



Your ref: SSD - 71855714
Our ref: DOC24/492122

James Bellamy
Student Planner
Department of Planning, Housing and Infrastructure

By email: james.bellamy@dpie.nsw.gov.au

Dear James

Narrabri Solar Farm – request for Secretary’s Environmental Assessment Requirements

I refer to your email dated 11 June 2024 to the Biodiversity, Conservation and Science Group (BCS) of the NSW Department of Climate Change, Energy, the Environment and Water (NSW DCCEEW) seeking input into the Department of Planning, Housing and Infrastructure’s Secretary’s Environmental Assessment Requirements (SEARs) for the preparation of an Environmental Impact Assessment (EIS) for Narrabri Solar Farm (SSD – 71855714).

BCS has considered your request and provides SEARs for the proposed development in **Attachments A**. In preparing the EIS, the proponent should refer to the relevant guidance material listed in Attachment **B**. We recommend the EIS appropriately address the following:

1. Biodiversity and offsetting
2. Water and soils
3. Flooding

BCS note that Section 6.1 of the project scoping report, dated June 2024, states that a family group of 5-7 Grey-crowned Babblers were found on the development site during preliminary surveys. Grey-crowned Babblers are listed as vulnerable in NSW. BCS recommend that the project footprint design phase focus on avoiding impacts to this species key habitat requirements including areas of woodland habitat, retaining woody debris in the understory, and retaining paddock trees between key habitat areas for connectivity in acknowledgement that this species are generally unable to cross large open areas.

The scoping report identifies the presence of Winged Peppercreep on the project site, an Endangered species under both the *Biodiversity Conservation Act 2016* and the *Environment Protection and Biodiversity Conservation Act 1999*. Figure 6-6 maps the development site into areas of low, moderate, and high biodiversity constraints. BCS notes that the location of Winged Peppercreep is mapped as a moderate biodiversity constraint area. BCS recommends revising this map after conducting Stage 1 of the Biodiversity Assessment Method (BAM) 2020, and avoidance of impacts on this species be a priority during the footprint design phase.

If you have any questions about this advice, please do not hesitate to contact Prakriti Mukherjee, Graduate Officer, via prakriti.mukherjee@environment.nsw.gov.au.

Yours sincerely,

A handwritten signature in black ink that reads "Samantha Wynn". The signature is written in a cursive, flowing style.

Samantha Wynn
Senior Team Leader Planning North West
Biodiversity, Conservation and Science Group

24 June 2024

Attachment A - Environmental Assessment Requirements

Attachment B - Guidance Material

Standard Environmental Assessment Requirements

BCS	Biodiversity, Conservation and Science Group of the NSW Department of Climate Change, Energy, the Environment and Water
The Department	NSW Department of Planning, Housing and Infrastructure
NPWS	National Parks and Wildlife Service

Ancillary development components

The assessment should include all components of the proposal, including any ancillary activities such as road/track widening to enable transport of infrastructure components, connecting pipelines and transmission lines etc.

Native vegetation regulatory map – land categorisation

Clearing of native vegetation on land that meets the definition of Category 1 - Exempt Land (as defined under the Local Land Services Act 2013 (LLS Act)) does not require assessment or offsetting under the Biodiversity Conservation Act 2016, however the following must still be considered:

- **Prescribed impacts** as outlined in chapter 6 of the Biodiversity Assessment Method (2020). E.g. there are threatened fauna species whose habitat may include land which meets Category 1- Exempt criteria. Fauna survey on Category 1 land may be necessary to meet the requirements of the BAM.
- Potential impacts to **Matters of National Environmental Significance** under the Environment Protection and Biodiversity Conservation Act 1999 on Category 1 – exempt land must also be considered.

Section 60F of the LLS Act provides the transitional arrangements that are in place until a comprehensive NVR Map is published. During the 'transitional period' assessors can make a reasonable approximation of land categorisation for unpublished layers, in consultation with the landholder.

Where a reasonable approximation is required, it is recommended that:

- assessors first identify whether land meets criteria for Category 2 - Regulated Land, prior to Category 1 - Exempt Land.
 - In some circumstances, land may meet multiple map criteria i.e. criteria for Category 2 - Regulated Land, AND Category 1 - Exempt Land
 - In most circumstances' Category 2 - Regulated Land criteria will determine the categorisation of the land, rather than Category 1 - Exempt Land criteria.

