



Office of
Environment
& Heritage

Your reference: SSD 8872
Our reference: DOC18/138746
Contact: Miranda Kerr
Ph 02 6022 0607
Date: 10 April 2018

Tim Stuckey
Environmental Assessment Officer
Resource and Energy Assessments, Planning Services
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Via email: tim.stuckey@planning.nsw.gov.au

Dear Mr Stuckey

RE: Sandigo Solar Project (SSD 8872) – Exhibition of Environmental Impact Statement

I refer to your email dated 5 March 2018 seeking comment from the Office of Environment and Heritage (OEH) about the Environmental Impact Statement (EIS) for the Sandigo Solar Project at 375 McRae's Road, Goolgowi in the Carrathool Shire.

We have reviewed the exhibited EIS against the Secretary's Environmental Assessment Requirements (SEARs) provided by the Department of Planning and Environment (DPE) to the proponent on 18 November 2016.

OEH considers that the EIS **does** meet the Secretary's requirements for flooding and Aboriginal cultural heritage assessment (ACH), contingent on the applicant addressing issues 1 to 3 identified in Attachment A.

The EIS **does not** meet the Secretary's requirements for biodiversity.

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

All plans required as a Condition of Approval that relate to flooding, biodiversity or ACH should be developed in consultation and to the satisfaction of OEH, to ensure that issues identified in this submission are adequately addressed.

If you have any questions regarding this matter, please contact me on (02) 6022 0607 or email miranda.kerr@environment.nsw.gov.au.

Yours sincerely

MIRANDA KERR
A/Senior Team Leader Planning
South West Branch
Regional Operations
Office of Environment & Heritage

ATTACHMENT A – OEH Assessment Summary for Sandigo Solar Project Environmental Impact Statement (SSD 8872)

ATTACHMENT B – Detailed comments for Sandigo Solar Project Environmental Impact Statement (SSD 8872)

ATTACHMENT A OEH Assessment Summary for Sandigo Solar Project Environmental Impact Statement (SSD 8872)

Key Issues

1	<i>Issue</i>	<p>The ACHAR references out-dated guidance material (2005 DEC Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment)</p> <p>The proponent must clarify whether this is a referencing error or confirm that archaeological and cultural values assessment is consistent, and complies with, guidance material listed in the SEARs. The assessment must be conducted in accordance with the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (2010)</i></p>
	<i>Extent and Timing</i>	Pre-determination
2	<i>Issue</i>	Aboriginal cultural heritage (ACH) management and mitigation measures are to be identified in the CEMP and DMP.
	<i>Extent and Timing</i>	Pre-construction
	<i>Recommended Condition of Approval</i>	<p><i>The Construction Environmental Management Plan (CEMP) and Decommissioning Management Plan (DMP) must include appropriate ACH management and mitigation measures to the satisfaction of OEH. This is to include an appropriate unexpected finds protocol (as detailed in the ACHAR) and clear marking and protection of any ACH constraints, within or near to, proposed activities.</i></p>
3	<i>Issue</i>	An Aboriginal Site Impact Recording Form is required following impacts to AHIMS sites (salvage and repatriation)
	<i>Extent and Timing</i>	Pre-construction
	<i>Recommended Condition of Approval</i>	<p><i>An Aboriginal Site Impact Recording Form must be prepared following impacts to AHIMS sites, including surface collection/salvage and repatriation. Completed forms should be sent to the AHIMS Registrar to be included as an addendum to the original site recording form for each site.</i></p> <p><i>http://www.environment.nsw.gov.au/resources/cultureheritage/120558asirf.pdf</i></p>
4	<i>Issue</i>	<p>The paddock tree assessment module in the Biodiversity Development Assessment report (BDAR) appears to have been incorrectly applied, resulting in a lower than expected credit requirement for the number of paddock trees proposed for clearing.</p> <p>OEH recommend that the vegetation zone assessment is revised and the credit requirement re-calculated following discussions with OEH South West Branch. The following steps are likely to need re-assessment:</p> <ul style="list-style-type: none"> • Assignment of all native vegetation on the site to a vegetation zone. • Inclusion in Table 4.3 of all trees able to be assessed using the paddock tree assessment module. • Assessment of all class 2 and 3 paddock trees for threatened species habitat suitability

		<ul style="list-style-type: none"> • Re-calculation of the offset requirement using the streamlined assessment module for clearing paddock trees (BAM Appendix 1). • Impact summary in BDAR Section 6.4.
	<i>Extent and Timing</i>	Pre-determination

