



Your ref: SSD-63345358
Our ref: DOC25/446379

Ms Megan Ramsdale
Senior Environmental Assessment Officer
NSW Department of Planning, Housing and Infrastructure
12 Darcy St
PARRAMATTA NSW 2150

By email: mega.ramsdale@planning.nsw.gov.au

Dear Ms Ramsdale

Subject: Environmental Impact Statement (EIS) for Wattle Creek BESS

As requested, we have reviewed the exhibited documents against the Secretary's Environmental Assessment Requirements (SEARs) provided by the Department of Planning, Housing and Infrastructure to the proponent.

We are of the opinion that the EIS generally meets the Secretary's requirements. However, there are four matters that require further attention. In summary these are:

- The EIS does not identify a preferred route for the transmission line. We recommend that the proponent commits to Option 1 as this will minimise impacts to Box-Gum Grassy Woodland (BGGW) which is a Serious and Irreversible Impact (SII) entity.
- The BDAR contains some technical errors. Not all of them significantly influence the credit liability however they should be rectified in order to be BAM compliant.
- More information is required in the Biodiversity Offsetting Strategy including when and how credits will be retired in relation to the clearing process for both the Solar Farm described in this EIS and the battery facility which is described in another EIS. This should include how an offset BSA will be used to meet the offset requirements for both projects.
- A comprehensive Flood Impact and Risk Assessment (FIRA) has not been undertaken and a number of key flood related issues therefore remain unresolved.

A summary of our assessment, advice and recommended conditions of approval is provided in **Attachment A**. Detailed comments are provided in **Attachments B, C and D**.

We request that all plans required as a Condition of Approval that relate to biodiversity and flooding be developed in consultation with Conservation Programs, Heritage and Regulation (CPHR).

If you have any questions, please do not hesitate to contact Allison Treweek, Senior Team Leader, Planning, South East via rog.southeast@environment.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Michael Saxon', with a stylized, flowing script.

Michael Saxon
Director South East
Regional Delivery

6 June 2025

Attachment A – Assessment Summary for Wattle Creek BESS Environmental Impact Statement
(SSD-63345358)

Attachment B – Serious and Irreversible Impacts – Advice on SAI Entities

Attachment C - Detailed comments for Wattle Creek Energy Hub BESS Environmental Impact Statement
(SSD-63345358)

Attachment C - CPHR Assessment of MNES assessment for Wattle Creek BESS

Attachment A - BCS Assessment Summary for Wattle Creek BESS Environmental Impact Statement (SSD-63345358)

In preparing this advice CPHR has reviewed the following documents:

Wattle Creek BESS – EIS Main Text

Appendix 1 – SEARs Checklist

Appendix 7 – Biodiversity Development Assessment Report (BDAR)

Appendix 11 – Water Resources

Key Assessment Issues

1.	<i>Outstanding matters in the BDAR</i>	The following matters need to be rectified in order to be BAM compliant and meet the SEARS. These are detailed in Attachment C. Recommended action: • Complete additional surveys for Southern Myotis to ensure survey effort is consistent with the minimum survey requirements for this species. • Complete surveys for <i>Solanum amourense</i> to ensure the survey effort is consistent with the minimum survey requirements for this species. • Confirm the selection for the preferred transmission line option; We recommend Option 1 due to the lower amount of vegetation removal required. If Option 2 is selected, provide a rapid assessment plot or similar to confirm the grassland/derived grassland PCT on Transmission line Option 2. • Change PCT selection from PCT 3374 to PCT3738, or provide further justification for selecting an out of area PCT.
	<i>Extent and Timing</i>	Pre-determination

2.	<i>Biodiversity Offsetting and protection of Avoided Land</i>	This project overall involves two EIS's for overlapping projects (solar and battery), more information is required in the Biodiversity Offsetting Strategy including when and how credits will be retired in relation to the clearing process. This should include how an offset BSA would fit in, if it proceeds. Recommended action: • A more detailed Biodiversity Offsetting strategy should be provided. The offset strategy should detail the timing and project component being offset to ensure all aspects of the project in question are appropriately offset.
	<i>Extent and Timing</i>	Pre-determination

3.	<i>Flooding</i>	DCCEEW's earlier advice to DPHI (DOC23/915073-3 27/10/2023) and the SEARS required the preparation of a Flood Impact and Risk Assessment, which considers all flood events up to and including the PMF in both the existing and proposed state. The Water Resource Impact Assessment has been incorporated into the EIS but has not served the purpose intended by the SEARs. Please see Attachment C for full detailed response. Recommended action: It is recommended that a FIRA is prepared consistent with the SEARs and considers all events up to and including the PMF and highlighting the consequences of flooding on the operation of the facility and public safety risks. The FIRA should provide sufficient information demonstrating that all risks have been assessed and can be appropriately managed.
	<i>Extent and Timing</i>	Pre-construction

Attachment B - Serious and Irreversible Impacts – Advice on SAI Entities

Two SAI entities are identified in the BDAR. They are:

1. Box-gum Woodland
2. Large-eared pied bat

Large-eared Pied Bat is identified as not requiring further assessment as an SAI.

SAI Entity: Box-gum Woodland

	Steps	BCS Recommendation
1	Identify relevant entities at risk of SAI	<i>The BDAR has identified box-gum woodland as a SAI entity.</i> The project will impact between 1.67 and 2.12 ha of Box-gum Woodland, of which 1.23 ha comprises derived native grassland and 0.89 ha comprises woodland vegetation in varying degrees of condition. 1.67 ha is in the footprint of the Common Ancillary Features. There is also the potential to impact another 0.45 ha of good condition BGGW if the 'Option 2' transmission line is selected. It should be noted that Option 2 increase impacts to native vegetation clearing beyond box-gum woodland
2	Evaluation of the current extinction risk of the impacted entities	The current extinction risks that apply to this TEC are identified as Principle 1 as set out in clause 6.7 of the BC Regulation. <u>Principle 1</u> – ecological community currently in a rapid rate of decline
3	Detail measures taken to avoid impacts on the entity	<i>Table 9.2 of the BDAR states the following:</i> The 6,331 ha Project Area has provided flexibility during the design phase in order to prioritize the avoidance of White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC. The Development Footprint has been located within an area of historical clearing and ongoing pasture improvement for agricultural use. Up to an 17,000 head of sheep have been present across the Development Footprint at any one time, with much of the footprint cropped for fodder pasture. As a result, the Development Footprint has been located within the portions of the Project Area that are the most disturbed, and contain Category 1 – Exempt land

	Steps	BCS Recommendation
		mapped on the Draft NVR map reproduced in Figure 1.5 of this report. As such, areas of higher quality White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland CEEC within the Project Area have been avoided. 32.72 ha of White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland CEEC has been avoided during the design stage of the Project as detailed in Table 7.
4	Evaluate the impacts from the proposal	The Project will impact approximately 2.12 ha of this CEEC including approximately: • 1.67 ha of woodland that is described as good/moderate • 0.89 ha which is described as a derived native grassland. A total of 35.99 ha of White Box - Yellow Box - Blakely’s Red Gum Grassy Woodland and Derived Native Grassland has been recorded in the Biodiversity Survey Area. Impacts to 2.12 ha of the CEEC represents an impact to 5.89 percent of the extent of the CEEC in the Project Area.
5	Provide advice on whether the proposal is likely or unlikely to result in SAI	Due to the amount of BGGW being avoided, and the small amount of the community being impacted, CPHR consider that it is unlikely that the project will lead to Serious and Irreversible Impacts to the Box-gum woodland. However, there is an opportunity to further avoid impacts to this SAI entity, through selecting the transmission line option associated with lower native vegetation clearing.
Other Recommendations/Comments		
1	Given the scale and location of the project, the risk of a SAI is low. However, the principle of avoid and minimise impacts enshrined in the <i>Biodiversity Conservation Act 2016</i> apply. As such, it is recommended that the proponent select Option 1 for the transmission line route to minimise impact, and avoid impacting an additional 0.45 ha of this CEEC and SAI entity.	

Attachment C - Detailed comments for Wattle Creek Energy Hub BESS Environmental Impact Statement (SSD-63345358)

Flooding

CPHR has reviewed the flooding component in the Water Resource Impact Assessment.

The EIS does not address the Secretary's requirements for flooding.

The proposed Solar Farm is a critical utility to the community before, during and following a flood event. It is located in an area of approximately 6350 hectares which includes flood prone land by the Wollondilly River and its tributaries. As such the proposal should be considered by the determining authority in the context of the NSW Government's Flood Prone Land Policy as set out in the Flood Risk Management Manual, 2023. The policy aims to reduce the impact of flooding and flood liability on individual owners and occupiers, and to reduce private and public losses resulting from flooding utilising ecologically positive methods wherever possible.

An Environmental Impact Statement (EIS) dated March 2025 was provided to demonstrate compliance with the SEARs which includes flooding as part of a broader Water Resource Impact Assessment (WRM, 2025) however a comprehensive Flood Impact and Risk Assessment (FIRA) as recommended in the advice to DPHI (DOC23/915073-3 27/10/2023) and included in the SEARs has not been undertaken and a number of key flood related issues therefore remain unresolved.