For State Significant Development (SSD)/State Significant Infrastructure (SSI) proposals that affect rural land as defined under Part 5A of the Local Land Services Act 2013, a draft Native Vegetation Regulatory Map is available upon request. This map as it relates to the development site must be requested from BCS during preparation of the Biodiversity Development Assessment Report (BDAR) and prior to the BDAR being submitted to the consent authority. Requests should be made via the Data Broker – data.broker@environment.nsw.gov.au.

Where Category 2 – Regulated land is mapped as present on a development site, this will be identified on the draft map supplied by the Data Broker and is land where the BAM must be applied. However, there are some Category 2 criteria for which state-wide comprehensive mapping is not currently incorporated within the draft map.

Where the draft map indicates that Category 1 – Exempt Land is present on a development site, early engagement with BCS is encouraged. To confirm at the site scale whether the criteria for Category 1 – Exempt Land is met:

- Site-based floristic assessment is required to verify the presence or absence of critically endangered ecological communities (CEECs), critically endangered plants and threatened grasslands
- Review of any Environmental Planning and Assessment Act 1979 development consents or approvals applicable to the land is required to demonstrate whether the land has an existing obligation to be set aside for nature conservation; revegetation of native vegetation; or as a native vegetation offset.

Prior to the BDAR being submitted to the consent authority, the accredited assessor may submit a proposed land categorisation method to the BCS North West Planning team at rog.nw@environment.nsw.gov.au for review.

For more information, see [Determining native vegetation land categorisation for application in the Biodiversity Offsets Scheme](#).

Biodiversity

1. Biodiversity impacts related to the proposed Narrabri Solar Farm are to be assessed in accordance with [Section 7.9 of the Biodiversity Conservation Act 2016](#) the [Biodiversity Assessment Method 2020](#) and documented in a [Biodiversity Development Assessment Report \(BDAR\)](#). Biodiversity Development Assessment Report (BDAR), unless:
 - a) a BDAR waiver is granted, or
 - b) the site is on biodiversity certified land.
2. The BDAR must apply the avoid, minimise, and offset framework; including assessing all direct, indirect, uncertain and prescribed impacts in accordance with the [Biodiversity Assessment Method 2020](#).
3. The BDAR must be submitted with all spatial data associated with the survey and assessment as per Appendix K of the BAM.
4. The BDAR must include details of the measures proposed to address the offset obligation as follows:
 - a. The total number and classes of biodiversity credits required to be retired for the development/project;
 - b. The number and classes of like-for-like biodiversity credits proposed to be retired;
 - c. The number and classes of biodiversity credits proposed to be retired in accordance with the variation rules;
 - d. Any proposal to fund a [biodiversity conservation action](#);
 - e. Any proposal to make a payment to the Biodiversity Conservation Fund.If seeking approval to use the variation rules, the BDAR must contain details of the [reasonable steps](#) that have been taken to obtain requisite like-for-like biodiversity credits.
5. The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017 under s6.10 of the *Biodiversity Conservation Act 2016*.
6. The EIS must contain a summary of the commitments set out in the BDAR to avoid, minimise and mitigate the biodiversity impacts of development that are to be implemented, post approval, by their inclusion in a Biodiversity Management Plan (BMP). The preparation of a BMP to fulfil the avoid and minimise requirements of the BDAR must be included as a condition of consent/approval, unless otherwise agreed with BCS. The

BMP must include detailed measures to minimise impacts on biodiversity, monitoring and reporting requirements, proposed adaptive management measures, performance criteria recommended to meet states outcomes, remedial actions to be undertaken of actions fail to achieve stated outcomes, and any additional actions relevant to the management of biodiversity.

NOTE – A BDAR template and guidance document has been created to assist accredited assessors to prepare a BDAR. It has been developed in accordance with best practice, the minimum information requirements, and to support BDAR reviewers. The BDAR Template can be found [here](#) and the Guidance for the BDAR Template can be found [here](#).

Residual Prescribed Impacts within the BAM 2020

Prescribed impacts can be difficult to quantify as they may result in discrete impacts, spatially undefined impacts, ecological regime shifts and/or impact cascades over time. Consequently, avoiding or minimising such impacts is critical and will likely be a key consideration for the consent authority in determining conditions of approval for relevant proposals.

