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KDC

Suit 2B, 125 Bull Street
Newcastle West, NSW 2302

Attention: Rosie Turner

Delivered by email: rosie@kdc.com.au

**Subject: Desktop Due Diligence Assessment (Biodiversity and Cultural Heritage)
for the Narromine Solar Farm Development**

1. BACKGROUND

Kleinfelder has been engaged by KDC, on behalf of Providence Asset Group, to prepare a Desktop Due Diligence Assessment for a site located near the township of Narromine, west of Dubbo in the Orana region of New South Wales, (NSW). This assessment is required to assess the occurrence of potential development constraints (Biodiversity and Cultural Heritage values) to determine feasibility of a 5MWac solar farm development.

The Investigation Area for the Due Diligence Assessment is identified as Lot 2221 (DP 1101864) and Lot 1 DP109556 (**Figure 1**). The location of the proposed solar farm (hereafter referred to as the 'proposed Development Site') is situated in the south-western portion of the Investigation Area.



Figure 1 Investigation Area and Proposed Development Site

2. APPROACH

Desktop level information on the biodiversity and aboriginal heritage values for the Investigation Area was obtained using the following resources:

- Relevant regional vegetation mapping projects sourced from the *The Central Resource for Sharing and Enabling Environmental Data in NSW* (SEED, 2020). Regional vegetation mapping is used to determine the potential identification and extent of Plant Community Types (PCTs) and Threatened Ecological Communities; as listed under the NSW *Biodiversity Conservation Act 2016* (BC Act), that are likely to occur within the Investigation Area.
- Watercourse mapping available through the Department of Finance, Services and Innovation (DFSi) to identify riparian zones and 'water front land'; as defined by the NSW *Water Management Act 2000* (WM Act).
- The BioNet Atlas of NSW Wildlife (DPIE, 2020b) to search for previous records of threatened species, populations and ecological communities; as listed under the BC Act

- The Department of the Environment and Energy Protected Matters Search Tool (DAWE, 2020) to search for Matters of National Environmental Significance (MNES) listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (within a 10 km radius).
- The NSW Biodiversity Values Map (BV Map) and Threshold Tool (DPIE, 2020c) to identify areas of 'high biodiversity' for which impacts may require entry into the NSW Biodiversity Offset Scheme (BOS).
- The Aboriginal Heritage Information Management System (AHIMS) (DPIE, 2020a) to search for previous records of archaeological artifacts and other Aboriginal heritage values.

The following Acts, Policies and Guidelines have been considered during this assessment:

- **Commonwealth Legislation**
 - *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
 - *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*
 - *Protection of Movable Cultural Heritage Act 1986*
- **State Legislation and Guidelines**
 - *The draft Aboriginal Cultural Heritage Bill 2018*
 - *Biodiversity Conservation Act 2016* (BC Act).
 - *Biodiversity Conservation Regulation 2017*.
 - *Environmental Planning and Assessment Act 1979* (EP&A Act).
 - *Water Management Act 2000*
 - *Biodiversity Assessment Method (2017)*.

3. RESULTS - BIODIVERSITY

Native Vegetation

The Investigation Area lies within an area mapped by the State Vegetation Type Map (SVTM) (SEED, 2020). This desktop-based mapping indicates that the Investigation Area is predominately non-native, with a small area of PCT 45 *Plains Grass grassland on alluvial mainly clay soils in the Riverina Bioregion and NSW South Western Slopes Bioregion* mapped in the northern section of the Investigation Area within Lot 1 DP1180438.

An examination of aerial photography indicates that proposed Development Site is likely to have been cleared for agricultural development. With the exception of a constructed drainage channel and associated constructed dam (northwest corner) along the northern boundary, the Investigation Area has a flat topography and does not appear to contain natural features such as natural streams, wetlands, woodlands, forests or rocky outcrops.

The grasslands within the Investigation Area are most likely to be comprised of non-native grasslands (agricultural lands); however this would require confirmation via a site-based assessment.

Threatened Ecological Communities

The regional vegetation mapping for the Investigation Area is uninformative. Given that no woodland or forest vegetation occurs within the proposed Development Site, it is unlikely that Threatened Ecological Communities (TECs) are present; however, a site-based assessment would be required to confirm the absence of native grasslands. Note that derived native grasslands of some woodland vegetation communities such as 'Box Gum Grassy Woodland EEC' and Inland Grey Box Woodland EEC are also listed as 'Endangered' under the NSW BC Act (NSW Scientific Committee, 2011).

