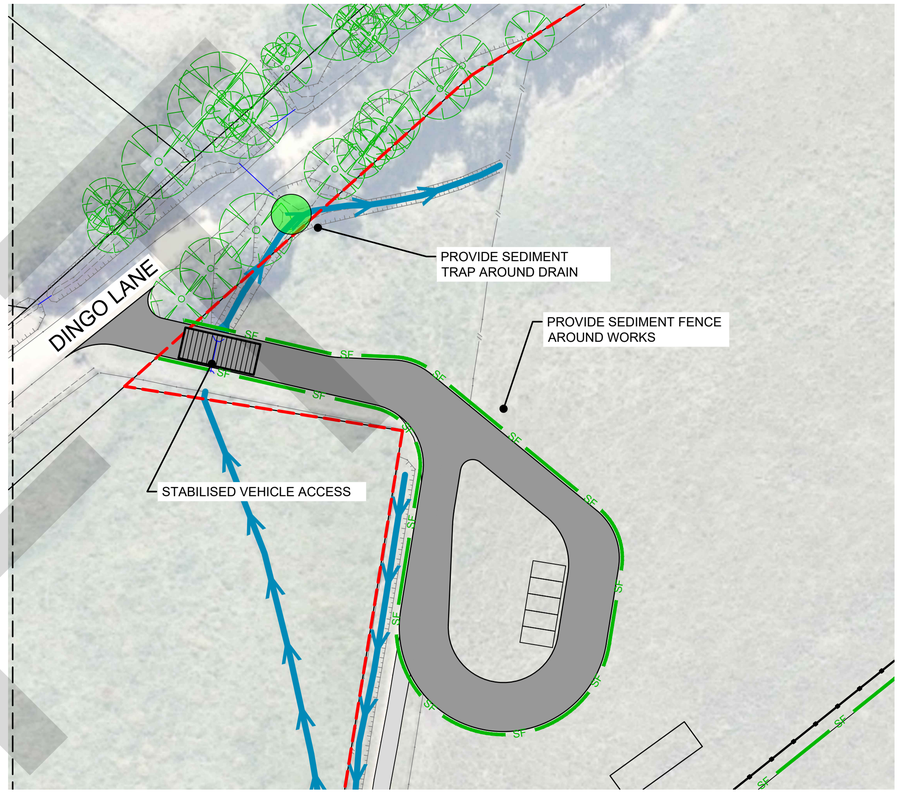
ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J6558	0020	A

CAD FILE: T:\J6558 - DINGO LANE SOLAR FARM BSC\7 - DRAFTING\0020 GENERAL ARRANGMENT PLAN.DWG PLOTTED BY: RUSSELL.DEVALTER PLOT DATE: 28/08/2020 12:54:07 PM

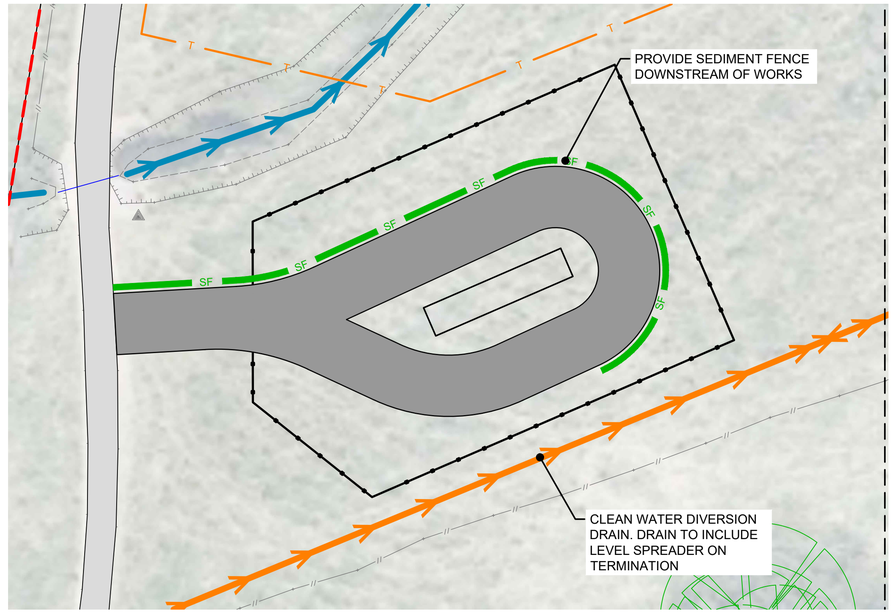
100mm AT ORIGINAL SIZE



PLAN
SCALE 1:2,000



INSET 'A'
SCALE 1:500



INSET 'B'
SCALE 1:250

LEGEND

- SITE BOUNDARY
- PROPERTY BOUNDARY
- EXISTING SWALE
- DESIGN DRAIN
- OVERLAND FLOW PATH
- EXISTING ROAD
- SOLAR ARRAY AREA (11ha)
- ROAD
- SECURITY FENCE
- SF — LANDSCAPE SCREENING
- T — EXISTING TELSTRA SERVCE
- T — TELSTRA SERVICE DIVERSION
- SEDIMENT TRAP

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	PRELIMINARY ISSUE	28.08.20	RD	BT	JT	JT

SCALES:
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Full Size 1:2000 ; Half Size 1:4000
Scale (m)
0 5 10 20 30
Full Size 1:500 ; Half Size 1:1000
Scale (m)
0 2 4 8 12
Full Size 1:200 ; Half Size 1:400
Scale (m)
DO NOT SCALE FROM DRAWING

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DESIGN BY:
APPROVED BY:
DATE:
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PLANIT CONSULTING
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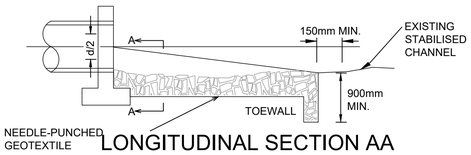
ABN: 20 099 261 711
EMAIL: administration@planitconsulting.com.au

CLIENT: BYRON SHIRE COUNCIL
LOCAL GOVERNMENT AUTHORITY: BYRON SHIRE COUNCIL

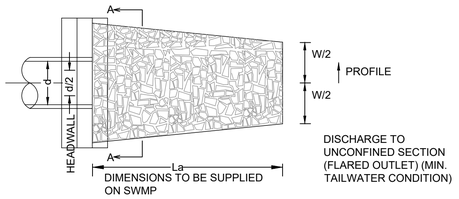
PROJECT: DINGO LANE SOLAR FARM
DRAWING TITLE: EROSION AND SEDIMENT CONTROL PLAN

ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J6558	0100	A

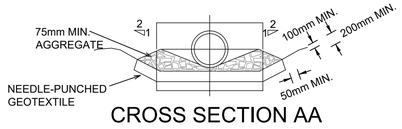
CAD FILE: T:\J6558 - DINGO LANE SOLAR FARM BSC\7 - DRAFTING\0100 EROSION AND SEDIMENT CONTROL PLAN.DWG PLOTTED BY: RUSSELL.DEVALTER PLOT DATE: 28/08/2020 12:54:22 PM