The Water Resource Impact Assessment (WRIA) has not considered the impacts and risks of the proposed development over the full range of floods. The proposal should be supported by a Flood Impact and Risk Assessment (FIRA) that provides a clear understanding of flood behaviour, impacts and risks in all events up to and including the Probable Maximum Flood (PMF) as required by the SEARs. The risks (including likelihood and consequences) of all flood events on the proposed infrastructure, the site's occupants, site access during a flood and the risks of flooding causing plant shutdown and loss of power to the community should be addressed in the FIRA. It is noted that power supply is a critical utility to the community for flood emergency response, communications and flood recovery.

Guidance on a fit for purpose FIRA can be found at: [Flood Impact and Risk Assessment | NSW Environment and Heritage](#).

The WRIA has considered flood events up to the 0.2% AEP Event and stated much of the infrastructure sits outside this event and the 1% AEP Event plus 0.5 m freeboard. Section 7.2 says "... and PMF events were assessed to quantify flood depth, velocity and hazard levels." The WRIA also identifies significant consequences due to flooding during the PMF, Section 6.3 says PMF "Flooding can be expected to be extensive and devastating". Despite both statements, the WRIA has not estimated the PMF flood behaviour nor risks such as infrastructure damages and safety risks, or how they will be managed. Power supply during a flood is important for flood emergency response and telecommunications and it is also essential for community recovery following large to extreme floods. As such, the FIRA should consider the Solar Farm's operational functions over the full range of design events up to and including the PMF, to establish an understanding of flood related shutdown risks and whether interruptions to the Solar Farm's operation by extreme floods can be avoided through design. Design elements of critical components may require using a higher design flood event such as the PMF level plus freeboard.

Access to the site is shown to cross the Wollondilly River and its tributaries, within the site and externally. The Flood Assessment identified the 10% AEP as the design event for internal waterway crossings. The site access (including internal to the site and access to the nearest town) should be considered as part of a FIRA for all events up to and including the PMF, as it impacts emergency management considerations and safety for workers on the site. The FIRA should provide further details regarding flood access, isolation (including isolation duration), warning times and emergency management arrangements (including emergency service access) in all events up to and including the PMF. This could include outcomes of any flood related public safety requirements provided by

council or the NSW SES. Reference and details to undertake emergency management planning assessment can be found in the following EM01 guide: [Support for Emergency Management Planning | NSW Environment and Heritage](#)

Australian Rainfall and Runoff 2019 (ARR19) identifies limitations with the RFFE tool, including not using it for catchment areas greater than 1000km². RFFE has been used to model catchments exceeding this value in the WRIA. The use of RFFE to undertake flood modelling is not a standard approach. The FIRA should justify the use and implications of RFFE rather than undertaking hydrological modelling and identify the steps undertaken to ensure reliability of the model, such steps are recommended in ARR19. The hydraulic modelling has not modelled the post development flood behaviour and should be undertaken particularly where fill in flood prone land and or crossings of the Wollondilly River are proposed that could impact flood behaviour and flood damages.

The flood assessment has identified there is a potential risk to life and infrastructure due to failure of farm dams on site. The location or size of these dams has not been identified in the Flood Assessment. The Flood Assessment should address these risks or remove the statement from the report if it is not warranted.

To summarise, DCCEEWs earlier advice to DPHI (DOC23/915073-3 27/10/2023) and the SEARS required the preparation of a Flood Impact and Risk Assessment, which considers all flood events up to and including the PMF in both the existing and proposed state. The Water Resource Impact Assessment has been incorporated into the EIS but has not served the purpose intended by the SEARS. It is recommended that a FIRA is prepared consistent with the SEARS and considers all events up to and including the PMF and highlighting the consequences of flooding on the operation of the facility and public safety risks. The FIRA should provide sufficient information demonstrating that all risks have been appropriately managed, and the SEARS addressed to support the determining authority in its decision making.

Recommended actions:

- A FIRA should be prepared consistent with the SEARS and considers all events up to and including the PMF and highlighting the consequences of flooding on the operation of the facility and public safety risks. The FIRA should provide sufficient information demonstrating that all risks have been appropriately managed, and the SEARS addressed to support the determining authority in its decision making.

Biodiversity

The Biodiversity Development Assessment Report (BDAR) at Appendix 7 of the EIS will meet the Secretary's requirements for biodiversity if the following matters are addressed.

Specific comments on the BDAR and related sections in the EIS are as follows:

1. Incorrect PCT selection and justification

The selection of PCT 3374 that is not found within the same IBRA subregion or elevation as the subject land requires explanation. PCT 3374 is found at elevations greater than 800m, the subject land ranges from 560m to 660m and it is not associated with the Bungonia subregion. The species listed in the justification align with PCT 3738, a PCT that is mapped as being present within the subject land on the State Type Vegetation Mapping (STVM).

CPHR believe the identification of PCT 3374 is incorrect with no justification being provided for its use over a suitable local PCT that meets the species, elevation and IBRA subregion requirements.

Incorrect PCT allocation will have impacts on ecosystem credits, candidate species and offsetting obligations and must be addressed.

Please provide evidence or justification of the methods used to quantify the vegetation zones. The spatial data indicates that BAM plots are located a significant distance away from the vegetation zone, which was used to generate the Vegetation integrity score. This may be rapid assessment points or other survey methods used but not shown in the BDAR. For example, PCT 3376 DNG (VegZone_ID_BESS 7 in the supplied spatial data) is surrounded by DNG listed as PCT 3374. BAM plots on either side of the zone indicate this classification, while the BAM plot used to allocate the VI score for the zone classified as PCT 3376 DNG is located 7km away. An explanation should be provided as to why this zone is considered separate from the surrounding DNG.

2. *Solanum armorense* survey requirements

CPHR are aware of this species being located on a nearby project. As the species is at risk of SAI it is important that the correct survey methods are used to show this species will not be impacted by the project.

The minimum survey effort for *Solanum armorense* has not been met. As per the TBDC: *'May require multiple surveys. Survey up to 3 times, spaced over a year if not found during any earlier survey.'* Targeted surveys for this species have only been completed once, a further effort of two targeted surveys is required to meet the minimum survey requirements. The grid point survey used is not appropriate for surveying this species on this project as there is not over 50ha of suitable habitat present. The remaining surveys must be completed in the associated PCTs using the transect method at the appropriate width for growth form and vegetation density as set out in section 4.2 of the threatened plant survey guidelines to be compliant. More information can be found in the TBDC and at the following link [Surveying threatened plants and their habitats: NSW survey guide for the Biodiversity Assessment Method](#).

3. *Southern Myotis (Myotis Macropus)* survey requirements

The survey effort for Southern Myotis does not meet the minimum survey requirements set out in the following guidelines ['Species credit' threatened bats and their habitats - NSW guide for the Biodiversity Assessment Method](#). As per the guidelines: *'Passive acoustic detection, with the microphone directed over pools of water along creeks or rivers or other waterbodies or active detection searching over suitable waterbodies in potential habitat using acoustic detectors and visual aids to confirm the presence of southern myotis.'* Only one acoustic detection device was placed in a riparian zone. This falls short of the minimum effort of 4 detectors for 4 nights for every <2.5km of suitable habitat. Potential habitat is listed as *'All PCTs associated with the species (as per the TBDC) within 200 metres of the bank of any medium to large permanent creeks, rivers, lakes or other waterways (i.e. with pools/ stretches 3 metres or wider) on the subject land (Anderson et al. 2005)'* this includes farm dams with open water surfaces over 3m.

Extra surveys are required to meet the minimum survey effort. These surveys should target suitable habitat as listed in the TBDC and survey guidelines. This includes suitable farm dams within 200m of any associated PCTs within the development footprint.

4. *Technical errors and inconsistencies throughout the BDAR*

There are a number of technical issues and inconsistencies throughout the BDAR. While it is unlikely these will affect credit obligations or assessment outcomes, they should be noted and rectified for future BDARs.

- BCS needs to be updated to CPHR (Conservation Programs, Heritage and Regulation) in the BDAR.
- Grid-based surveys have been incorrectly applied for flora. CPHR will accept the current surveys (with the exception of *Solanum amourense* as noted above). However this method should only be used for areas of suitable habitat over 50ha, many of the flora species surveyed do not have 50ha of associated PCT within the subject land, therefore this method was not appropriate.
- Remote camera trapping is not a recognised method for koala surveys under the koala survey guidelines.
- *Delma impar* surveys are stated as finishing in November 2024. The BDAR was submitted in May 2025. If the surveys were not completed or have been completed then this needs to be updated.
- Brush-tailed Phascogale. Further justification needs to be provided for their exclusion as the project is within their predicted range.
- incorrect words used, incorrect areas stated. The BDAR should be reviewed to ensure the correct words and areas are used for consistency.
- Inconsistency between data in tables eg. inconsistency between Condition class, Veg zone ID and credits as shown below.