Wetlands and Streams

A constructed canal occurs within the northern portion of the Investigation Area; however, no major wetlands or streams are mapped within the proposed Development Site. It is therefore unlikely that the proposed Development Site would constitute 'waterfront land' as defined in the WM Act. A controlled activity approval from the Natural Resource Asset Regulator (Previously known as DPI Water) is therefore unlikely to be required for future development.

Threatened Species

A search of the NSW Bionet Atlas of NSW Wildlife revealed that 11 threatened species have been previously recorded within 10 km of the Investigation Area. An assessment of the 'likelihood of occurrence' of each of these species is presented in **Table 1**. This assessment is based on the known habitat requirements of each species and the number of records in the locality. The assessment is summarised below:

- One threatened plant species has previously been recorded within 10 km of the Investigation Area (Bluegrass *Dichanthium setosum*). This species has a moderate 'likelihood of occurrence' due to the potential occurrence of native grasslands within the Investigation Area. A site-based assessment would be required to confirm if the habitat within the Investigation Area is suitable for this species.
- Ten threatened fauna species have previously been recorded within 10 km of the Investigation Area. Foraging habitat may be present within the Investigation Area for four of these species; however, based on the lack of woody vegetation and key habitat features, no breeding habitat is likely to occur. Therefore, the habitat is unlikely to be important to the long-term survival of any of these species in the locality.

Table 1 **Threatened Plant Species recorded within a 10km radius of the Investigation Area**

Common Name	Scientific Name	Status BC Act	Status EPBC Act	No Records (10km) NSW Bionet	Habitat Requirements	Likelihood of Occurrence
Bluegrass	<i>Dichanthium setosum</i>	Vulnerable	Vulnerable	2	Often found in moderately disturbed areas such as cleared woodland, grassy roadside remnants and highly disturbed pasture. It is often collected from disturbed open grassy woodlands on the northern tablelands, where the habitat has been variously grazed, nutrient-enriched and water-enriched.	Moderate

Table 2 **Threatened Fauna Species recorded within a 10km radius of the Investigation Area**

Common Name	Scientific Name	Status BC Act	Status EPBC Act	No Records (10km) NSW Bionet	Habitat Requirements	Likelihood of Occurrence
Magpie Goose	<i>Anseranas semipalmata</i>	Vulnerable	Not Listed	6	Inhabits shallows of dams, swampy well-vegetated margins of deep waterways.	Low (No dams or well-vegetated deep waterways)
Australian Bustard	<i>Ardeotis australis</i>	Endangered	Not Listed	2	Mainly inhabits tussock and hummock grasslands, though prefers tussock grasses to hummock grasses; also occurs in low shrublands and low open grassy woodlands; occasionally seen in pastoral and cropping country, golf courses and near dams. Breeds on bare ground on low sandy ridges or stony rises in ecotones between grassland and protective shrubland cover; roosts on ground among shrubs and long grasses or under trees.	Moderate (Foraging habitat only - No breeding habitat)
Brown Treecreeper (eastern subspecies)	<i>Climacteris picumnus victoriae</i>	Vulnerable	Not Listed	5	Inhabits Box-Gum woodlands and dry open forest of inland slopes and plains. Preferred woodlands dominant by stringybarks or other rough-barked eucalypts. Forages in trees and on the ground. Nests in tree or stump hollows greater than 6 cm.	Low (No woodland habitat)
Black Falcon	<i>Falco subniger</i>	Vulnerable	Not Listed	2	The Black Falcon is found along tree-lined watercourses and in isolated woodlands, mainly in arid and semi-arid areas. It roosts in trees at night and often on power poles by day.	Moderate (Hunting habitat only)