LONGITUDINAL SECTION AA



PLAN VIEW



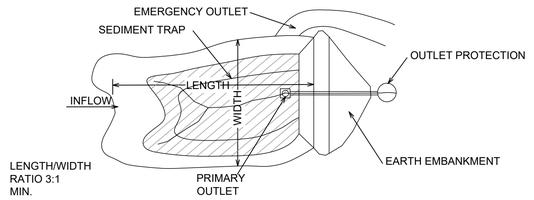
CROSS SECTION AA

ENERGY DISSIPATER

NOT TO SCALE

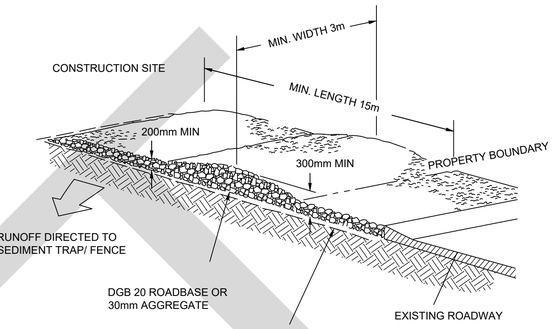
CONSTRUCTION NOTES

1. COMPACT THE SUBGRADE FILL TO THE DENSITY OF THE SURROUNDING UNDISTURBED MATERIAL.
2. PREPARE A SMOOTH, EVEN FOUNDATION FOR THE STRUCTURE THAT WILL ENSURE THAT THE NEEDLE-PUNCHED GEOTEXTILE DOES NOT SUSTAIN SERIOUS DAMAGE WHEN COVERED WITH ROCK.
3. SHOULD ANY MINOR DAMAGE TO THE GEOTEXTILE OCCUR, REPAIR IT BEFORE SPREADING ANY AGGREGATE. FOR REPAIRS, PATCH ONE PIECE OF FABRIC OVER THE DAMAGE, MAKING SURE THAT ALL JOINTS AND PATCHES OVERLAP MORE THAN 300mm.
4. LAY ROCK FOLLOWING THE DRAWING, ACCORDING TO TABLE 5.2 OF LANDCOM (2004) AND WITH MIN. DIAMETER OF 75mm.
5. ENSURE THAT ANY CONCRETE OR RIPRAP USED FOR THE ENERGY DISSIPATER OR THE OUTLET PROTECTION CONFORMS TO THE GRADING LIMITS SPECIFIED ON THE SWMP.



PLAN VIEW OF TYPICAL SEDIMENT BASIN

NOT TO SCALE

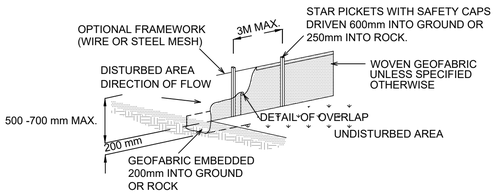


CONSTRUCTION NOTES

1. STRIP TOPSOIL AND LEVEL SITE.
2. COMPACT SUBGRADE.
3. COVER AREA WITH NEEDLE PUNCHED GEOTEXTILE.
4. CONSTRUCT 200mm THICK PAD OVER GEOTEXTILE USING ROADBASE OR 30mm AGGREGATE. MININUM LENGTH 15m OR BUILDING ALIGNMENT. MINIMUM WIDTH 3m.
5. CONSTRUCT HUMP IMMEDIATELY WITHIN BOUNDARY TO DIVERT WATER TO A SEDIMENT FENCE/TRAP.

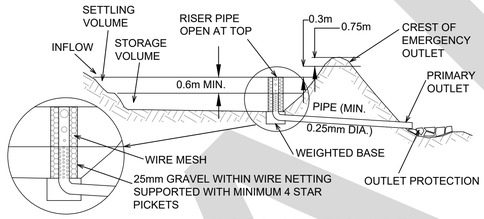
STABILISED SITE ACCESS

NOT TO SCALE



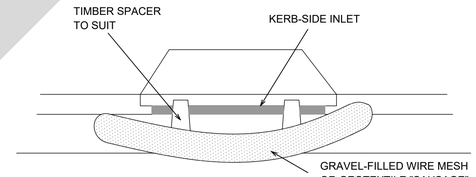
SEDIMENT FENCE

NOT TO SCALE



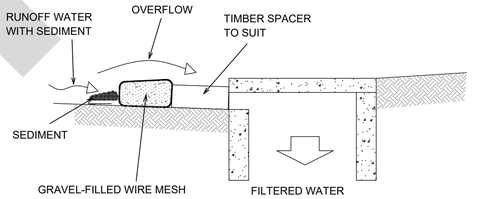
CROSS SECTION OF TYPICAL SEDIMENT BASIN

NOT TO SCALE



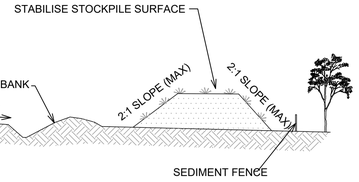
CONSTRUCTION NOTES

1. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT.
2. FILL THE SLEEVE WITH 25mm TO 50mm GRAVEL.
3. FROM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
4. PLACE THE FILTER AT THE OPENING OF THE KERB INLET OR FIELD INLET LEAVING A 100mm GAP AT THE TOP TO ACT AS AN EMERGENCY SPILLWAY.
5. MAINTAIN THE OPENING WITH SPACER BLOCKS.
6. FORM A SEAL WITH THE KERBING AND PREVENT SEDIMENT BYPASSING THE FILTER.
7. FIT TO ALL KERB INLETS AND FIELD INLET PITS AT SAG POINTS.



FILTER BAG TO SAG SIDE ENTRY PIT

NOT TO SCALE

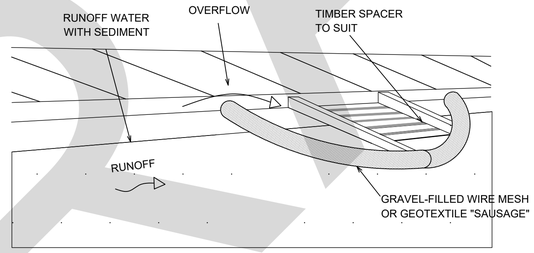


TOPSOIL STOCKPILE

NOT TO SCALE

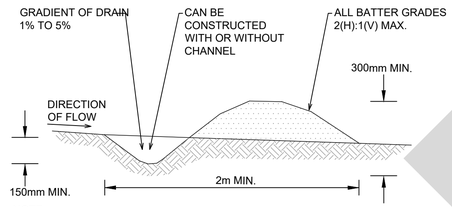
CONSTRUCTION NOTES

1. WHERE POSSIBLE LOCATE STOCKPILE AT LEAST 5m FROM EXISTING VEGETATION, CONCENTRATED WATER FLOWS, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS A LOW, FLAT, ELONGATED MOUND.
3. WHERE THERE IS SUFFICIENT AREA TOPSOIL STOCKPILE SHALL BE LESS THAN 2m IN HEIGHT.
4. REHABILITATE IN ACCORDANCE WITH THE SWMP/ESCP.
5. CONSTRUCT EARTH BANK (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT RUNOFF AROUND THE STOCKPILE AND A SEDIMENT FENCE (STANDARD DRAWING 6-8) 1 TO 2m DOWNSLOPE OF STOCKPILE.



FILTER BAG TO DROP INLET PIT

NOT TO SCALE



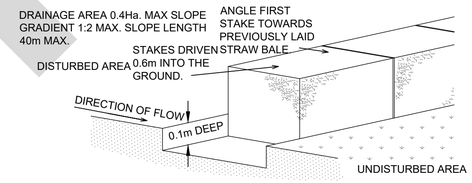
NOTE
ONLY TO BE USED AS TEMPORARY BANK WHERE MAX. UPSLOPE LENGTH IS 80m.

EARTH BANK (LOW FLOW)

NOT TO SCALE

CONSTRUCTION NOTES

1. CONSTRUCT WITH GRADIENT OF 1% TO 5%.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE.
3. DRAINS TO BE CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTION NOT V-SHAPED.
4. EARTH BANKS TO BE ADEQUATELY COMPACTED IN ORDER TO PREVENT FAILURE.
5. PERMANENT OR TEMPORARY STABILISATION OF THE EARTH BANK TO BE COMPLETED WITHIN 10 DAYS OF CONSTRUCTION.
6. ALL OUTLETS FROM DISTURBED LANDS ARE TO FEED INTO A SEDIMENT BASIN OR SIMILAR.
7. DISCHARGE RUNOFF COLLECTED FROM UNDISTURBED LANDS ONTO EITHER A STABILISED OR AN UNDISTURBED DISPOSAL SITE WITHIN THE SAME SUBCATCHMENT AREA FROM WHICH THE WATER ORIGINATED.
8. COMPACT BANK WITH A SUITABLE IMPLEMENT IN SITUATIONS WHERE THEY ARE REQUIRED TO FUNCTION FOR MORE THAN FIVE DAYS.
9. EARTH BANKS TO BE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT WILL IMPEDE NORMAL FLOW.



STRAW BALE SEDIMENT FILTER

NOT TO SCALE

NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE EROSION AND SEDIMENT CONTROL PLAN.
2. ALL CONTROL MEASURES SHALL BE IN ACCORDANCE WITH "TWEED SHIRE COUNCIL DEVELOPMENT DESIGN SPECIFICATION D7 STORMWATER QUALITY" AND ITS ANNEXURE A "CODE OF PRACTISE FOR SOIL AND WATER MANAGEMENT ON CONSTRUCTION WORKS"
3. SEDIMENT AND EROSION CONTROL MEASURES ARE INDICATIVE ONLY AND SHALL BE CONFIRMED BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL INFORM ALL STAFF AND SUB-CONTRACTORS OF THEIR OBLIGATIONS UNDER THE EROSION AND SEDIMENT CONTROL PLAN.
5. CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EACH SITE DISTURBANCE.
6. ALL WORKS ARE TO BE INSPECTED, AND MAINTAINED WHERE NECESSARY, ON A WEEKLY BASIS AND AFTER EACH RAIN EVENT.
7. ADEQUATE MEASURES SHALL BE TAKEN TO PREVENT DUST FROM AFFECTING THE AMENITY OF THE NEIGHBOURHOOD DURING CONSTRUCTION. WATER SITE AS REQUIRED TO PREVENT DUST GENERATION. USE TEMPORARY SPRINKLERS AS REQUIRED.
8. ALL WORKS ON SITE SHALL STOP WHEN WIND SPEEDS REACHES 35km/h.
9. CLEANING OF FOOTPATHS AND ROADWAYS SHALL BE CARRIED OUT REGULARLY
10. TURF AND VERGE AREAS TO BE REINSTATED WHEN DISTURBED DURING CONSTRUCTION.

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	PRELIMINARY ISSUE	28.08.20	RD	BT	JT	JT

SCALES:

DO NOT SCALE FROM DRAWING

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DESIGN BY:
APPROVED BY:
DATE:

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ABN: 20 099 261 711
EMAIL: administration@planitconsulting.com.au

CLIENT: BYRON SHIRE COUNCIL

LOCAL GOVERNMENT AUTHORITY: BYRON SHIRE COUNCIL

PROJECT: DINGO LANE SOLAR FARM

DRAWING TITLE: EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J6558	0110	A

CAD FILE: T:\J6558 - DINGO LANE SOLAR FARM BSC\7 - DRAFTING\0110 EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.DWG PLOTTED BY: RUSSELL.DEVALTER PLOT DATE: 28/08/2020 12:54:28 PM

100mm AT ORIGINAL SIZE

NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	PRELIMINARY ISSUE	28.08.20	RD	BT	JT	JT

SCALES:

0 5 10 20 30

Full Size 1:500 ; Half Size 1:1000
Scale (m)

DO NOT SCALE FROM DRAWING

DRAWN BY:

DESIGN BY:

APPROVED BY:

DATE:

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CLIENT:
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LOCAL GOVERNMENT AUTHORITY:
BYRON SHIRE COUNCIL

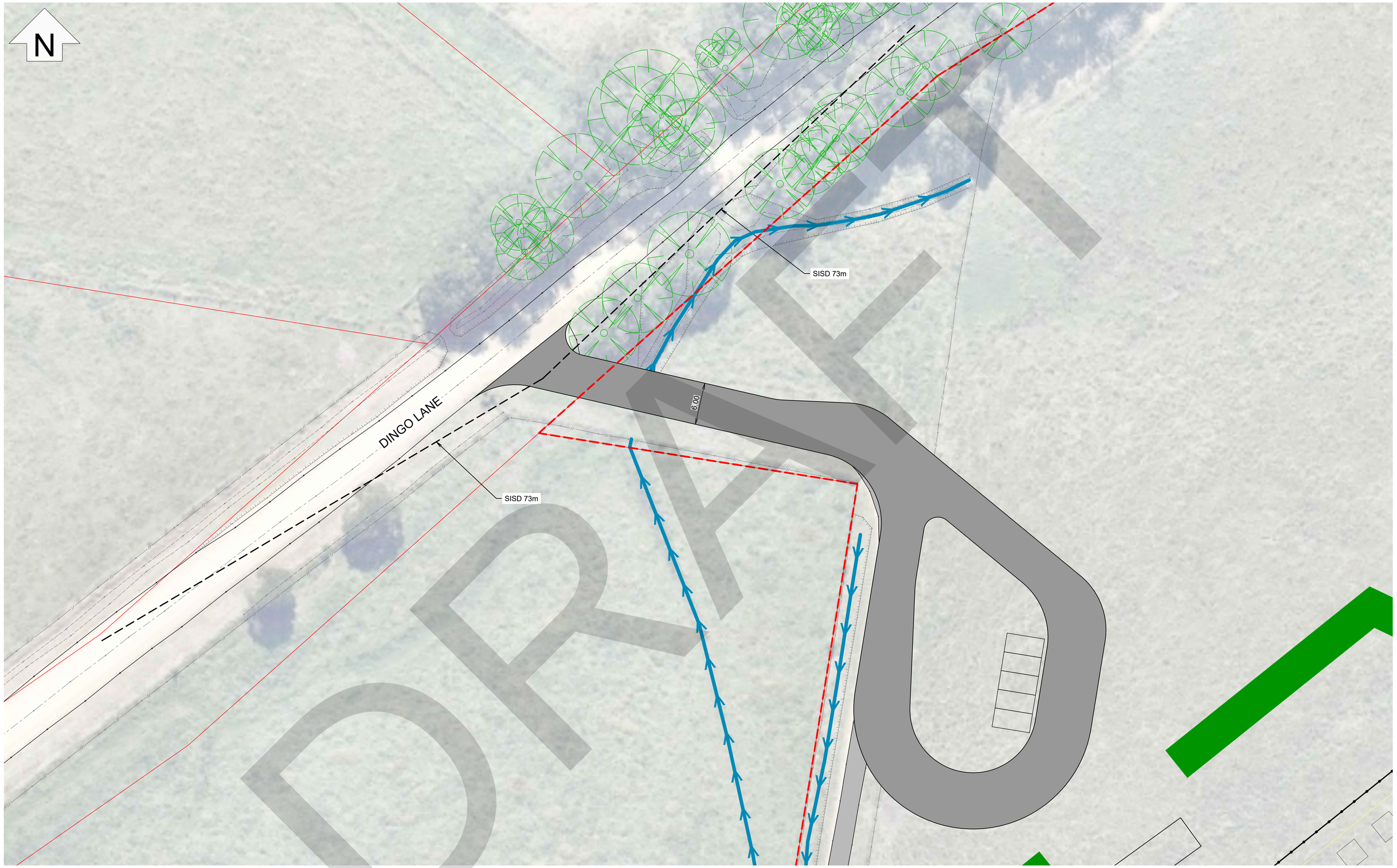
PROJECT:
DINGO LANE SOLAR FARM

DRAWING TITLE:
MYCRUM ROAD & DINGO LANE INTERSECTION
ASD & SISD

ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J6558	0301	A

CAD FILE: T:\J6558 - DINGO LANE SOLAR FARM BSC\7 - DRAFTING\0301 MYOCUM ROAD & DINGO LANE INTERSECTION.DWG PLOTTED BY: RUSSELL.DEVALTER PLOT DATE: 28/08/2020 12:54:41 PM

100mm AT ORIGINAL SIZE



NOT FOR CONSTRUCTION

REV	DESCRIPTION	DATE	DRAWN	DESIGN	CHECK	APPROVED
A	PRELIMINARY ISSUE	28.08.20	RD	BT	JT	JT

SCALES:

0 2.5 5 10 15

Full Size 1:250 ; Half Size 1:500
Scale (m)

DO NOT SCALE FROM DRAWING

DRAWN BY:

DESIGN BY:

APPROVED BY:

DATE:

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS APPROVED

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LENNOX HEAD NSW 2478

TELEPHONE: 02 6687 4666
ABN: 20 099 261 711
EMAIL: administration@planitconsulting.com.au

CLIENT:
BYRON SHIRE COUNCIL

PROJECT:
DINGO LANE SOLAR FARM

DRAWING TITLE:
SITE ACCESS ARRANGMENT

LOCAL GOVERNMENT AUTHORITY:
BYRON SHIRE COUNCIL

ORIGINAL SIZE:	PLANIT JOB No.:	DRAWING No.:	REV:
A1	J6558	0310	A

CAD FILE: T:\J6558 - DINGO LANE SOLAR FARM BSC\7 - DRAFTING\0310 SITE ACCESS ARRANGEMENT.DWG PLOTTED BY: RUSSELL.DEVALTER PLOT DATE: 28/08/2020 12:54:54 PM

DINGO LANE SOLAR FARM - STATEMENT OF LANDSCAPE INTENT

DINGO LN, MYOCUM NSW 2481

PLANIT CONSULTING

Dingo lane - Solar Farm

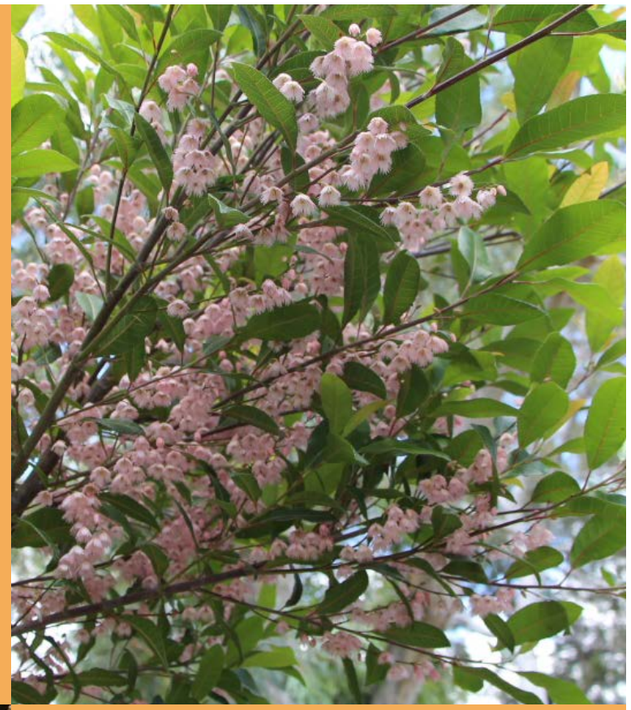
Landscape intent

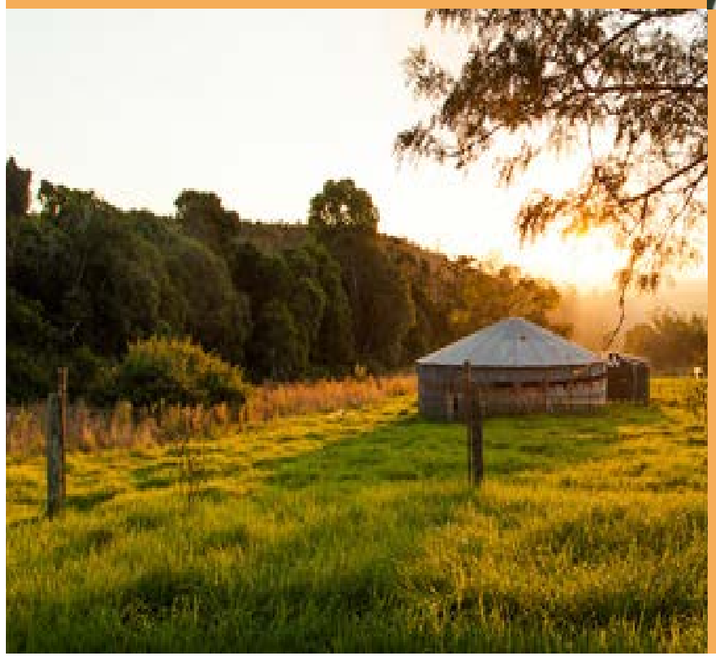
VEGETATION PRINCIPLES

Dingo Lane Solar Farm is surrounded by low lying, flat rural farmland to two of the three sides of the property. Grazing is the predominant land use within the low lying valley surrounding the site. To the north, east and west are areas of Large Lot Residential, located on undulating hills.

On the surrounding hills and ridges within the viewshed, the character of rural land transitions from large grazing paddocks to smaller production areas include macadamia orchards. These areas support a greater diversity of tree cover including remnant vegetation and cultivated tree crops.

Other areas to consider, such as the dedicated viewing areas, will present a more detailed visual appearance for visitors, including attractive layered sub-tropical planting, wayfinding elements and potential rest areas.

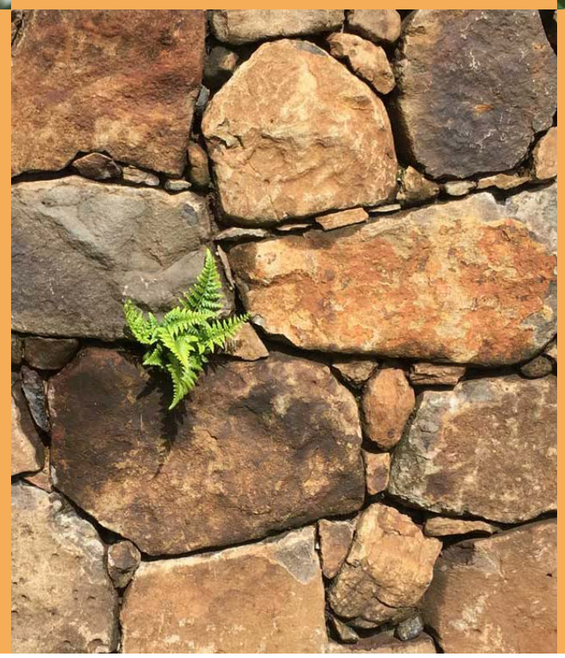




The site proposes to have a 4-5m wide buffer of natural vegetation along the boundaries in order to assist in improving the overall visual amenity.

This vegetation screen will mitigate glare and visual impact to surrounding properties and present as a soft, native tree and shrub lined border which will enhance view lines and reinforce the rural character of the area.

This vegetation screen will mitigate glare and visual impact to surrounding properties and present as a soft, native tree and shrub lined border, enhancing view lines and reinforcing the rural landscape character of the area.



In summary, the landscape for Dingo Lane Solar Farm will provide and perform both functionally and aesthetically and satisfy and support local Council's landscape principals for the site.

Statement of Landscape Intent

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Scale: AS SHOWN
Rev: 01

Drawn: MP
Checked: SW

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admin@planitconsulting.com.au