Table ES.1

Transmission Line option 1						
4	3374	Goulburn Tableland Peppermint Grassy Forest	DNG- Moderate/Degraded	17.7	2.54	17
8			Good/Moderate	76	1.39	40
7			Moderate/Degraded	69.7	0.46	12
6			DNG – exotic dominated	1	1.60	0

Table 10.2

Vegetation zone	PCT name	TEC	Impact area (ha)	Current VI score	Future VI score	Change in VI score	HBT	Biodiversity risk weighting	Number of ecosystem credits required
Transmission Line Option 1									
2- 3374 DNG- Moderate/Degraded	Goulburn Tableland Peppermint Grassy Forest	N/A	2.54	17.7	0	-19	No	2	17
4 3374 DNG exotic dominated	Goulburn Tableland Peppermint Grassy Forest	N/A	1.6	1	0	-1	No	2	40
5- 3374 - Moderate/Degraded	Goulburn Tableland Peppermint Grassy Forest	N/A	0.46	69.7	0	-69.7	Yes	2	12
6-3374 Good/Moderate	Goulburn Tableland Peppermint Grassy Forest	N/A	1.39	76	0	-76	Yes	2.5	0
Transmission Line Option 2									

Recommended actions:

- Complete surveys for *Southern Myotis* in line with the BAM
- Complete surveys for *Solanum amourense* in line with the BAM
- Provide a rapid assessment plot or similar to confirm the grassland/derived grassland PCT on Transmission line Option 2
- Change PCT selection from PCT 3374 to PCT3738, or provide further justification for selecting an out of area PCT
- Technical issues should be corrected as per the above dot points

Attachment D - CPHR Assessment of MNES assessment for Wattle Creek BESS

Consideration of Matters of National Environmental Significance (MNES).

In accordance with the Bilateral Agreement between the Commonwealth and NSW Governments, the Conservation Programs, Heritage and Regulation Group (CPHR) NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) provides the following additional information, required by the Commonwealth Minister in deciding whether or not to approve a proposal under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

CPHR relied on the following documents and information to complete the assessment:

- Wattle Creek Energy Hub Solar Farm - Environmental Impact Statement – Spark Renewables – March 2025
- The *Biodiversity Development Assessment Report (BDAR) Appendix A: Bilateral Agreement MNES Assessment* prepared by Umwelt on behalf of Spark Renewables Pty Ltd – March 2025
- Spatial data supplied to CPHR with the BDAR

Overview

Matters of National Environmental Significance (MNES) listed under the EPBC Act, that are known or with potential to occur within the Development Footprint, were assessed in accordance with the EPBC Act Significant Impact Guidelines (DoE 2013) and any applicable recovery plans or EPBC Act policy statements.

The assessments undertaken have identified that the Project is considered likely to result in significant impacts under the EPBC Act to the gang-gang cockatoo (*Callocephalon fimbriatum*) and White Box – Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC), while impacts to the Southeastern Glossy-black Cockatoo (*Calyptrorhynchus lathami*), Large-eared Pied Bat (*Chalinolobus dwyeri*) and diamond firetail (*Stagonopleura guttata*), were considered not likely to result in a significant impact.

Offsets in the form of species credits for the south-eastern glossy black-cockatoo, large-eared pied bat and gang-gang cockatoo and ecosystem credits for the White Box – Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC and diamond firetail are proposed under the NSW BOS in keeping with the Bilateral Agreement.

The avoidance of significant impacts depends heavily on a suitable offsetting strategy and the conservation and management measures for the biodiversity values onsite during construction and operation of the facility.

Recommended actions:

- 'Option 1' transmission line route should be selected to minimise impacts on biodiversity including MNES.
- A detailed offsetting strategy should be provided, including detail on when and how credits will be retired in relation to the clearing process. This should include how an offset BSA would fit in, if it proceeds.
- The commitment to providing CPHR with a CEMP and BMP for the construction and operation of the facility must be adhered to.

TABLE 1: REVIEW OF ASSESSMENT OF EPBC ACT LISTED THREATENED SPECIES AND COMMUNITIES

Requirement	Information	Ref: (BAM / BLA1)
Background & Description of Action	Does the EIS/BDAR2: ☒ clearly show how operational and construction footprints, including clearing boundaries, structures to be built and elements of the action are situated with regard to MNES ☐ depict stages and timing of the action that may impact on MNES ☒ provide a map(s) of the subject land boundary showing the final proposal/disturbance footprint with respect to location of MNES, including GIS shape files Include references to where this detail is provided. Provide advice on the adequacy of the background and action description with respect to MNES and identify any recommended additional information requirements: Spark Renewables proposes to develop a battery energy storage system in Marulan, in the Southern Tablelands of NSW (the project). A site map showing project footprint is provided in the BDAR at Figure 1.1 (Image 1 below). Images 2 – 5 show the location of threatened entities recorded in the study area which include MNES.	BAM Chapters 3, 4, 5 and 8

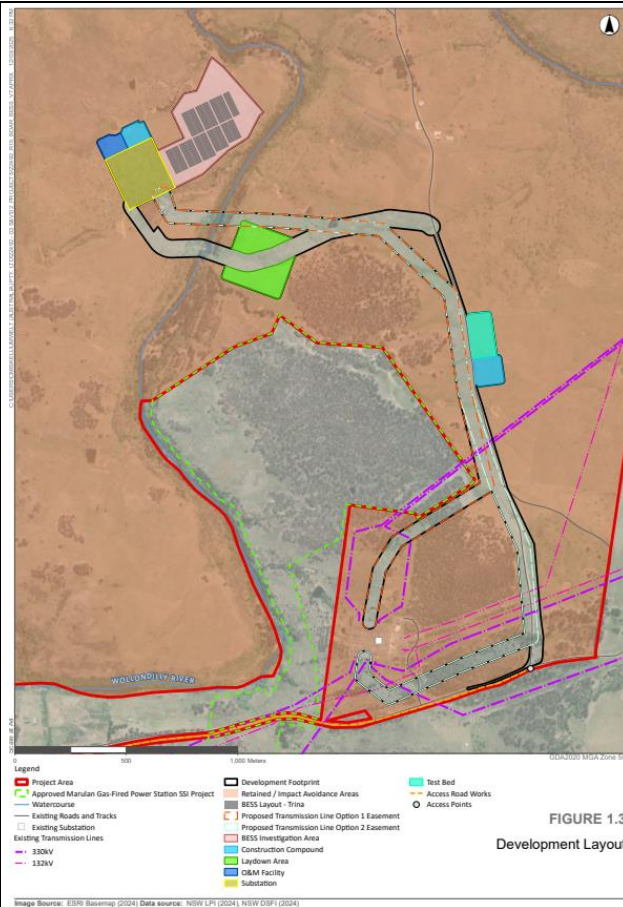


FIGURE 1.3
Development Layout

Image 1 – Site Map

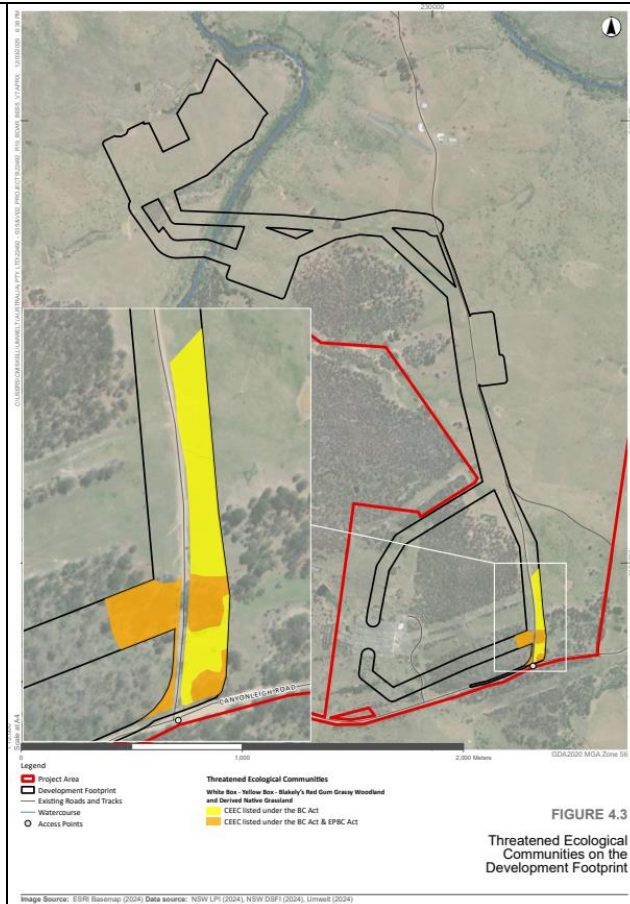


Image 2 – Extent of EPBC Act listed box-gum woodland within the study area

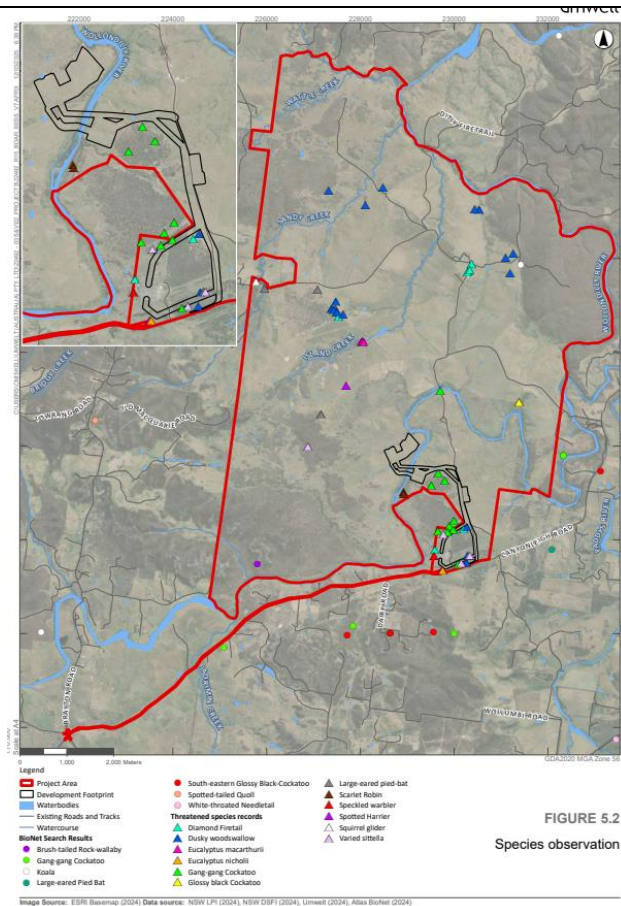


Image 3 – Threatened fauna records, including EPBC Act listed species

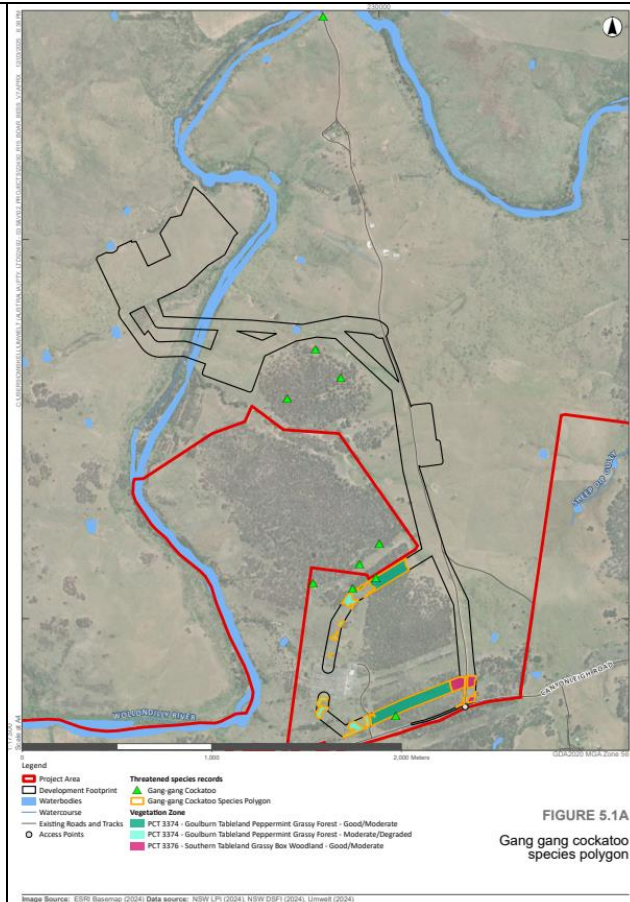


Image 4 – Gang gang Cockatoo Species Polygon

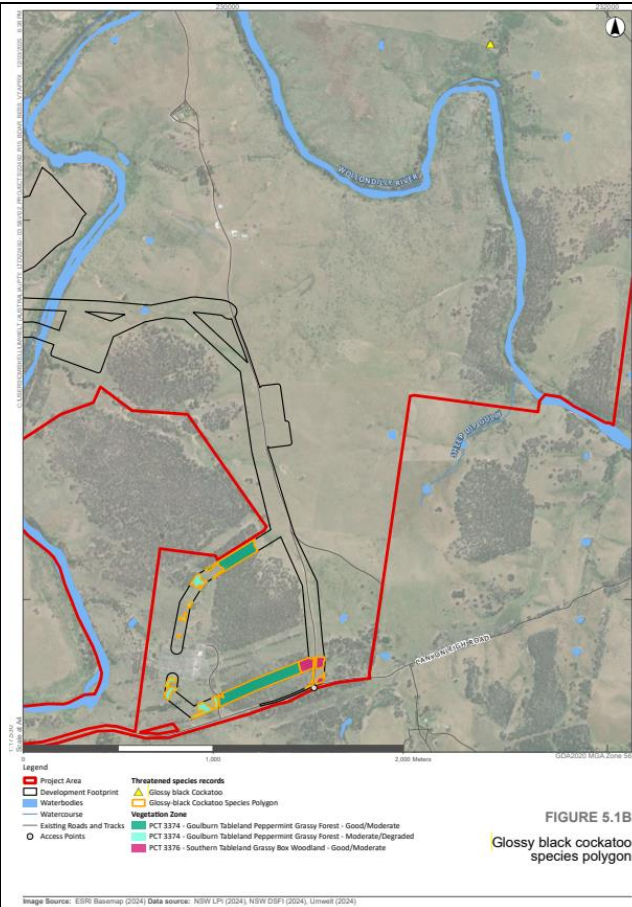


Image 5 – Glossy-black Cockatoo Species Polygon

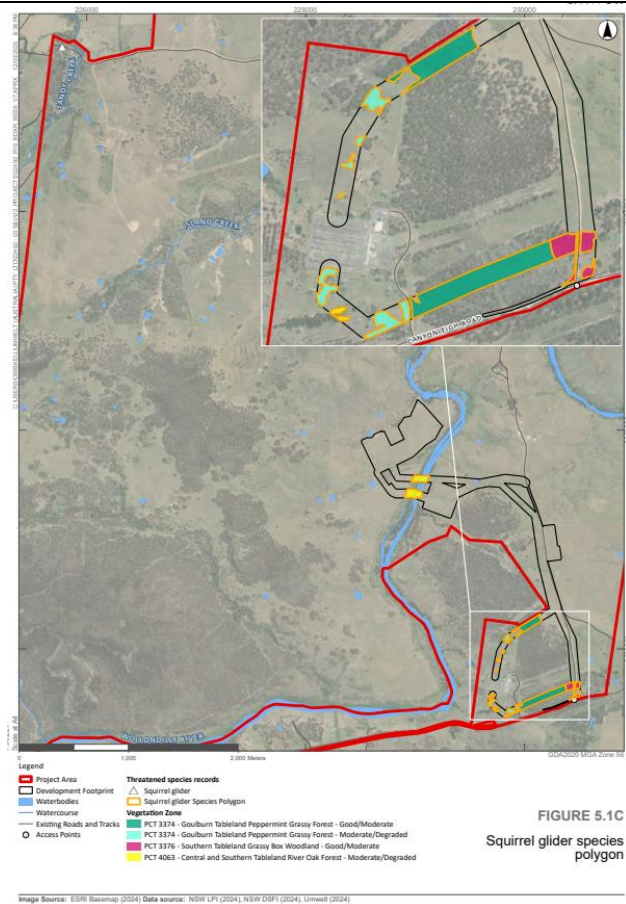


Image 6 – Squirrel glider species polygon

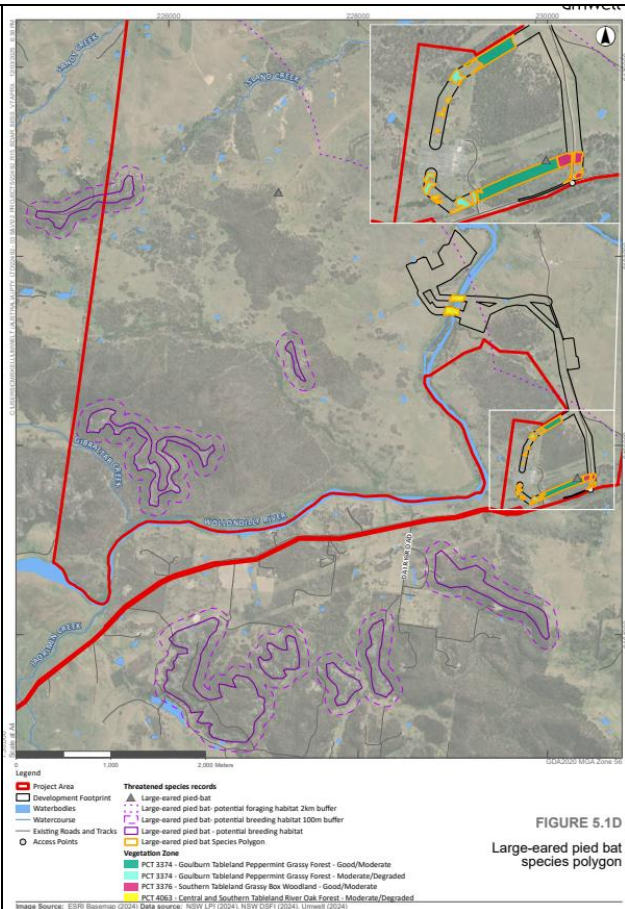


Image 7 – Large-eared pied bat species polygon

Landscape Context of the MNES

Provide advice on the adequacy of the landscape context information and identify any additional information requirements:

The project occurs in the South East Highlands Interim Biogeographic Regionalisation of Australia (IBRA) region, and the Bungonia IBRA sub-region.

The landscape features relevant to each IBRA subregion within the landscape assessment area have been used to inform the suitability of habitats for threatened species. As per the requirements of the BAM, calculations have been broken down by subregion.