Common Name	Scientific Name	Status BC Act	Status EPBC Act	No Records (10km) NSW Bionet	Habitat Requirements	Likelihood of Occurrence
Superb Parrot	<i>Polytelis swainsonii</i>	Vulnerable	Vulnerable	1	Inhabits Box-Gum, Box-Cypress-pine and Boree Woodlands and River Red Gum Forest. In the Riverina the birds nest in the hollows of large trees (dead or alive) mainly in tall riparian River Red Gum Forest or Woodland. On the South West Slopes nest trees can be in open Box-Gum Woodland or isolated paddock trees. Species known to be used are Blakely's Red Gum, Yellow Box, Apple Box and Red Box.	Moderate (Foraging habitat only in paddock trees - No breeding habitat)
Grey-crowned Babbler (eastern subspecies)	<i>Pomatostomus temporalis temporalis</i>	Vulnerable	Not Listed	4	Inhabits Box-Gum woodlands on slopes, and Box-Cypress pine and Open-Box woodlands when on Alluvial plains. Distribution along most of the eastern side of Australia, particularly the western slopes of the Great Dividing Range.	Low (No woodland habitat)
Large-eared Pied Bat	<i>Chalinolobus dwyeri</i>	Vulnerable	Vulnerable	2	Roosts in caves (near their entrances), crevices in cliffs, old mine workings and in the disused, bottle-shaped mud nests of the Fairy Martin (<i>Petrochelidon ariel</i>), frequenting low to mid-elevation dry open forest and woodland close to these features. Found in well-timbered areas containing gullies.	Low (No caves, woodland or forest)
Little Pied Bat	<i>Chalinolobus picatus</i>	Vulnerable	Not Listed	3	Occurs in dry open forest, open woodland, mulga woodlands, chenopod shrublands, cypress pine forest and mallee and Bimbil box woodlands. Roosts in caves, rock outcrops, mine shafts, tunnels, tree hollows and buildings.	Low (No caves, woodland or forest)
Koala	<i>Phascolarctos cinereus</i>	Vulnerable	Vulnerable	3	Inhabit eucalypt woodlands and forests. Feed on the foliage of more than 70 eucalypt species and 30 non-eucalypt species, but in any one area will select preferred browse species.	Low (Low density of trees)
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	Vulnerable	Vulnerable	1	Occurs across a wide range of habitat types along the eastern seaboard of Australia, depending on food availability. Fruit from myrtaceous trees and rainforest trees form the major components of their diet.	Low (Low density of trees)
Yellow-bellied Sheathtail-bat	<i>Saccolaimus flaviventris</i>	Vulnerable	Not Listed	3	Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory. Roosts in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows.	Moderate (Foraging and habitat present, roosting habitat for individuals present – No breeding habitat)

Matters of National Environmental Significance

The EPBC Act requires consideration of the potential for a “significant impact” to be imposed by an activity on a matter of national environmental significance. In the event that such an impact is likely to be imposed, the activity must be referred to the Commonwealth for determination as to whether it constitutes a “controlled action”. Where a development activity does constitute a controlled action, an approval from the Commonwealth Minister of the Environment is required.

Based on the findings of this Desktop Assessment, relevant EPBC matters may comprise the following:

- Listed threatened species, with some bird and bat species possibly foraging or roosting within the grassland areas or isolated paddock trees.
- Listed migratory species, with individuals of some terrestrial migratory species possibly utilising the grassland habitat within the Investigation Area on a seasonal or transient basis.
- Listed TECs predicted to occur within the locality (previously discussed).

An EPBC protected matters search revealed that four Wetlands of International Importance, six Threatened Ecological Communities, 23 threatened species and nine migratory species are predicted to occur within a 10 km radius of the Investigation Area. The resultant protected matters search report is presented in **Appendix A**.

Due to a general lack of natural landscape or habitat features, it is unlikely that the proposed Development Site contains important habitat for any EPBC listed biota. It is also unlikely that any future development would require referral to the Commonwealth Department of the Environment and Energy for consideration pursuant to the EPBC Act.

NSW Biodiversity Offset Scheme (BOS)

The requirements for entry into the Biodiversity Offset Scheme (BOS) are discussed below in relation to the findings of the Desktop Assessment.

- **State Significant Development (SSD)** - Entry into the BOS is required for state significant development (SSD) and state significant infrastructure projects, unless the Secretary of the Department of Planning, Industry and Environment and the environment agency head determine that the project is not likely to have a significant impact on biodiversity. It is understood that it is unlikely that development of a 5MWac solar farm would be deemed to be SSD in accordance with the EP&A Act.

- **Biodiversity Values Map Threshold** - Clearing of native vegetation within an area mapped on the Biodiversity Land Values Map (Section 7.3 of the BC Regulation). The nearest area mapped as high biodiversity occurs along the Macquarie River, over 800 m north-east of the Investigation Area. The proposed Development Site is not mapped on the Biodiversity Values map; therefore, this trigger is not relevant to any future development within this area.
- **Clearing native vegetation above vegetation clearing thresholds (Section 7.2 of the BC Regulation)** – The minimum lot size of the investigation area is 400 hectares; therefore the vegetation clearing threshold is 1 hectare (NSW Government, 2020). As stated previously, a site-based assessment would be required to determine if native grasslands occur within the proposed Development Site; however, based on aerial imagery, it is unlikely that the proposed development would result in clearing of native vegetation that would exceed the area threshold for the Investigation Area.
- **Impacting on a prescribed biodiversity features listed under Section 6.1 of the BC Regulation.** Prescribed biodiversity values include features such as caves, human-made structures and non-native vegetation that constitutes habitat for threatened species. Based on aerial photography interpretation, these features are unlikely to occur within the proposed Development Site.
- **Impacting an Area of Outstanding Biodiversity Value (AOBV)**– These are areas containing irreplaceable biodiversity values important to the whole of NSW and Australia. No AOBVs are mapped within the Investigation Area.
- **Having a significant impact on a threatened species or ecological community.** As stated previously, a site-based assessment would be required to definitively determine if any derived grasslands of TECs occur within the Investigation Area. A significant impact would be determined via application of a 5-part test of significance, set out in the BC Act.

4. RESULTS - ABORIGINAL HERITAGE VALUES

The *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW, 2010) sets out the following provisions for the generic due diligence process:

Step 1: Will the activity disturb the ground surface?

Yes

Step 2a: Search the AHIMS database and use any other sources of information of which you are already aware.

A search of the Aboriginal Heritage Information Management System (AHIMS) determined that no previous records of artifacts or other Aboriginal heritage values occur within 200 m of the Investigation Area. The results of this search are presented in **Appendix B**.

Step 2b: Activities in areas where landscape features indicate the presence of Aboriginal objects.

Regardless of whether your AHIMS search identifies known Aboriginal objects, consideration must be given to the potential for Aboriginal objects in the area. If your proposed activity is:

- Within 200 m of waters, or
- Located within a sand dune system, or
- Located on a ridge top, ridge line or headland, or
- Located within 200 m below or above a cliff face, or
- Within 200 m of or in a cave, rock shelter, or cave mouth and is on land that is not disturbed then you must go to Step 3 (**Can you avoid harm**). The definition of disturbed land or land already disturbed by previous activity is '*Land is disturbed if it has been the subject of human activity that has changed the land's surface, being changes that remain clear and observable*'.

Conclusion

The Investigation Area does not occur on or within any of the areas listed above. The proposed Development Site occurs over 800 m from the mapped watercourse to the north-east (Macquarie River). Additionally, the site occurs on agricultural land (disturbed land), as is

evident through vegetation clearing. As such, there are no known Aboriginal objects within the Investigation area, and there is a low probability of objects occurring in the area.

5. DUE DILIGENCE CONCLUSION

The assessment revealed few development constraints that would reduce the feasibility of a future solar farm development within the proposed Development Site. A site-based assessment would be required to determine if the grasslands are non-native, and to determine if the habitat is suitable for threatened plant species. This assessment would also confirm whether entry into the BOS is likely to be required for exceedance of the vegetation clearing threshold.

In summary, the Desktop Assessment determined that the proposed Development Site appears to be comprised of agricultural lands that contain minimal biodiversity or cultural heritage values.

A Flora and Fauna Assessment Report (FFAR) would be required to accompany a development application for the project. This report should include relevant assessments of significance for impacts to threatened species and ecological communities, pursuant to Section 7.3 of the NSW BC Act.

If you have any questions, please get in touch at your earliest convenience.

Yours sincerely,

Emily Fittell BSc (Hons)

Ecologist



95 Mitchell Rd
Cardiff NSW 2285
efittell@kleinfelder.com

Mobile: 0435 776 199

REFERENCES

- DAWE. (2020). *EPBC Protected Matters Search Tool*. Commonwealth of Australia
- DECCW. (2010). *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*. Goulburn St Sydney Retrieved from <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Aboriginal-cultural-heritage/due-diligence-code-of-practice-aboriginal-objects-protection-100798.pdf>
- DPIE. (2020a). *Aboriginal Heritage Information Management System Web Service*. Retrieved from <https://www.environment.nsw.gov.au/awssapp/login.aspx>
- DPIE. (2020b). *Bionet Atlas of NSW Wildlife*. Retrieved from https://www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/ATLAS /AtlasSearch.aspx
- DPIE. (2020c). *The NSW Biodiversity Values Map*. Retrieved from <https://www.environment.nsw.gov.au/biodiversity/biodiversity-values-map.htm>
- NSW Government (2020) NSW Planning Portal. Retrieved from <https://www.planningportal.nsw.gov.au/>
- NSW Scientific Committee. (2011). *White box yellow box Blakely's red gum woodland - endangered ecological community - Final Determination*.
- SEED. (2020). *SEED Map Viewer - Share and Enabling Environmental Data*. Retrieved from https://geo.seed.nsw.gov.au/Public_View/index.html?viewer=Public_View&locale=en-AU

APPENDIX A- EPBC ACT PROTECTED MATTERS REPORT



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 20/04/20 17:00:57

[Summary](#)

[Details](#)

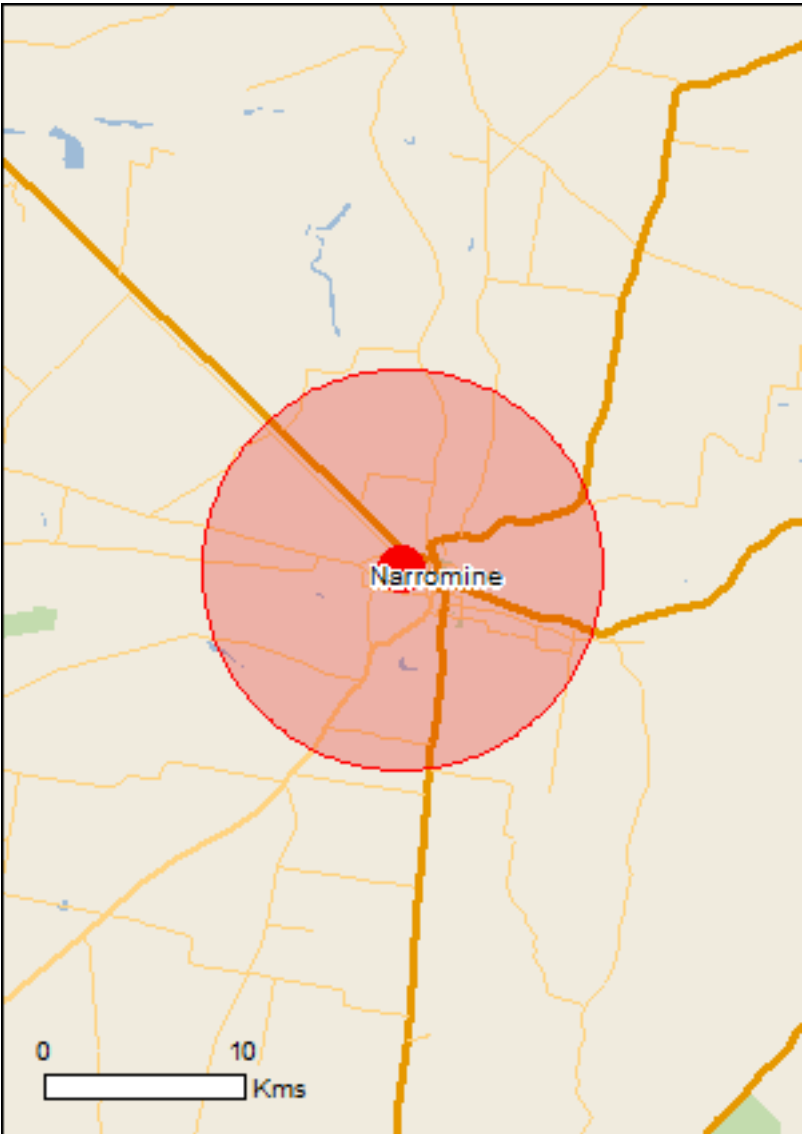
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

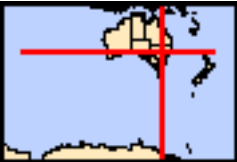
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Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	6
Listed Threatened Species:	23
Listed Migratory Species:	9

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	3
Commonwealth Heritage Places:	None
Listed Marine Species:	16
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	18
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)		[Resource Information]
Name	Proximity	
Banrock station wetland complex	700 - 800km upstream	
Riverland	600 - 700km upstream	
The coorong, and lakes alexandrina and albert wetland	800 - 900km upstream	
The macquarie marshes	100 - 150km upstream	

Listed Threatened Ecological Communities	[Resource Information]
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For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Community may occur within area
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Community likely to occur within area
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland	Critically Endangered	Community may occur within area
Poplar Box Grassy Woodland on Alluvial Plains	Endangered	Community likely to occur within area
Weeping Myall Woodlands	Endangered	Community likely to occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area

Listed Threatened Species	[Resource Information]
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Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Foraging, feeding or related behaviour likely to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
Polytelis swainsonii Superb Parrot [738]	Vulnerable	Species or species habitat known to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Fish		
Maccullochella macquariensis Trout Cod [26171]	Endangered	Species or species habitat may occur within area
Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat known to occur within area
Macquaria australasica Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area
Mammals		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat may occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat may occur within area
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Plants		
Androcalva procumbens [87153]	Vulnerable	Species or species habitat likely to occur within area
Prasophyllum sp. Wybong (C.Phelps ORG 5269) a leek-orchid [81964]	Critically Endangered	Species or species habitat may occur within area
Swainsona murrayana Slender Darling-pea, Slender Swainson, Murray Swainson-pea [6765]	Vulnerable	Species or species habitat likely to occur within area
Swainsona recta Small Purple-pea, Mountain Swainson-pea, Small Purple Pea [7580]	Endangered	Species or species habitat may occur within area
Tylophora linearis [55231]	Endangered	Species or species habitat may occur within area
Reptiles		
Aprasia parapulchella Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat likely to occur within area

Listed Migratory Species

[Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area

Migratory Terrestrial Species

Hirundapus caudacutus		
White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area
Motacilla flava		
Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca		
Satin Flycatcher [612]		Species or species habitat known to occur within area

Migratory Wetlands Species

Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii		
Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land

[Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land -
Commonwealth Land - Australian Postal Commission
Commonwealth Land - Australian Telecommunications Commission

Listed Marine Species

[Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba		
Great Egret, White Egret [59541]		Species or species

Name	Threatened	Type of Presence
Ardea ibis Cattle Egret [59542]		habitat known to occur within area Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Chrysococcyx osculans Black-eared Cuckoo [705]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat may occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area

Extra Information

Invasive Species

[[Resource Information](#)]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur

Name	Status	Type of Presence
		within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Capra hircus Goat [2]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-32.22919 148.22542

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

APPENDIX B- ABORIGINAL HERITAGE INFORMATION MANAGEMENT SYSTEM WEB SEARCH RESULTS

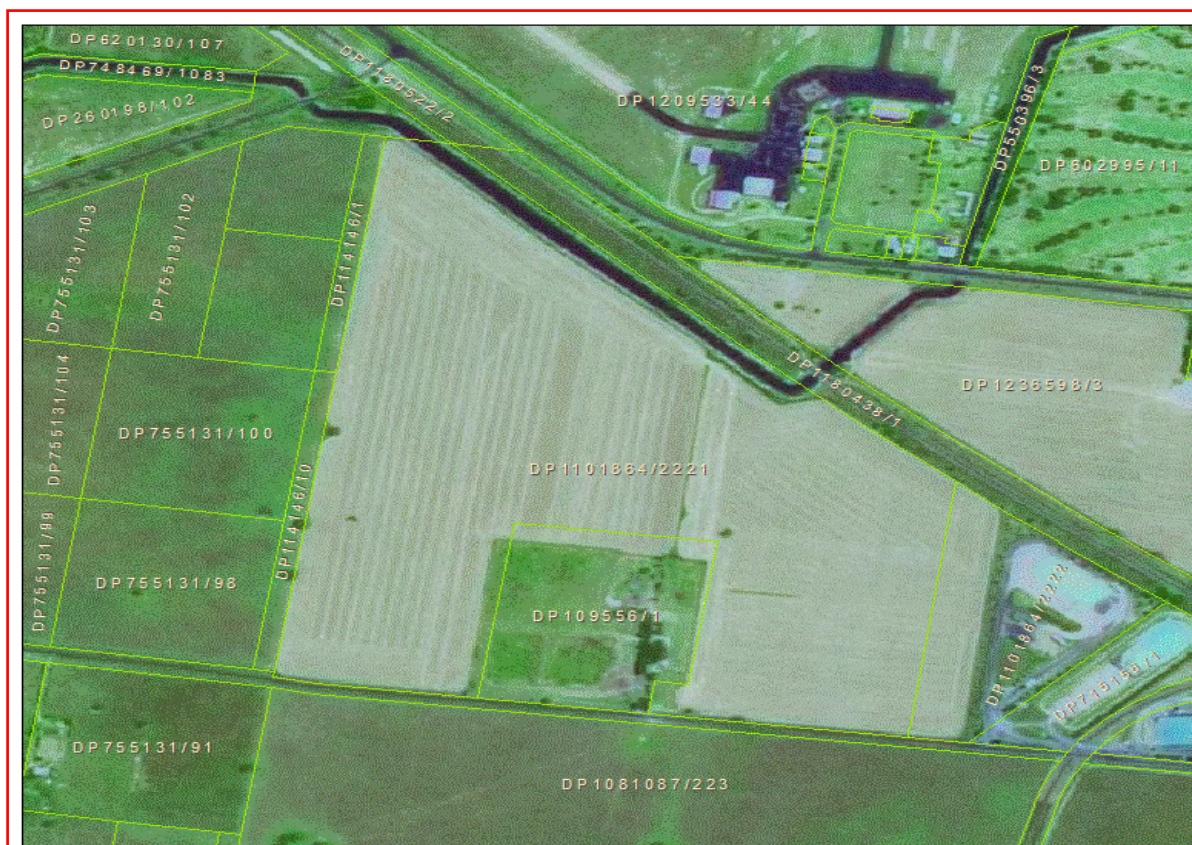
Emily Fittell
95 Mitchell Road
Cardiff New South Wales 2285
Attention: Emily Fittell
Email: efittell@kleinfelder.com

Date: 20 April 2020

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 2221, DP:DP1101864 with a Buffer of 200 meters, conducted by Emily Fittell on 20 April 2020.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

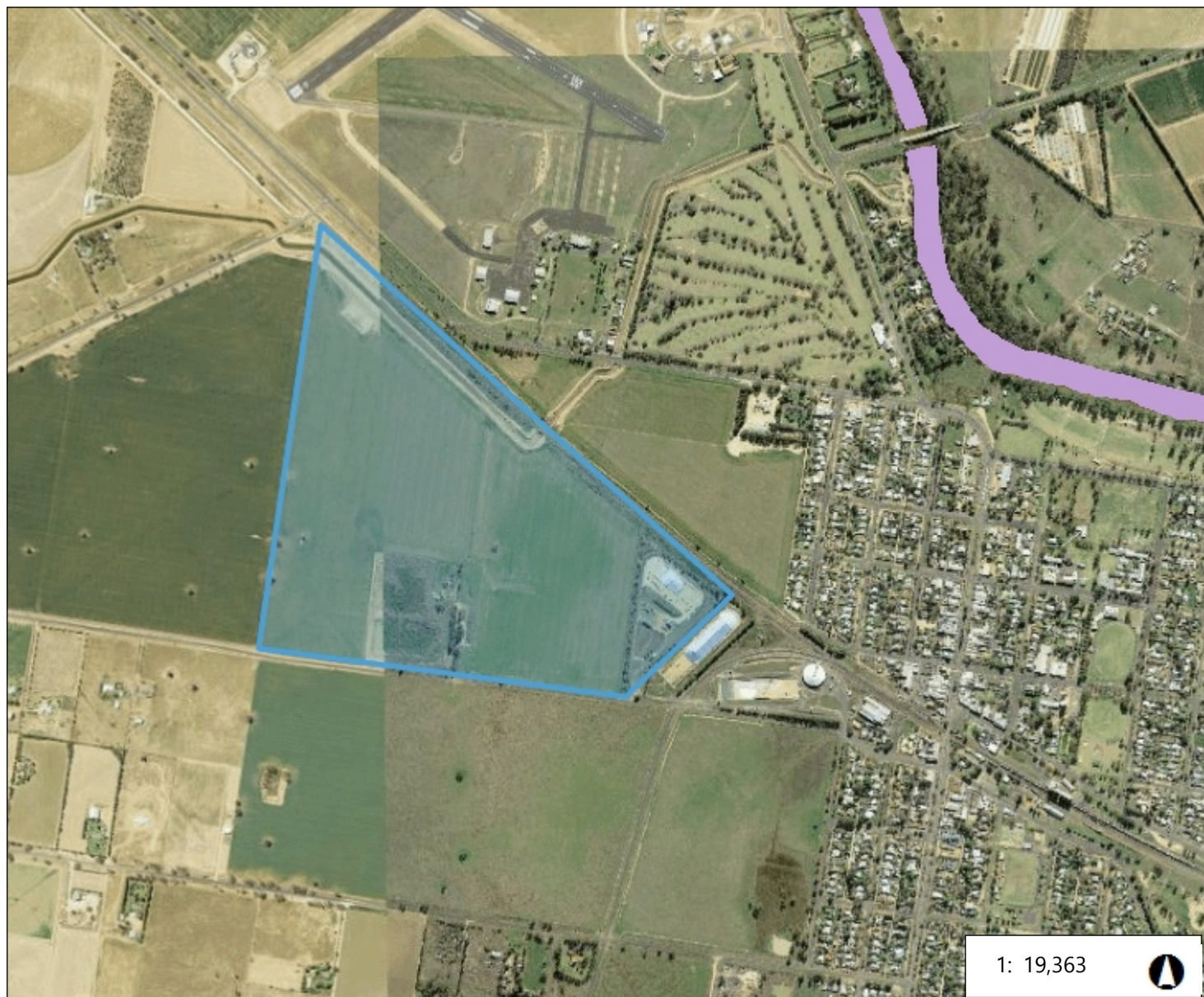
- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(http://www.nsw.gov.au/gazette\)](http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