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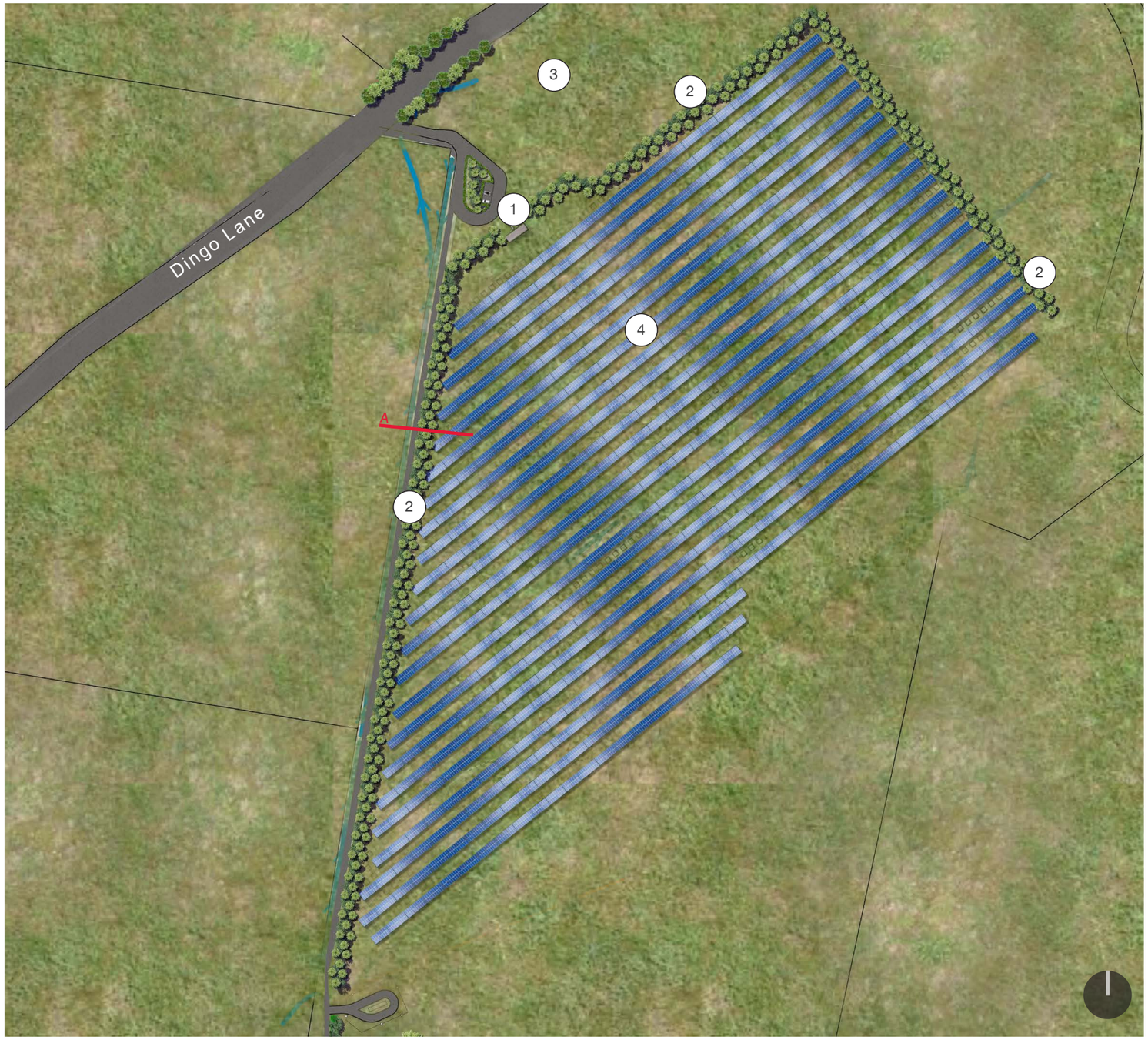
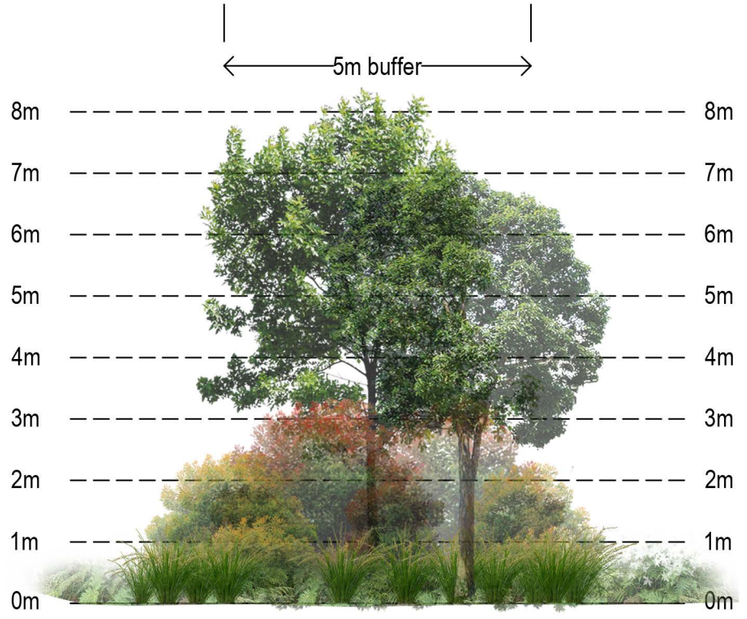
OVERALL LAYOUT PLAN



0 50 100m 200m

LEGEND

1. VISITOR AREA
   Refer to Visitor Area Typical Layout on following page.
2. LANDSCAPE BUFFER PLANTING
   Refer to typical buffer planting arrangement for information.
3. OPEN GRASSLAND AREAS
4. SOLAR ARRAY AREA



Typical buffer planting - Section 'A'

0 0.5 1 2m

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VISITOR AREA - LAYOUT PLAN

Legend

1. Amenity planting to carpark area
   Five carparks and a turn around area, refer to civil plans for information.
2. Amenity planting either side of walkway.
   Planting to contribute aesthetically and assist in landscape buffering N/W frontage.
3. Open grassland areas
4. Viewing platform
   Refer to viewing platform typical details for information.
5. Landscape buffer planting
   Refer to typical buffer planting arrangement for information.
6. Solar farm

0 1 2 5 10m

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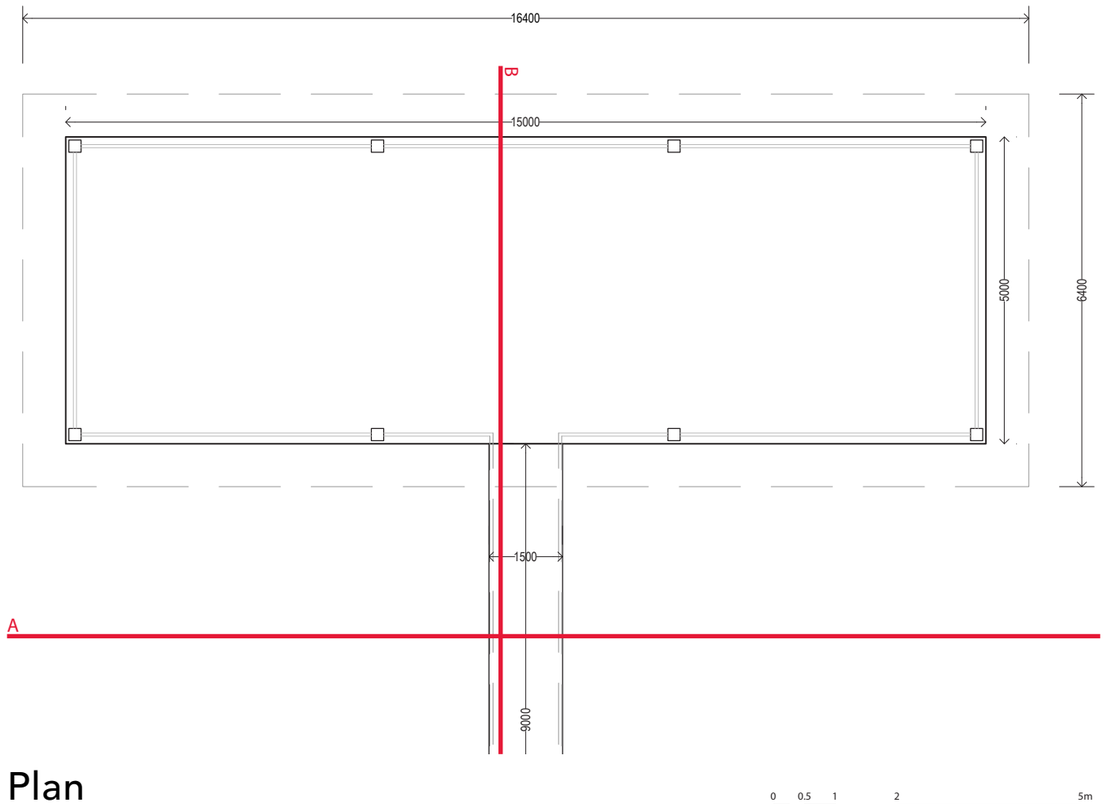
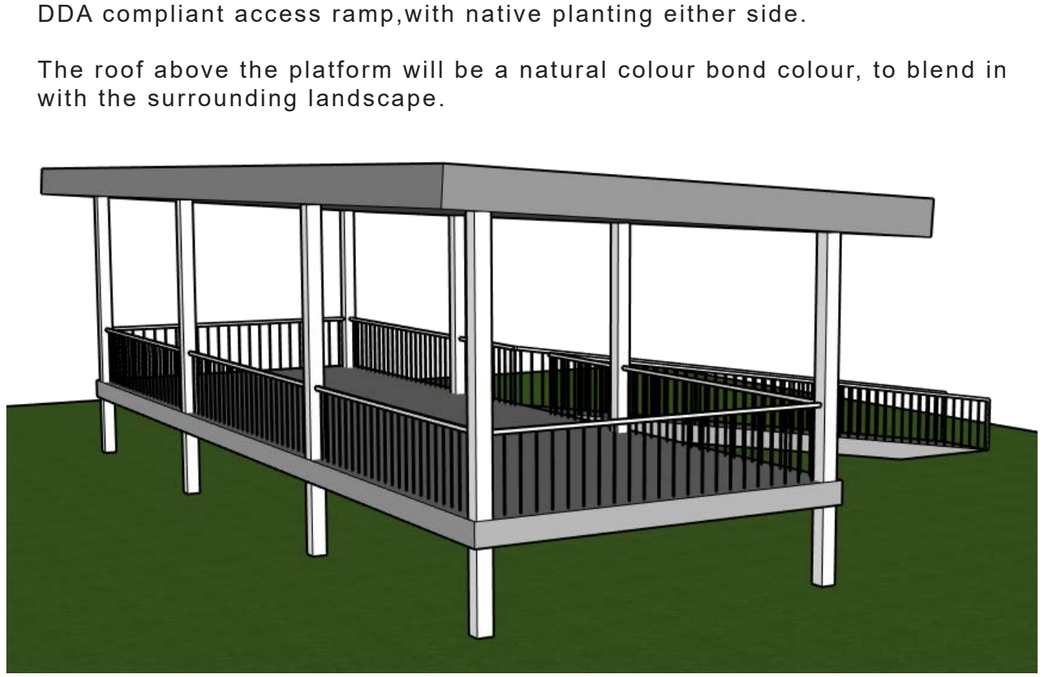
Viewing Platform - Typical Details

The viewing platform will allow for approximatley 30 visitors to stand and admire the solar arrays. This structure will be built on piers, to achieve an elevated 1.3m above the ground level. This structure will be accessed by a DDA compliant access ramp,with native planting either side.

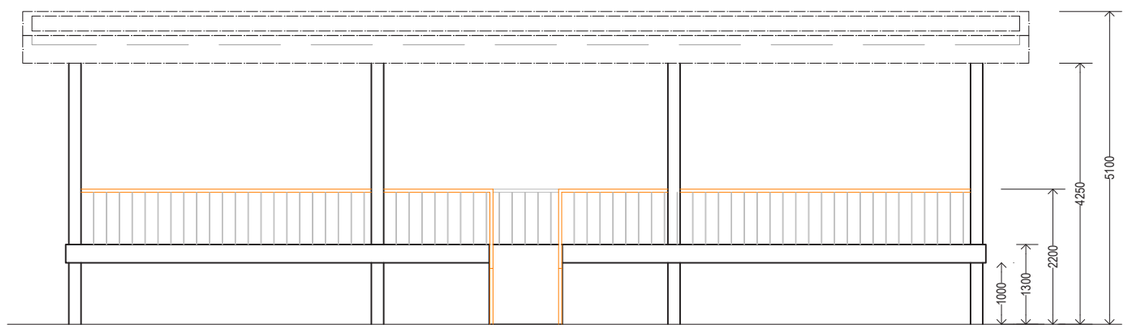
The roof above the platform will be a natural colour bond colour, to blend in with the surrounding landscape.



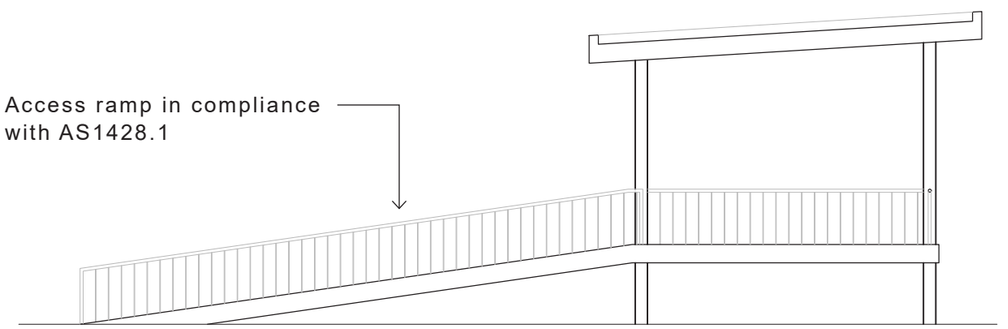
Plan



3D Perspective



Elevation (A)



Section (B)