BAM Section 3.1 BLA clause 7.4

	Section 3 adequately describes the location of the project area in the context of landscape, habitat connectivity, catchment, and geological features. CPHR confirms that details on landscape context have been undertaken in accordance with the BAM, and the landscape assessment meets the requirements of Stage 1 (s3 and 4) of the BAM. No additional information is required.	
EPBC Act Listed Threatened Species & Communities	Verify that the EIS/BDAR includes relevant information on the identification of all EPBC Act listed threatened species and communities on the site or in the vicinity via: ☒ field based survey effort ☒ published peer reviewed literature ☐ local data ☒ supporting databases (such as the NSW BioNet Vegetation Classification, NSW BioNet Threatened Biodiversity Data Collection, NSW BioNet Atlas, Commonwealth Species Profile and Threats Database search results) ☒ Verify that the EIS/BDAR includes appropriate mapping of all EPBC Act listed threatened species and communities in accordance with the relevant Commonwealth Listing Advice. The EIS/BDAR should include important populations and critical habitat as defined in Approved Listing Advice, Approved Conservation Advice and Recovery Action Plans. Provide advice on the adequacy of the identification methods and mapping information / any additional information requirements: The EPBC Act has been considered in this assessment through: • Desktop review to determine the listed biodiversity matters that are predicted to occur within the locality of the proposal and hence could occur, subject to the habitats present • Targeted field surveys for listed threatened biota and migratory species • Assessment of potential impacts on threatened and migratory biota, including assessments of significance in accordance with the EPBC Act Significant Impact Guidelines 1.1 (DoE 2013) • Identification of suitable impact mitigation and environmental management measures for threatened and migratory biota, where required • Identification of biodiversity offsets for potential significant impacts on listed threatened species and communities. • Staged surveys of the proposal site were conducted in accordance with the BAM and appropriate threatened species survey guidelines for targeted species. Table 3.1 in the BDAR sets out the survey techniques and timing. Site surveys included:	BAM Chapters 4 and 5

	• Initial site stratification and vegetation mapping • Sampling of BAM vegetation integrity plots • Habitat assessments • Targeted surveys for threatened flora • Targeted surveys for threatened fauna and breeding habitat resources that are species credit matters. Fauna survey methods are detailed in Section 5.4 of the BDAR. However, this may be complicated by the selection of an incorrect PCT. The selection of PCT 3374 that is not found within the same IBRA subregion or elevation as the subject land has not been addressed or justified in the BDAR. PCT 3374 is found at elevations greater than 800m, the subject land ranges from 560m to 660m. It is not associated with the Bungonia subregion. These issues have not been addressed in the BDAR. The species listed in the justification align with PCT 3738, a PCT that is mapped as being present within the subject land on the State Type Vegetation Mapping (STVM). CPHR believe the identification of PCT 3374 is incorrect with no justification being provided for its use over a suitable local PCT that meets the species, elevation and IBRA subregion requirements. Incorrect PCT allocation will have impacts on ecosystem credits, candidate species and offsetting obligations and must be addressed. Flora surveys - Targeted searches were completed by using the Large Area Grid Method. CPHR will accept the current surveys (with the exception of <i>Solanum armorense</i>, not an EPBC listed species). However, this method should only be used for areas of suitable habitat over 50ha, many of the flora species surveyed do not have 50ha of associated PCT within the subject land, therefore this method was not appropriate. Confirm that all EPBC Act listed threatened species and communities that occur on the subject land, or in the vicinity, have been identified in the BDAR/EIS including those that are ecosystem credit species. If any species and communities identified in the referral documentation (provided by DAWE) have been ruled out because they don't occur on or near the site, verify that there is robust analysis and justification for why these species can be ruled out. Provide advice on whether there are any other MNES species or communities that are missing from the assessment based on CPHR knowledge and experience. Advise whether there is appropriate justification and supporting evidence for the addition and/or exclusion of any EPBC Act listed threatened species and/or communities from the list (if applicable):	
--	---	--

	Appendix 2 of Appendix A in the BDAR contains the likelihood of occurrence for threatened species with potential to occur on the site. CPHR generally support the conclusions of Appendix 2 in the exclusion and inclusion of MNES for further assessment. Appendix 3 of Appendix A in the BDAR contains a detailed assessment of EPBC listed TEC and Threatened species that have been assessed for significance.	
Avoidance, Minimisation, Mitigation & Management	Verify that the EIS/BDAR demonstrates all feasible alternatives and efforts to avoid and minimise impacts on EPBC Act listed threatened species and communities (including direct, indirect and prescribed impacts) including an analysis of alternative designs and engineering solutions, modes or technologies, routes and locations of facilities and sites within the subject site. Verify that the EIS/BDAR identifies any other site constraints in determining the location and design of the proposal (such as bushfire protection requirements, flood planning levels, servicing constraints, etc). Verify that the EIS/BDAR provides feasible measures to mitigate and/or manage impacts on EPBC Act listed threatened species and communities (including direct, indirect and prescribed impacts) including: techniques, timing, frequency and responsibility, identify measures for which there is risk of failure, evaluate the risk and consequence of any residual impacts, any adaptive management strategy proposed to monitor and respond to impacts. Provide advice on whether all feasible impact avoidance, minimisation, mitigation and management measures have been considered and are adequately justified: Section 9 of the BDAR addresses the avoidance and mitigation measures. The following key impact avoidance and mitigation measures have been identified for the Project: • Biodiversity impact avoidance through Development Footprint alterations which have resulted in biodiversity impact avoidance through an avoidance of approximately 68.41 per cent (Development Footprint has reduced from 1,838.09 ha to 580.62 ha) of the Project Area. • Selection of higher rated capacity solar panels to ensure that the Development Footprint is minimised. • Optimising opportunities to maintain connectivity between the Project Area and surrounding areas of intact native vegetation. • Redesign of the Project to minimise impacts on areas of intact native woodland and hollow bearing trees which reduced impacts to suitable foraging and/or breeding habitat for several species including Gang-gang Cockatoo and Large-eared Pied Bat • Alteration of the Development Footprint to avoid impact to planted individuals of both Paddy's River box (<i>Eucalyptus macarthurii</i>) and narrow-leaved peppermint (<i>Eucalyptus nicholii</i>).	BAM Chapters 6, 7 and 8 BLA clause 7.1

	• Reduction of the Development Footprint to avoid impacts to areas of PCT 3373 Goulburn Tableland Box-Gum Grassy Forest (which is associated with White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland which is listed as a CEEC under the BC Act and EPBC Act). • Reduction of the Development Footprint to avoid impacts to all areas of PCT 3643 Bungonia Tableland Silvertop Ash-Stringybark Forest which comprises good condition remnant native vegetation. • Reduction and alteration of the Development Footprint to minimise impacts to areas of the White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC. This included impact avoidance measures targeted at retaining areas of woodland with intact crown condition, areas of scattered trees and higher quality derived native grassland condition zones. • Reduction of the Project Area to avoid riparian areas and dams with emergent vegetation that may provide habitat for threatened species. Impacts which cannot be avoided or minimised will be managed in the following ways: • The preparation and implementation of a Construction Environmental Management Plan (CEMP) and Vegetation Management Plan (VMP). The plans will be prepared in consultation with relevant government agencies. • Education and training for construction and operations staff. • Establishing vegetation protection zones for retained areas. • Pre-clearance surveys and ecological supervision, enabling rescue of native fauna as well as salvaging habitat features (such as hollows or selected felled timber) for relocation into adjacent retained areas. • Erosion and sediment control. • Weed management.	
Impact Assessment	Verify that the EIS/BDAR: Identifies the residual adverse impacts likely to occur to each EPBC Act listed threatened species and/or community after the proposed avoidance and mitigation measures are taken into account Provides adequate justification and evidence for the predicted level of impact, with reference to the: Commonwealth's Significant Impact Guideline: https://www.environment.gov.au/system/files/resources/42f84df4-720b-4dcf-b262-48679a3aba58/files/nes-guidelines_1.pdf	BAM Chapters 8 and 9 BLA clauses 6.2(b)(i)-(ii) and 7.1

	DPIE Guidance to Assist a Decision-Maker to Determine a Serious and Irreversible Impact (SAIL): https://www.environment.gov.au/system/files/resources/42f84df4-720b-4dcf-b262-48679a3aba58/files/nes-guidelines_1.pdf	
	Complete the following information for each EPBC Act listed threatened species and/or community (add/remove rows as necessary): • EPBC Act listed threatened species and/or community • nature and consequences of impacts (i.e. direct and indirect) • duration of impact (e.g. construction, operation, life of project) • quantum of impact • consequences of impacts on the species, the population and / or extent of the community at local, state and national scales Confirm the level of predicted impact (cross appropriate): ☒ high risk of impact (requiring offsets)# or SAIL ☒ Low risk of impact (not requiring offsets) # For purposes of EPBC approval, as a minimum, significant adverse residual impacts must be offset (significant impact can be evaluated with reference to the significance impact guidelines) Appendix 4 in Appendix A provides a Summary Table for Assessment of Predicted Impacts to MNES. A list of MNES subject to an assessment of significance is included in Table 1.1 Appendix 3 of Appendix A. Table 1.1 - List of MNES subject to assessment of significance	

Table 1.1 MNES Likely to be Impacted by the Proposed Action

Common Name	Scientific Name	EPBC Act Status	Refer to
Threatened Ecological Communities			
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland		CE	Section 2.1
Critically Endangered or Endangered Species			
gang-gang cockatoo	<i>Callocephalon fimbriatum</i>	E	Section 3.1
large-eared pied bat	<i>Chalinolobus dwyeri</i>	E	Section 3.2
Paddy's River box, Camden woollybutt	<i>Eucalyptus macarthurii</i>	E	Section 3.3
south-eastern hooded robin	<i>Melanodryas cucullata cucullata</i>	E	Section 3.4
greater glider (southern and central)	<i>Petauroides volans</i>	E	Section 3.5
koala	<i>Phascolarctos cinereus</i>	E	Section 3.6
swift parrot	<i>Lathamus discolor</i>	CE	Section 3.7
regent honeyeater	<i>Anthochaera phrygia</i>	CE	Section 3.8
Key's matchstick grasshopper	<i>Keyacris scurra</i>	E	Section 3.9
Vulnerable Species			
south-eastern glossy black cockatoo	<i>Calyptorhynchus lathami lathami</i>	V	Section 4.1
brown treecreeper (south-eastern)	<i>Climacteris picumnus victoriae</i>	V	Section 4.2
narrow-leaved peppermint	<i>Eucalyptus nicholii</i>	V	Section 4.3
painted honeyeater	<i>Grantiella picta</i>	V	Section 4.4
yellow-bellied glider	<i>Petaurus australis australis</i>	V	Section 4.5
diamond firetail	<i>Stagonopleura guttata</i>	V	Section 4.6
grey headed flying fox	<i>Pteropus poliocephalus</i>	C	Section 4.7
pink-tailed worm-lizard	<i>Aprasia parapulchella</i>	V	Section 4.8

The MNES assessment included in the BDAR has not addressed local, state or national consequences. CPHR has prepared this table based on our assessment.

Table 4 – Local, state and national consequences of the impact, not addressed in the BDAR

MNES Entity	Area of Impact (ha)	Local consequence	State consequence	National consequence
Threatened Ecological Communities (TEC)				
White Box Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Ancillary and common features: 0.44 ha Transmission line option 1: 0 ha Transmission line option 2: 0.45 ha	Moderate	Low	Low
Flora				
Paddy's River Box	0	Nil	Nil	Nil
Narrow-leaved Black Peppermint	0	Nil	Nil	Nil
Fauna				
Gang gang cockatoo	Ancillary and common features 0.44 ha Transmission line option 1 1.85 ha Transmission line option 2 4.02 ha	Low	Low	Low

	Large-eared pied bat	Ancillary and common features: 2.38 ha Transmission line option 1: 1.85 ha Transmission line option 2: 4.13 ha	Low	Low	Low	
	South-eastern hooded robin	Ancillary and common features: 2.38 ha Transmission line option 1: 1.85 ha Transmission line option 2: 4.13 ha	Low	Low	Low	
	Greater glider (southern and central)	Ancillary and common features: 2.38 ha Transmission line option 1: 1.85 ha Transmission line option 2: 4.13 ha	Low	Low	Low	

	Koala	Ancillary and common features: 2.38 ha Transmission line option 1: 1.85 ha Transmission line option 2: 4.13 ha	Low	Low	Low	
	Swift parrot	Ancillary and common features: 2.38 ha Transmission line option 1: 1.85 ha Transmission line option 2: 4.13 ha	Low	Low	Low	
	Regent honeyeater	Ancillary and common features: 2.38 ha Transmission line option 1: 1.85 ha Transmission line option 2: 4.13 ha	Low	Low	Low	

	Key's matchstick grasshopper	Ancillary and common features: 0.44 ha Transmission line option 1: 0 ha Transmission line option 2: 0.45 ha	Low	Low	Low	
	South-eastern Glossy Black Cockatoo	Ancillary and common features: 0.44 ha Transmission line option 1: 1.85 ha Transmission line option 2: 4.02 ha	Low	Low	Low	
	Brown Treecreeper (Southern-Eastern)	Ancillary and common features: 2.38 ha Transmission line option 1: 1.85 ha Transmission line option 2:	Low	Low	Low	

		4.13 ha				
	Painted Honeyeater	Ancillary and common features: 2.38 ha Transmission line option 1: 1.85 ha Transmission line option 2: 4.13 ha	Low	Low	Low	
	Yellow-bellied Glider	Ancillary and common features: 2.38 ha Transmission line option 1: 1.85 ha Transmission line option 2: 4.13 ha	Low	Low	Low	
	Diamond Firetail	Ancillary and common features: 2.38 ha Transmission line option 1: 1.85 ha	Low	Low	Low	

		Transmission line option 2: 4.13 ha				
	Grey-headed Flying Fox	Ancillary and common features: 2.38 ha Transmission line option 1: 1.85 ha Transmission line option 2: 4.13 ha	Low	Low	Low	
	Pink-tailed worm lizard	0	Nil	Nil	Nil	
	Provide advice on whether adequate justification and evidence is provided for species and communities that have been identified as being at low risk of impact. Specific risks to the MNES are listed against each species or community in Tables 2.1 to 5.1 in Appendix 3.					
Offsets	Verify that the EIS/BDAR: ☒ identifies any MNES that haven't been offset using the BAM ☒ identifies how impacts requiring offsets correlate to MNES impacts ☒ identifies the plant community types (PCTs) requiring offset and the number and type of ecosystem credits required for impacts to MNES ☒ identifies threatened species requiring offset and the number of species credits required for impacts to MNES ☒ correctly uses the BAM (and BAM calculator) to identify the number and class of biodiversity credits that need to be offset to achieve a standard of 'no net loss' of biodiversity ☒ identifies if ecological rehabilitation and/or biodiversity conservation actions are proposed for offsetting					BAM Chapter 10 BLA clauses 7.1 and 7.2

	☒ if known, identifies any other offsetting approach proposed, such as land-based offsets, retiring credits by payment into the Biodiversity Conservation Fund and/or through supplementary measures#. # In accordance the BAM there is no longer a requirement to define the offsetting approach at EIS stage. Complete the Impacts and Offsets Summary table included later in this document at Table 5. Provide advice on the adequacy of the proposed offsets in meeting the requirements of the BAM: Appendix 4 in Appendix A provides a Summary Table for Assessment of Predicted Impacts to MNES, this includes what biodiversity credits are required to offset significant impacts to EPBC Act MNES. Section 11 of the BDAR also provides a list of credits required, and briefly outlines the Biodiversity Offset Strategy. CPHR would like to see more detail, including timing of offsetting against timing of clearing works, and where the potential BSA for offsetting might fit in.	
Other Considerations	Verify if any relevant Commonwealth guidelines and policy statements are applicable to the action and listed threatened species and/or community, including but not limited to: • International environmental obligations • Recovery Plans • Approved Conservation Advice • Threat Abatement Plans • The relevant Commonwealth guidelines and policy statements for each species and community are available at: http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl For each EPBC Act listed threatened species and/or community, provide advice on whether the assessment has been adequately informed by applicable Commonwealth guidelines and/or policy statements. For example, the interaction between the proposed action and important populations or critical habitat identified in policy documents and/or the interaction between the proposed action and threatening processes or recommended conservation actions outlined in Commonwealth policies and plans. The assessment of each individual MNES in Appendix 3 refers to each of these key documents where relevant, under the section titled “Relevant Guidelines and Policy Statement” • International environmental obligations The proposal does not impact any Ramsar wetlands, and there are no other international obligations referred to in the BDAR.	BLA clauses 6.2(b)(iv), 7.2(c), 7.3 and 7.4

	• Important Populations No important populations of the MNES assessed for significance will be impacted by the proposal. • Critical habitat There are no areas of Critical Habitat listed on the Register of Critical Habitat in the Species Profile and Threats Database that occur within the project footprint. • Key Threatening Processes and Threat Abatement Plans The assessment of each individual MNES in Appendix 3 of Appendix A refers to each of these key documents where relevant, under the section titled “Relevant Guidelines and Policy Statement”	
Recommended Conditions	Provide advice on any recommended conditions and reasons for imposing the conditions: General Further detailed comments on the assessment are provided in Attachment C of the letter that this assessment is attached to. This template is Attachment D to the letter.	BLA clause 6.2(c)(iii)

Table 5 - MNES impact and offset summary

Table A4.1 Summary Table for Assessment of Predicted Direct Impacts on EPBC Act-listed Threatened Species and Communities

Description of Threatened Species/ Community listed under EPBC Act	Description of PCTs associated with the ecosystem cred species/ ecological community (if applicable)	Area of Predicted Direct Impact (ha)	Credits Required	Offsetting Approach	Page References
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC	Ancillary facilities common to the BESS and Solar Projects PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate).	Removal of 0.44 ha of habitat	13 ecosystem credits	Direct impacts will be offset through ecosystem credits	MNES Assessment Appendix 3, Section 2.1 (AoS) BDAR Section 10.1.1 (Ecosystem Credits)
	Transmission line Option 2 PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate).	Removal of 0.45 ha of habitat	17 ecosystem credits		
gang-gang cockatoo	Ancillary facilities common to the BESS and Solar Projects PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate).	Removal of 0.44 ha of potential breeding and foraging habitat	17 species credits	Direct impacts to foraging habitat will be offset through ecosystem credits. Impacts to breeding habitat will be offset through species credits	MNES Assessment Appendix 3, Section 3.1 (AoS) BDAR Section 10.1.2 (Species Credits)
	Transmission line Option 1 PCT 3376: Southern Tableland Grassy Box Woodland.	Removal of 1.85 ha of potential breeding and foraging habitat	69 species credits		
	Transmission line Option 2 PCT 3376: Southern Tableland Grassy Box Woodland.	Removal of 4.02 ha of potential breeding and foraging habitat	150 species credits		
large-eared pied bat	Ancillary facilities common to the BESS and Solar Projects - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 2.38 ha of foraging habitat	81 species credits	Direct impacts to foraging habitat will be offset through ecosystem credits and species credits	MNES Assessment Appendix 3, Section 3.2 (AoS) BDAR Section 10.1.2 (Species Credits)
	Transmission line Option 1 - PCT 3374: Goulburn Tableland Peppermint Grassy Fores (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/degraded).	Removal of 1.85 of foraging habitat	103 species credits		
	Transmission line Option 2 PCT 3374 - Goulburn Tableland Peppermint Grassy Forest (good/moderate).	Removal of 4.13 ha of foraging habitat	229 species credits		

Description of Threatened Species/ Community listed under EPBC Act	Description of PCTs associated with the ecosystem cred species/ ecological community (if applicable)	Area of Predicted Direct Impact (ha)	Credits Required	Offsetting Approach	Page References
Paddy's River box	N/A	-	-	N/A - no direct or residual impacts predicted to this species	MNES Assessment Appendix 3, Section 3.3 (AoS)
south-eastern hooded robin	Ancillary facilities common to the BESS and Solar Projects - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 2.38 ha of potential habitat	115 ecosystem credits	Direct impacts will be offset through ecosystem credits	MNES Assessment Appendix 3, Section 3.4 (AoS) BDAR Section 10.1.1 (Ecosystem Credits)
	Transmission line Option 1 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/good).	Removal of 1.85 ha of potential habitat	52 ecosystem credits		
	Transmission line Option 2 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/degraded) - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 4.13 ha of potential habitat	96 ecosystem credits		

Description of Threatened Species/ Community listed under EPBC Act	Description of PCTs associated with the ecosystem cred species/ ecological community (if applicable)	Area of Predicted Direct Impact (ha)	Credits Required	Offsetting Approach	Page References
greater glider	Ancillary facilities common to the BESS and Solar Projects - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 2.38 ha of potential habitat	115 ecosystem credits	Species credit species. As no residual impacts no credits required.	MNES Assessment Appendix 3, Section 3.5 (AoS) BDAR Section 10.1.1 (Ecosystem Credits)
	Transmission line Option 1 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/good).	Removal of 1.85 h of potential habitat	52 ecosystem credits		
	Transmission line Option 2 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/degraded) - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 4.13 ha of potential habitat	96 ecosystem credits		

Description of Threatened Species/ Community listed under EPBC Act	Description of PCTs associated with the ecosystem cred species/ ecological community (if applicable)	Area of Predicted Direct Impact (ha)	Credits Required	Offsetting Approach	Page References
koala	Ancillary facilities common to the BESS and Solar Projects - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 2.38 ha of potential foraging habitat	115 ecosystem credits	Direct impacts will be offset through ecosystem credits	MNES Assessment Appendix 3, Section 3.6 (AoS) BDAR Section 10.1.1 (Ecosystem Credits)
	Transmission line Option 1 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/good).	Removal of 1.85 h of potential foraging habitat	52 ecosystem credits		
	Transmission line Option 2 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/degraded) - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 4.13 ha of potential foraging habitat	96 ecosystem credits		
swift parrot	Ancillary facilities common to the BESS and Solar Projects PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded)	Removal of 2.38 ha of potential habitat	115 ecosystem credits	Direct impacts will be offset through ecosystem credits	MNES Assessment Appendix A3, Section 3.7 (AoS) BDAR Section 10.1.1 (Ecosystem Credits)

Description of Threatened Species/ Community listed under EPBC Act	Description of PCTs associated with the ecosystem cred species/ ecological community (if applicable)	Area of Predicted Direct Impact (ha)	Credits Required	Offsetting Approach	Page References
	Transmission line Option 1 PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/good)	Removal of 1.85 h of potential habitat	52 ecosystem credits		
	Transmission line Option 2 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/degraded) - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded)	Removal of 4.13 ha of potential habitat	96 ecosystem credits		
Regent honeyeater	Ancillary facilities common to the BESS and Solar Projects PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded)	Removal of 2.38 ha of potential habitat	115 ecosystem credits	Direct impacts will be offset through ecosystem credits	MNES Assessment Appendix A3, Section 3.8 (AoS) BDAR Section 10.1.1 (Ecosystem Credits)
	Transmission line Option 1 PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/good)	Removal of 1.85 h of potential habitat	52 ecosystem credits		

Description of Threatened Species/ Community listed under EPBC Act	Description of PCTs associated with the ecosystem cred species/ ecological community (if applicable)	Area of Predicted Direct Impact (ha)	Credits Required	Offsetting Approach	Page References
	Transmission line Option 2 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/degraded) - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 4.13 ha of potential habitat	96 ecosystem credits		
Key's matchstick grasshopper	Ancillary facilities common to the BESS and Solar Projects PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate)	Removal of 0.44 ha of habitat	Species credit species. As no residual impacts no credits required.	Species credit species. As no residual impacts no credits required	MNES Assessment Appendix 3, Section 3.9 (AoS).
	Transmission line Option 2 PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate).	Removal of 0.45 ha of habitat			
south-eastern glossy black cockatoo	Ancillary facilities common to the BESS and Solar Projects PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate).	Removal of 0.44 ha of potential breeding and foraging habitat	17 species credits	Dual credit species under the BAM. Direct impacts to foraging habitat will be offset through ecosystem credits. Impacts to breeding habitat will be offset through species credits	MNES Assessment Appendix 3, Section 4.1 (AoS) BDAR Section 10.1.2 (Species Credits)
	- Transmission line Option 1 - PCT 3376: Southern Tableland Grassy Box Woodland.	Removal of 1.85 ha of potential breeding and foraging habitat	69 species credits		
	Transmission line Option 2 PCT 3376: Southern Tableland Grassy Box Woodland.	Removal of 4.02 ha of potential breeding and foraging habitat	150 species credits		

Description of Threatened Species/ Community listed under EPBC Act	Description of PCTs associated with the ecosystem cred species/ ecological community (if applicable)	Area of Predicted Direct Impact (ha)	Credits Required	Offsetting Approach	Page References
brown treecreeper (southern-eastern)	Ancillary facilities common to the BESS and Solar Projects - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 2.38 ha of potential habitat	115 ecosystem credits	Direct impacts will be offset through ecosystem credits	MNES Assessment Appendix 3, Section 4,2 (AoS) BDAR Section 10.1.1 (Ecosystem Credits)
	Transmission line Option 1 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/good).	Removal of 1.85 h of potential habitat	52 ecosystem credits		
	Transmission line Option 2 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/degraded) - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 4.13 ha of potential habitat	96 ecosystem credits		
Narrow-leaved black peppermint	N/A	-	-	N/A - no direct or residual impacts predicted to this species	MNES Assessment Appendix 3, Section 4.3 (AoS)

Description of Threatened Species/ Community listed under EPBC Act	Description of PCTs associated with the ecosystem cred species/ ecological community (if applicable)	Area of Predicted Direct Impact (ha)	Credits Required	Offsetting Approach	Page References
Painted honeyeater	Ancillary facilities common to the BESS and Solar Projects - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 2.38 ha of potential habitat	115 ecosystem credits	Direct impacts will be offset through ecosystem credits	MNES Assessment Appendix 3, Section 4.4 (AoS)
	Transmission line Option 1 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/good).	Removal of 1.85 h of potential habitat	52 ecosystem credits		
	Transmission line Option 2 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/degraded) - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 4.13 ha of potential habitat	96 ecosystem credits		

Description of Threatened Species/ Community listed under EPBC Act	Description of PCTs associated with the ecosystem cred species/ ecological community (if applicable)	Area of Predicted Direct Impact (ha)	Credits Required	Offsetting Approach	Page References
Yellow-bellied glider	Ancillary facilities common to the BESS and Solar Projects - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 2.38 ha of potential habitat	115 ecosystem credits	Direct impacts will be offset through ecosystem credits	MNES Assessment Appendix 3, Section 4.5 (AoS) BDAR Section 10.1.1 (Ecosystem Credits)
	Transmission line Option 1 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/good).	Removal of 1.85 h of potential habitat	52 ecosystem credits		
	Transmission line Option 2 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/degraded) - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 4.13 ha of potential habitat	96 ecosystem credits		

Description of Threatened Species/ Community listed under EPBC Act	Description of PCTs associated with the ecosystem cred species/ ecological community (if applicable)	Area of Predicted Direct Impact (ha)	Credits Required	Offsetting Approach	Page References
Diamond firetail	Ancillary facilities common to the BESS and Solar Projects - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 2.38 ha of potential habitat	115 ecosystem credits	Direct impacts will be offset through ecosystem credits	MNES Assessment Appendix 3, Section 4.6 (AoS) BDAR Section 10.1.1 (Ecosystem Credits)
	Transmission line Option 1 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/good).	Removal of 1.85 h of potential habitat	52 ecosystem credits		
	Transmission line Option 2 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/degraded) - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 4.13 ha of potential habitat	96 ecosystem credits		