If avoidance and mitigation measures are not applicable or will not result in the complete reduction of prescribed impacts occurring, the assessor and proponent will need to consider options to compensate for unavoidable residual prescribed impacts.

The BAM-C does not calculate biodiversity credits to offset a prescribed impact. However, the consent authority has the discretion to increase the number of biodiversity credits to be retired (or other conservation measures to be undertaken), under a planning approval.

The assessment and calculation of a predicted offset obligation for any prescribed impacts must be presented prior to project determination and any impact occurring, in accordance with Section 7.14 of the *Biodiversity Conservation Act 2016*. The purpose of this requirement is to ensure:

- commitments to proposed mitigation measures for residual prescribed impacts are described and can be captured in the projects consent conditions; and
- the total offset obligation can be embedded in the project approval

It is recommended that the proponent and assessor consult with BCS during the assessment process on prescribed impact assessment and calculation, when required.

Cumulative Impacts

Cumulative impacts should be assessed through application of the [Cumulative Impact Assessment for State Significant Projects guidance](#) (DPE, Oct 2022).

Water and soils

7. The EIS must map the following features relevant to water and soils including:
 - a. Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map)
 - b. Rivers, streams, wetlands, estuaries (as described in s4.2 of the Biodiversity Assessment Method)
 - c. Wetlands as described in s4.2 of the Biodiversity Assessment Method
 - d. Groundwater
 - e. Groundwater dependent ecosystems
 - f. Proposed intake and discharge locations.
8. The EIS must describe background conditions for any water resource likely to be affected by the Narrabri Solar Farm, including:
 - a. Existing surface and groundwater

b. Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations c. Water Quality Objectives (as endorsed by the NSW Government) including groundwater as appropriate that represent the community's uses and values for the receiving waters d. Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government e. Risk-based Framework for Considering Waterway Health Outcomes in Strategic Land-use Planning Decisions.
9. The EIS must assess the impacts of the Narrabri Solar Farm on water quality, including: a. The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the Narrabri Solar Farm protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction; b. Identification of proposed monitoring of water quality.
10. The EIS must assess the impact of the Narrabri Solar Farm on hydrology, including: a. Water balance including quantity, quality and source b. Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas c. Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems d. Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (e.g. river benches) e. Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water f. Mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options g. Identification of proposed monitoring of hydrological attributes.

Flooding
11. The EIS shall include a flood impact and risk assessment (FIRA). As a minimum the FIRA must: a. Consider the relevant provisions of the NSW Flood Risk Management Manual (2023) and associated guides, and existing council and government studies, information and requirements. b. Identify and describe existing flood behaviour on the site and its surrounding areas for the full range of events, including 5% AEP, 1% AEP, PMF and 0.5% AEP or 0.2% AEP and provide an assessment of the compatibility of the development and its users with flood behaviour. This may require flood modelling where existing flood information is not available.

- c. Determine and describe changes in post development flood behaviour, impacts of flooding on existing community and on the development and its future community for full range of events, 5% AEP, 1% AEP, PMF and 0.5% AEP or 0.2% AEP. This will typically require flood modelling.
- d. Consider impacts of climate change due to both sea level rise and increase in rainfall intensities considering relevant Council and government advice. The 0.5% AEP or 0.2% AEP events can be used to provide an understanding of the scale of change of flood behaviour relative to the 1% AEP event.
- e. Propose and assess the effectiveness of management measures required to minimise the impacts and risks of flooding to the development and its users and existing community.

Note:

- The scope of a FIRA must be consistent with the [Flood Risk Management Guideline LU01](#).
 - The FIRA will need to be tailored to suit the project being considered, whilst maintaining consistency with the FIRA guide.
- a. Flood prone land
 - b. Flood planning area, the area below the flood planning level
 - c. Hydraulic categorisation (floodways and flood storage areas)
 - d. Flood hazard.