5	<i>Issue</i>	<p>A proposed access point from Mitchells Road on the south-western boundary of the site is shown on Figure 3.1. This area does not appear to have been included in the development footprint or assessed for impacts to biodiversity.</p> <p>Confirm if clearing is required for the access point and if native vegetation is present on the road reserve. The BDAR will need to be revised if native vegetation on the road reserve will be impacted by the proposal.</p>
	<i>Extent and Timing</i>	Pre-determination

6	<i>Issue</i>	<p>The Fauna Rescue Protocol (BDAR page 55) should also include:</p> <ul style="list-style-type: none"> • Confirming the hollow-dependent species likely to be using hollows and ensuring that construction timing is outside their specific breeding periods. • Ensuring that local wildlife rescue organisations are aware in advance that construction is starting and that rescued fauna may need assistance.
	<i>Extent and Timing</i>	Pre-construction

7	<i>Issue</i>	Biodiversity offsets should be in place before the commencement of clearing for construction.
	<i>Extent and Timing</i>	Pre-construction
	<i>Recommended Condition of Approval</i>	To be confirmed - dependent on revision of BDAR

OEH Advice

- | | | |
|------------|---|---------------|
| 1.1 | Is the 'baseline' for impact assessment reasonable? | Yes/No |
| 1.2 | Are predictions of impact robust (and conservative) with suitable sensitivity testing? | Yes/No |
| 1.3 | Has the assessment considered how to avoid and minimise impacts? | Yes |
| 1.4 | Does the proposal include all reasonably feasible mitigation options? | Yes |
| 2. | Is the assessed impact acceptable within OEH's policy context? | No |
| 3. | Confirmation of statements of fact | |

Aboriginal cultural heritage and flooding assessments are generally correct.

4. Elements of the project design that could be improved

Assessment of the biodiversity offset credit requirements.

ATTACHMENT B Detailed comments for Sandigo Solar Project Environmental Impact Statement (SSD 8872)

Flooding

OEH have reviewed the Flood Modelling Report (EIS Appendix E). The EIS has appropriately addressed each of the flood-related criteria in the SEARs.

General comments:

- We commend the consultant for developing a 2D model of the site based on recently acquired LiDAR rather than 1D as recommended. This dataset will be useful for the detailed design stage.
- At this stage, the straightforward design approach to evaluating localised stormwater flooding across the site and riverine flooding risks appears fit for purpose.
- The assessment provides an estimation of the major flow paths that traverse the site (as well as areas of flood hazard), which should be used to appropriately locate infrastructure to avoid flood risks and minimise impacts.
- OEH support the recommendation that during the detailed design phase a “more rigorous” method, such as a fully dynamic hydrological model, be used to calibrate the overland flow hydraulic model.

Aboriginal cultural heritage

The proponent has demonstrated a thorough consideration of potential impacts to ACH and provided an Aboriginal Cultural Heritage Report (ACHAR) largely consistent with the SEARs.

Management and Mitigation

The EIS refers to a Construction Environmental Management Plan (CEMP) and Decommissioning Management Plan (DMP). As a condition of consent, we recommend that both the CEMP and DMP include appropriate ACH management and mitigation measures. This should include an appropriate unexpected finds protocol (as detailed in the ACHAR) and clear marking and protection of any ACH constraints, within or near to, proposed activities.

Site Impact

ACHAR Section 9.1.2 (Proposed Management Measures) describes the intended salvage/collection and repatriation, including salvage through surface collection of ACH identified during the archaeological investigation and post-construction repatriation of these objects to a suitable location on site.

An Aboriginal Site Impact Recording Form has been developed by OEH. The form is to ensure current information about the status of AHIMS sites is maintained and an accurate picture of the condition of all registered Aboriginal sites and objects across NSW is always available.

The Aboriginal Site Impact Recording Form is intended to complement the AHIMS site card, not replace it, and needs to be prepared and submitted to the AHIMS Registrar following impacts to AHIMS sites, including the activities described in Section 9.1.2.

Guidance Material

The ACHAR repeatedly references draft guidelines that have been superseded (*2005 DEC Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment*). Guidance material in the SEARs lists the correct codes and guidelines that were to be used in the preparation of the ACHAR. The proponent must ensure that assessment of archaeological and cultural values was carried out in accordance with current NSW guidelines and standards.

Historic Heritage

We are unable to comment on the Historic Heritage Assessment provided within the ACHAR. OEH's Heritage Division are the appropriate contact for historic cultural heritage. Please forward the relevant sections to heritage@heritage.nsw.gov.au, if a copy of the assessment has not already been provided.

Biodiversity

The Biodiversity Development Assessment Report (BDAR) has been assessed against minimum requirements listed in Table 25 (Appendix 10) of the Biodiversity Assessment Method (BAM). **At this stage, the EIS does not meet the Secretary's requirements for biodiversity assessment.**

The BDAR includes a paddock tree assessment that is inconsistent with the method provided in Appendix 1 of the BAM. The method applied appears to underestimate the number of ecosystem credits required to offset impacts to biodiversity.

BDAR 1.2 Site description (page 6)

Scientific names for plants should follow NSW PlantNet (plantnet.rbgsyd.nsw.gov.au/). For example, white cypress pine (*Callitris glaucophylla*) has been incorrectly referred to as *Callitris columellaris*.

Development Footprint

A proposed access point from Mitchells Road on the south-western boundary of the site is shown on Figure 3.1. This area does not appear to have been included in the development footprint or assessed for impacts to biodiversity.

Recommendation:

- *Confirm the activities proposed for the access point and if native vegetation is present on the road reserve. The BDAR will need to be revised if native vegetation on the road reserve will be impacted by the proposal.*

Section 1.3 (page 8)

Fish and fish habitat are not covered by the BC Act or considered by the BAM. This information is not assessed by OEH so should be included in the EIS, rather than the BDAR.

Mapping vegetation zones

The vegetation zones described in Section 2.1 do not match the zones mapped in Figure 5.

2.3.1 Plot/transect surveys (page 14)

- The use of the term 'plot/transect' is ambiguous. BAM plots for vegetation measurements do not include transect sampling and should be as per BAM sections 5.2.1.7 to 5.2.1.11.
- The number of plots undertaken within the development footprint is unclear. The text states that seven plots were sampled within the development site, however Table 2.1 shows 14 plots within the two zones.
- Table 2.1 (page 14) refers to Zone 2 as 'PCT 76 (low condition)' and based on the small area is presumably the buffered paddock trees. The description and mapped area of Zone 2 on Figure 5 (page 68) does not match Table 2.1.

2.3.2 and 2.3.3 Paddock Trees

The criteria for determining if vegetation meets the definition of paddock trees in the paddock tree assessment module appear to have been incorrectly applied. This has resulted in a requirement of 6 ecosystem credits, which is lower than expected for the number of paddock trees proposed for clearing.

The paddock tree zone is an area where native vegetation cover consists of paddock trees with a non-native understorey.

In the absence of an endorsed operational manual for the BAM, we offer the following advice for applying the paddock tree assessment. Please note that this advice applies to this proposal and may be updated in the future:

1. *BAM section 4.3.2 'Assessing vegetation cover' - identify areas with native trees in paddocks during the vegetation cover assessment and assign a broad cover class relative to PCT benchmarks.*
2. *BAM section 5.3.1 - map vegetation zones, which will include delineate paddock tree zones.*

In this case:

- Zone 1 is cropping with scattered trees.
 - Survey results for 'Zone 2- grazed' indicate that the understorey is predominantly non-native.
 - Based on vegetation zones mapped on Figure 5 (BDAR page 68), the paddock tree zone would include both zones 1 and 2.
3. *Estimate the combined percent foliage cover of the paddock trees within the mapped zone.*
 - Based on a visual assessment of aerial photography available to OEH, tree cover in the paddock tree zone is below 5%.
 4. *Determine the tree cover benchmark for the most likely plant community type and test if "foliage cover for the growth form group is less than 25% of the benchmark for tree cover for the most likely plant community type" (criterion c).*
 - The BDAR assesses the likely plant community type as PCT 76. The proposal site is within the NSW South Western Slopes bioregion (NSS subregion).
 - The tree cover benchmark for PCT 76 is 321, 25% of benchmark is 8% tree cover.

Tree cover for the paddock tree zone at the proposal site is less than 25% of benchmark, so can be assessed using the streamlined assessment module for clearing paddock trees.

5. *Map paddock trees and determine the tree assessment class.*
 - Data collected for each paddock tree at the proposal site has been provided as Table 4.3 (page 33-34) in the BDAR. The dataset contains enough information to enable allocation of each tree to a class, as defined in BAM Appendix 1.
 - The large tree benchmark for PCT 76 is 50 cm¹.
 - Based on the information provided we have provisionally assigned each tree in Table 4.3 to a class. The class of paddock trees is calculated to include 12 x Class 2 and 42 x Class 3.
6. *Assess the habitat suitability of class 2 and class 3 paddock trees for threatened species*
 - Apply criteria for determining if ecosystem credit threatened are likely to use the trees as suitable habitat and identify potential entities for serious and irreversible impacts (SAII).
 - Visually assess class 2 and 3 trees for habitat, including if they are hollow-bearing. This information has been provided in Table 4.3.
7. *Determine the offset requirements using the formula in Equation 7 and multipliers for the number of ecosystem credits required as per Table 12, provided in BAM Appendix 1*
 - We used the presence of hollows as recorded in BDAR Table 4.3 to calculate the number of ecosystem credits required for clearing class 2 and 3 paddock trees

OEH have calculated a provisional ecosystem credit requirement to be approximately 41 (compared with a credit requirement of six presented in the BDAR).

¹ BioNet Vegetation Classification, accessed 26 March 2018
www.environment.nsw.gov.au/NSWVCA20PRapp/LoginPR.aspx

8. *Determine the credit profile including the seven attributes identified in BAM section 11.3 and following the method in Appendix 1.*

We have not attempted to develop a credit profile based on the new calculations.

Recommendation:

OEH recommend that the vegetation zone assessment is revised and the credit requirement re-calculated following discussions with OEH South West Branch. The following steps are likely to need re-assessment:

- *Assignment of all native vegetation on the site to a vegetation zone.*
- *Inclusion in Table 4.3 of all trees able to be assessed using the paddock tree assessment module.*
- *Assessment of all class 2 and 3 paddock trees for threatened species habitat suitability*
- *Re-calculation of the offset requirement using the streamlined assessment module for clearing paddock trees (BAM Appendix 1).*
- *Impact summary in BDAR Section 6.4.*

3.2 Native vegetation

In our letter providing OEH assessment requirements to DPE (EIS Appendix A, pages 19-27) we recommended the use of the Central Southern NSW vegetation mapping (VIS 3884). The BDAR used Riverina Regional Native Vegetation PCT Map Version v1.2 - VIS_ID 4469, which is a modified version of the recommended vegetation mapping.

5 Threatened species

- OEH was provided only with the exhibited EIS and appendices for our assessment. References are made throughout the BDAR to another biodiversity report for the proposal site (Ecolink Consulting Pty Ltd 2017a), particularly in the assessment of threatened species. OEH have not been supplied with a copy of this document, so it should not be relied upon in the BDAR for describing survey techniques or justifying methods or outcomes.
- The Plains-wanderer map shown in Appendix 10.3 (page 78) is uninformative without clearly identifying the proposal site.

6.1 Avoid and minimise impacts

OEH support the use of a broad-scale multi-property approach to avoiding biodiversity impacts.

6.2 Potential impacts

The assessment of impacts lacks detail. Measures to mitigate unavoidable impacts should be directly related to identified impacts.

Specific impacts should be related to the description of construction and operation of the proposal. For example:

- EIS section 3.4.2 (page 62) describes site preparation. Boundary fences and laydown areas must be within cleared areas.
- EIS Section 3.11 (page 30) mentions that the site fence will be topped with barbed wire. Barbed wire is detrimental to birds and bats and should be avoided if possible.
- Introduction and spread of weeds due to import of construction vehicles and materials.
- Potential impact of inappropriate species being used in site rehabilitation and landscaping.

6.3.1 Site selection and planning

There does not appear to be survey data to support the assessment (page 55) that the road reserve is of low ecological value. All areas of vegetation clearing need to be assessed for impacts to biodiversity.

6.3.2 Construction

We support the range of measures provided. Ideally, mitigation measures should be linked to impacts identified in Section 6.2.

To ensure that mitigation and management actions are carried out at the appropriate time, OEH would prefer to see the following details for each mitigation action:

- who will be responsible for individual actions (including the position title of the officer responsible)
- outcome or measure of success
- triggers for an alternative action
- when the action will be completed.

These details should be completed before the start of construction to clearly identify the proponent's commitments for management and mitigation. This section should clearly link to the EIS section 9.2 statement of commitments (page 143) Each action should be individually identifiable to allow their inclusion in the construction and operational management plans.

The **Fauna Rescue Protocol** (page 55) should also include:

- Confirming the hollow-dependent species likely to be using hollows and ensuring that construction timing is outside their specific breeding periods.
- Ensuring that local wildlife rescue organisations are aware in advance that construction is starting and that rescued fauna may need assistance.

6.4 Impact summary

This section will need to be revised after re-calculation of the credit requirement.

EIS 9.2 Statement of commitments

B.2 Biodiversity offsets should be in place before clearing for construction begins.

Application of the BAM

OEH acknowledge that guidance for the newly published BAM is not yet readily. OEH regional staff and a dedicated email address are available to assist with applying aspects of the new biodiversity legislation, including the BAM.