Description of Threatened Species/ Community listed under EPBC Act	Description of PCTs associated with the ecosystem cred species/ ecological community (if applicable)	Area of Predicted Direct Impact (ha)	Credits Required	Offsetting Approach	Page References
Grey-headed flying-fox	Ancillary facilities common to the BESS and Solar Projects - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 2.38 ha of potential habitat	115 ecosystem credits	Direct impacts will be offset through ecosystem credits	MNES Assessment Appendix 3, Section 4.7 (AoS) BDAR Section 10.1.1 (Ecosystem Credits)
	Transmission line Option 1 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/good).	Removal of 1.85 h of potential habitat	52 ecosystem credits		
	Transmission line Option 2 - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (good/moderate) - PCT 3374: Goulburn Tableland Peppermint Grassy Forest (moderate/degraded) - PCT 3376: Southern Tableland Grassy Box Woodland (good/moderate) - PCT 4063: Central and Southern Tableland River Oak Forest (moderate/degraded).	Removal of 4.13 ha of potential habitat	96 ecosystem credits		
pink-tailed worm-lizard	N/A	Negligible	No offsets required	N/A	MNES Assessment Appendix A3, Section 4.8 (AoS)

Table 6 - Assessment of EPBC listed TEC that have been assessed for significance and found by the BDAR to be likely to be significantly impacted by the Wattle Creek Solar BESS project

Threatened ecological communities (TEC) in PMST list	Assessed in BDAR and if not, justification	Significant Impact as specified in the BDAR
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Yes	The BDAR concludes that, as the Conservation Advice states that all areas of the ecological community that meet the minimum condition criteria should be considered habitat critical to the survival of this ecological community, it is likely that the Proposed Action will result in a significant impact to Box Gum Woodland CEEC.
Gang-gang Cockatoo	Yes	The BDAR concludes that the Proposed Action is likely to have significant direct and indirect impacts on the Gang-gang cockatoo in accordance with the criteria provided in the EPBC Act Significant Impact Guidelines.

Table 7 - Assessment of EPBC listed species that have been assessed for significance and found to be unlikely to be significantly impacted by the Wattle Creek project.

EPBC Listed Entity	Common Name	SIA Outcome in Accordance with SIS Guidelines	Reason for Unlikely Significant Impact	CPHR Recommendations & Comments
Flora				
<i>Eucalyptus macarthurii</i> and <i>Eucalyptus nicholii</i>	Paddys River box and narrow-leaved black peppermint	Yes	Not identified during surveys and as such unlikely to be directly impacted.	CPHR agree with the conclusions of the Assessment of Significance for this species.
Fauna				
<i>Chalinolobus dwyeri</i>	Large-eared pied bat	Yes	The project is not likely to have a significant impact on the Large-eared Pied Bat, given that: - No roosting or breeding habitat would be impacted. - The potential foraging habitat to be removed is not critical habitat and is unlikely to play a significant role in maintaining an important population.	CPHR agree with the conclusions of the Assessment of Significance for this species.

EPBC Listed Entity	Common Name	SIA Outcome in Accordance with SIS Guidelines	Reason for Unlikely Significant Impact	CPHR Recommendations & Comments
			The project would not create a barrier to movement between roost sites and foraging habitat that comprise critical habitat	
<i>Pteropus poliocephalus</i>	Grey-headed flying-fox	Yes	The project is not likely to have a significant impact on the Grey-headed Flying-fox, given that: - No roosting or breeding habitat would be impacted. - Only potential foraging habitat would be removed, including a low abundance of feed species. - The species has not been recorded at the proposal site despite targeted survey. - There is no evidence that the habitat to be removed at the proposal site is important to maintaining the regional population of the species. - The project would not create a barrier to movements between roost camps and foraging areas.	CPHR agree with the conclusions of the Assessment of Significance for this species.
<i>Melanodryas cucullata cucullata</i> ; <i>Stagnopleura guttata</i> ; <i>Climacteris picumnus victoriae</i>	Southern-hooded robin, Diamond firetail and Brown treecreeper	Yes	The project is not likely to have a significant impact on these threatened woodland bird species given: - The limited extent of native vegetation and habitat to be removed in comparison to the broad distribution of these species and extensive areas of alternative habitat in the locality. - The proposal site occurs on the edge of their respective distributions and would not fragment or isolate populations.	CPHR agree with the conclusions of the Assessment of Significance for this species.

EPBC Listed Entity	Common Name	SIA Outcome in Accordance with SIS Guidelines	Reason for Unlikely Significant Impact	CPHR Recommendations & Comments
			Good condition patches of habitat are being avoided.	
<i>Petauroides volans</i>	Greater Glider	Yes	The project is not likely to have a significant impact on the Greater Glider, given that: - Habitat is generally fragmented. - Good condition patches of habitat are being avoided. - A small amount of potential habitat is being removed. - The species was not detected during surveys.	CPHR agree with the conclusions of the Assessment of Significance for this species.
<i>Phascolarctos cinereus</i>	Koala	Yes	The project is not likely to have a significant impact on the Koala, given that: - It is not critical habitat. - Habitat is generally fragmented. - Good condition patches of habitat are being avoided. - A small amount of potential habitat is being removed. - The species was not detected during surveys.	CPHR agree with the conclusions of the Assessment of Significance for this species.
<i>Lathamus discolor</i>	Swift Parrot	Yes	The project is not likely to have a significant impact on the Swift Parrot given: - It is not critical habitat. - Low abundance of preferred foraging species. - The limited extent of native vegetation and habitat to be removed in comparison to the broad distribution of these species and extensive areas of alternative habitat in the locality.	CPHR agree with the conclusions of the Assessment of Significance for this species.

EPBC Listed Entity	Common Name	SIA Outcome in Accordance with SIS Guidelines	Reason for Unlikely Significant Impact	CPHR Recommendations & Comments
			- The proposal site occurs on the edge of their respective distributions and would not fragment or isolate populations. - The species was not located during surveys.	
<i>Anthochaera phrygia</i>	Regent honeyeater	Yes	The project is not likely to have a significant impact on the Regent Honeyeater given: - It is not critical habitat. - Low abundance of preferred foraging species. - The limited extent of native vegetation and habitat to be removed in comparison to the broad distribution of these species and extensive areas of alternative habitat in the locality. - The proposal site occurs on the edge of their respective distributions and would not fragment or isolate populations. - The species was not recorded during surveys.	CPHR agree with the conclusions of the Assessment of Significance for this species.
<i>Keyacris scurra</i>	Key's Matchstick Grasshopper	Yes	The project is not likely to have a significant impact on the Key's Matchstick Grasshopper given: - Habitat in the development footprint is generally fragmented and unlikely to meet the condition of critical habitat - The limited extent of native vegetation and habitat to be removed in comparison to the broad distribution of these species and extensive areas of alternative habitat in the locality. - The species was not recorded during surveys.	CPHR agree with the conclusions of the Assessment of Significance for this species.

EPBC Listed Entity	Common Name	SIA Outcome in Accordance with SIS Guidelines	Reason for Unlikely Significant Impact	CPHR Recommendations & Comments
<i>Calyptrorhynchus lathamii lathamii</i>	South-eastern Glossy Black Cockatoo	Yes	The project is not likely to have a significant impact on the Glossy-black Cockatoo given: • The limited extent of native vegetation to be removed in comparison to the broad distribution of the species and extensive areas of alternative habitat in the locality. • There is no evidence of the species occupying potential breeding habitat at the proposal site despite targeted survey and the species is, in general more likely to breed in other forest types elsewhere in its range. One individual was identified but no evidence of breeding behaviour was observed. • The relative abundance of Allocasuarina and Casuarina species on the site is low, with the exception of PCT 4063 along the Wollondilly River.	CPHR agree with the conclusions of the Assessment of Significance for this species.
<i>Grantiella picta</i>	Painted Honeyeater	Yes	The project is not likely to have a significant impact on the Painted Honeyeater given: • It is not critical habitat or a Key Breeding Area. • Low abundance of preferred foraging species. • The limited extent of native vegetation and habitat to be removed in comparison to the broad distribution of these species and extensive areas of alternative habitat in the locality. • The proposal site occurs on the edge of their respective distributions and would not fragment or isolate populations. • The species was not recorded during surveys.	CPHR agree with the conclusions of the Assessment of Significance for this species.

EPBC Listed Entity	Common Name	SIA Outcome in Accordance with SIS Guidelines	Reason for Unlikely Significant Impact	CPHR Recommendations & Comments
<i>Petaurus australis australis</i>	Yellow-bellied Glider	Yes	The project is not likely to have a significant impact on the Yellow-bellied Glider, given that: • It is not critical habitat. • Habitat is generally fragmented. • Good condition patches of habitat are being avoided. • A small amount of potential habitat is being removed. • The species was not detected during surveys.	CPHR agree with the conclusions of the Assessment of Significance for this species.
<i>Aprasia parapulchella</i>	Pink-tailed worm lizard	Yes	The project is not likely to have a significant impact on the Yellow-bellied Glider, given that: • It is not critical habitat. • Habitat is generally fragmented. • Good condition patches of habitat are being avoided. • A small amount of potential habitat is being removed.	CPHR agree with the conclusions of the Assessment of Significance for this species.
Migratory species		Yes	The proposal site does not contain any specific habitat features or resources that suggest that it would support any migratory species frequently or in large numbers.	CPHR agree with the conclusions of the Assessment of Significance for this species.