Guidance Material

Title	Web address
<u>Relevant Legislation</u>	
<i>Biodiversity Conservation Act 2016</i>	https://www.legislation.nsw.gov.au/view/html/inforce/curr/act-2016-063
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	https://www.legislation.gov.au/Details/C2014C00140/Download
<i>Environmental Planning and Assessment Act 1979</i>	https://www.legislation.nsw.gov.au/view/html/inforce/curr/act-1979-203
<i>Fisheries Management Act 1994</i>	https://www.legislation.nsw.gov.au/view/html/inforce/curr/act-1994-038
<i>National Parks and Wildlife Act 1974</i>	https://www.legislation.nsw.gov.au/view/html/inforce/curr/act-1974-080
<i>Protection of the Environment Operations Act 1997</i>	https://www.legislation.nsw.gov.au/view/html/inforce/curr/act-1997-156
<i>Water Management Act 2000</i>	https://www.legislation.nsw.gov.au/view/html/inforce/curr/act-2000-092
<i>Wilderness Act 1987</i>	https://www.legislation.nsw.gov.au/view/html/inforce/curr/act-1987-196
<u>Biodiversity</u>	
Biodiversity Assessment Method (OEH, 2020)	https://www.environment.nsw.gov.au/research-and-publications/publications-search/biodiversity-assessment-method-2020
Changes to the Biodiversity Assessment Method from 2017 to 2020	https://www.environment.nsw.gov.au/research-and-publications/publications-search/changes-to-the-biodiversity-assessment-method-from-2017-to-2020
Biodiversity Development Assessment Report Template	https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/biodiversity-development-assessment-report-template-220210.docx?la=en&hash=1A4829C7ACA5A51ECE414A767C27361893706CEC
Guidance for the Biodiversity Development Assessment Report Template	https://www.environment.nsw.gov.au/research-and-publications/publications-search/guidance-for-the-biodiversity-development-assessment-report-template
BAM 2020 Operational Manual Stage 1	https://www.environment.nsw.gov.au/research-and-publications/publications-search/biodiversity-assessment-manual-2020-operational-manual-stage-1
BAM 2020 Operational Manual Stage 2	https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/biodiversity-assessment-method-operational-manual-stage-2-230164.pdf
BAM 2020 Operational Manual Stage 3	https://www.environment.nsw.gov.au/research-and-publications/publications-search/biodiversity-assessment-method-operational-manual-stage-3

Title	Web address
BAM Calculator User Guide	https://www.environment.nsw.gov.au/research-and-publications/publications-search/biodiversity-assessment-method-user-guide
Serious and irreversible impacts of development on biodiversity	https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/biodiversity-offsets-scheme/serious-and-irreversible-impacts
Practice Note - Guidance for assessors and decision makers in applying modified benchmarks to assessments of vegetation integrity: Biodiversity Assessment Method	https://www.environment.nsw.gov.au/research-and-publications/publications-search/guidance-assessors-decision-makers-applying-modified-benchmarks-to-assessments-vegetation-integrity
Guidance and Criteria to assist a decision maker to determine a serious and irreversible impact (OEH, 2017)	https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/guidance-decision-makers-determine-serious-irreversible-impact-190511.pdf
Accreditation Scheme for Application of the Biodiversity Assessment Method Order 2017	https://www.legislation.nsw.gov.au/view/pdf/asmade/sl-2017-471
Ancillary rules: Biodiversity conservation actions	https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/ancillary-rules-biodiversity-conservation-actions-170496.pdf
Ancillary rules: Reasonable steps to seek like-for-like biodiversity credits for the purpose of applying the variation rules	https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/ancillary-rules-reasonable-steps-like-for-like-biodiversity-credits-170498.pdf
Ancillary rules: Impacts on threatened species and ecological communities excluded from application of variation rules	https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/ancillary-rules-impacts-on-threatened-entities-excluded-from-variation-170497.pdf?la=en&hash=C38840BFF49F012433532DF72E3D90C741E4DAC1
The Department's Threatened Species Website	https://www.environment.nsw.gov.au/topics/animals-and-plants/threatened-species
NSW BioNet (Atlas of NSW Wildlife)	https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/nsw-bionet
Surveying Threatened Plants and their Habitats - NSW Survey Guide For The Biodiversity Assessment Method (DPIE 2020).	https://www.environment.nsw.gov.au/research-and-publications/publications-search/surveying-threatened-plants-and-their-habitats-survey-guide-for-the-biodiversity-assessment-method
Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities - November 2004	https://www.environment.nsw.gov.au/surveys/BiodiversitySurveyGuidelinesDraft.htm
Threatened species survey and assessment guidelines: field survey methods for fauna – amphibians	https://www.environment.nsw.gov.au/research-and-publications/publications-search/threatened-species-field-survey-methods-for-fauna-amphibians