APPENDIX C- BIODIVERSITY VALUES AND THRESHOLD REPORT

Biodiversity Offset Scheme (BOS) Entry Threshold Map



983.7 0 491.83 983.7 Metres

WGS_1984_Web_Mercator_Auxiliary_Sphere

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

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Legend

- Biodiversity Values that have been mapped for more than 90 days
- Biodiversity Values added within last 90 days

Notes

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NSW Environment & Heritage

Biodiversity Values Map and Threshold Report

Results Summary

Date of Calculation	20/04/2020 2:55 PM	BDAR Required*
Total Digitised Area	82.9 ha	
Minimum Lot Size Method	Lot size	
Minimum Lot Size	11.53 ha	
Area Clearing Threshold	0.5 ha	
Area clearing trigger Area of native vegetation cleared	Unknown [#]	Unknown [#]
Biodiversity values map trigger Impact on biodiversity values map(not including values added within the last 90 days)?	no	no
Date of the 90 day Expiry	N/A	

*If BDAR required has:

- at least one 'Yes': you have exceeded the BOS threshold. You are now required to submit a Biodiversity Development Assessment Report with your development application. Go to <https://customer.lmbc.nsw.gov.au/assessment/AccreditedAssessor> to access a list of assessors who are accredited to apply the Biodiversity Assessment Method and write a Biodiversity Development Assessment Report
- 'No': you have not exceeded the BOS threshold. You may still require a permit from local council. Review the development control plan and consult with council. You may still be required to assess whether the development is "likely to significantly affect threatened species" as determined under the test in s. 7.3 of the Biodiversity Conservation Act 2016. You may still be required to review the area where no vegetation mapping is available.

Where the area of impact occurs on land with no vegetation mapping available, the tool cannot determine the area of native vegetation cleared and if this exceeds the Area Threshold. You will need to work out the area of native vegetation cleared - refer to the BOSET user guide for how to do this.

On and after the 90 day expiry date a BDAR will be required.

Disclaimer

This results summary and map can be used as guidance material only. This results summary and map is not guaranteed to be free from error or omission. The State of NSW and Office of Environment and Heritage and its employees disclaim liability for any act done on the information in the results summary or map and any consequences of such acts or omissions. It remains the responsibility of the proponent to ensure that their development application complies with all aspects of the *Biodiversity Conservation Act 2016*.

The mapping provided in this tool has been done with the best available mapping and knowledge of species habitat requirements. This map is valid for a period of 30 days from the date of calculation (above).

Acknowledgement

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

Signature _____ Date: 20/04/2020 02:55 PM