Statement of Landscape Intent

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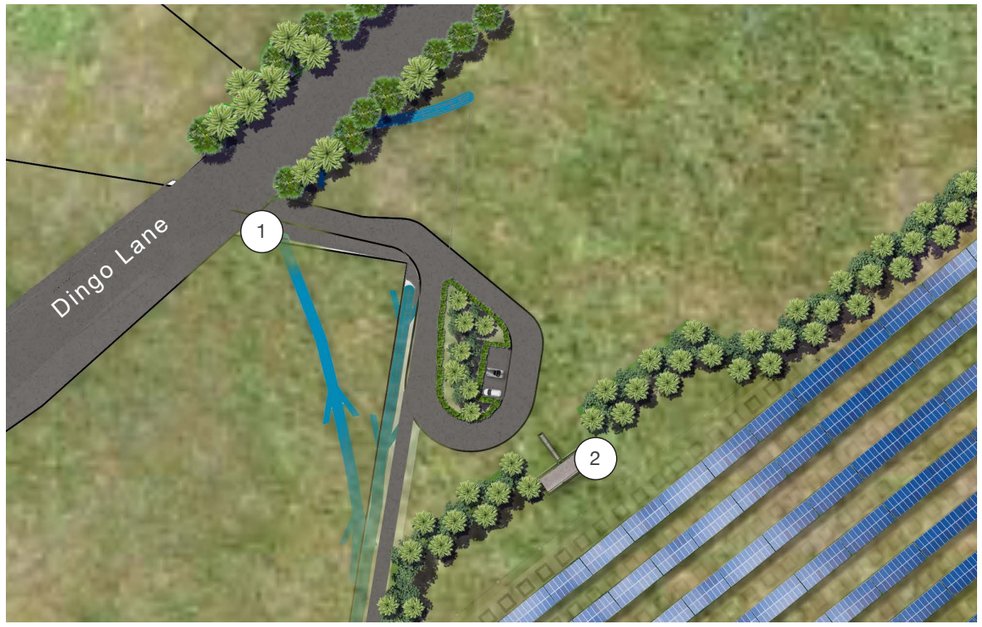
Dingo lane - Solar Farm

Signage Plan



Propsoed signage locations (Plan NTS)

Legend

1. Entry sign and visitor parking.
   Located on entry road.

2. Educational signage

   Located on viewing platform.

Visitor signage will be located at the entry to the site along with educational plaques within the elevated viewing platform.

The ageless appearance of Corten will be applied to laser cut panels that can be forged into different shapes and sizes.

The appearance of the Corten has been chosen to tie in with the surrounding rural character.

Precedent imagery

Statement of Landscape Intent

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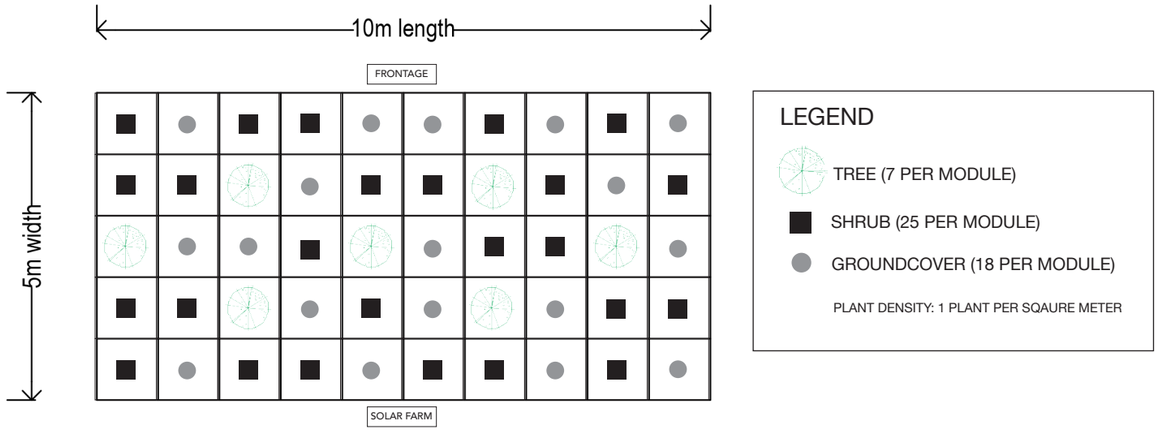
Landscape Buffer Planting Arrangement



Typical buffer planting - setout module

Specieshave been selected from plant communities recognised within the foothills and hinterland area of Myocum.

Plants are to achieve a minimum density of 1 plant per sqaure meter at installation, with diverse mix of species setout on the ground.

Trees will be located centrally within the buffer with shrubs and groundcovers to tier down to the front and back of the buffer area.

Timeline of projected plant growth over 15 years

Statement of Landscape Intent

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Buffer Planting

Code	Botanic Name	Common Name
1	Allocasuarina littoralis	Black She-Oak
2	Allocasuarina torulosa	Forest Oak
3	Callistemon viminalis	Weeping Bottle Brush
4	Cryptocarya laevigata	Glossy Laurel
5	Daviesia arborea	Weeping Pea Tree
6	Eleocarpus reticulatis	Blue Berry Ash
7	Lophostemon confertus	Brush Box
8	Breynia oblongifolia	Breynia
9	Callicarpa pendunculata	Velvet Leaf
10	Cordyline petiolaris	Broad-leaf Palm Lilly
11	Cordyline stricta	Narrow-leaved Palm Lily
12	Dodonaea viscosa	Hop bush
13	Doryanthus palmeri	Spear Lily
14	Hovea acutifolia	Pointed-Leaf Hovea
15	Melastoma affine	Blue Tongue
16	Alpinia caeurlea	Native Ginger
17	Dianella longifolia	Blue Flax Lily
18	Hibebrtia Scandens	Snake Vine
19	Lomandra hystrix	Mat Rush

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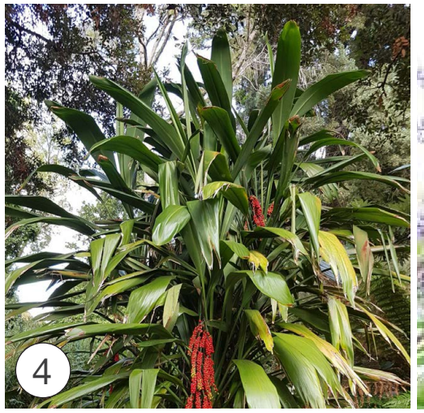
Amenity Planting

Code	Botanic Name	Common Name
1	Callistemon viminalis	Weeping Bottle Brush
2	Eleocarpus reticulatis	Blue Berry Ash
3	Breynia oblongifolia	Breynia
4	Cordyline petiolaris	Broad-leaf Palm Lilly
5	Cordyline stricta	Narrow-leaved Palm Lily
6	Callistemon comboynensis	Cliff bottlebrush
7	Dianella Caerulea	Blue Flax Lily
8	Doryanthus palmeri	Spear Lily
9	Hovea acutifolia	Pointed-Leaf Hovea
10	Melastoma affine	Blue Tongue
11	Alpinia caeurlea	Native Ginger
12	Dianella longifolia	Blue Flax Lily
13	Hibbertia scandens	Snake vine
14	Lomandra hystrix	Mat rush
15	Westringea fruiticosa	Native Rosemary



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