Title	Web address
NSW Survey Guide for Threatened Frogs	https://www.environment.nsw.gov.au/research-and-publications/publications-search/nsw-survey-guide-for-threatened-frogs
Surveying 'species credit' threatened bats and their habitats – NSW survey guide for the Biodiversity Assessment Method	https://www.environment.nsw.gov.au/research-and-publications/publications-search/species-credit-threatened-bats-nsw-survey-guide-for-biodiversity-assessment-method
Bat calls of NSW - region-based guide to the echolocation calls of Microchiropteran bats	https://www.environment.nsw.gov.au/surveys/Batcalls.htm
Community Biodiversity Survey Manual	https://www.environment.nsw.gov.au/surveys/CommunityBiodiversitySurveyManual.htm
BioNet Vegetation Classification - NSW Plant Community Type (PCT) database	www.environment.nsw.gov.au/research/VegetationInformationsystem.htm
The Departments Data Portal (access to online spatial data)	http://data.environment.nsw.gov.au/
Determining native vegetation land categorisation for application in the Biodiversity Offsets Scheme	https://www.environment.nsw.gov.au/research-and-publications/publications-search/determining-native-vegetation-land-categorisation-for-application-in-the-biodiversity-offsets-scheme
Fisheries NSW policies and guidelines	https://www.dpi.nsw.gov.au/fishing/habitat/publications/pubs/fish-habitat-conservation
List of national parks	https://www.nationalparks.nsw.gov.au/conservation-and-heritage/national-parks
Revocation, recategorisation and road adjustment policy (OEH, 2012)	https://www.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas/park-policies/revocation-recategorisation-and-road-adjustment
Guidelines for consent and planning authorities for Developments adjacent to National Parks and Wildlife Service Land (NPWS, 2020)	https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Parks-reserves-and-protected-areas/Development-guidelines/developments-adjacent-npws-lands-200362.pdf
NSW Native Vegetation Extent 5m Raster v1.2	NSW Native Vegetation Extent 5m Raster v1.2 https://datasets.seed.nsw.gov.au/dataset/nsw-native-vegetation-extent-5m-raster-v1-0
State-wide Landcover and Tree Survey (SLATS) clearing for NSW – used to identify detectable clearing events since January 1990	Dataset SEED (nsw.gov.au) https://datasets.seed.nsw.gov.au/dataset?q=slats
Published information on the Native Vegetation Regulatory Map, including Category 2-Sensitive Regulated, Category 2-Vulnerable Regulated, and Excluded Land	Transitional Native Vegetation Regulatory map NSW Environment and Heritage https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/native-vegetation-regulatory-map/transitional-native-vegetation-regulatory-map

Title	Web address
<u>Water and Soils</u>	
Acid sulphate soils	
Acid Sulfate Soils Planning Maps via Data.NSW	https://datasets.seed.nsw.gov.au/dataset/acid-sulfate-soils-risk0196c
Acid Sulfate Soils Manual (Stone et al. 1998)	https://www.environment.nsw.gov.au/resources/epa/Acid-Sulfate-Manual-1998.pdf
Acid Sulfate Soils Laboratory Methods Guidelines (Ahern et al. 2004)	http://www.environment.nsw.gov.au/resources/soils/acid-sulfate-soils-laboratory-methods-guidelines.pdf This replaces Chapter 4 of the Acid Sulfate Soils Manual above.
Flooding	
Flood Risk Management Manual	https://www.environment.nsw.gov.au/topics/water/floodplains/floodplain-manual
Floodplain Risk Management Guidelines	http://www.environment.nsw.gov.au/topics/water/coasts-and-floodplains/floodplains/floodplain-guidelines
NSW Climate Impact Profile	http://climatechange.environment.nsw.gov.au/
Climate Change Impacts and Risk Management	https://www.environment.gov.au/climate-change/adaptation/publications/climate-change-impact-risk-management
Water	
Water Quality Objectives	http://www.environment.nsw.gov.au/ieo/index.htm
ANZECC & ARMCANZ (2000) Water Quality Guidelines	https://www.waterquality.gov.au/anz-guidelines/resources/previous-guidelines/anzecc-armcanz-2000
Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones	http://deccnet/water/resources/AWQGuidance7.pdf
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf