

Arcadis Australia Pacific Pty Ltd Level 16, 580 George Street Sydney NSW 2000 Tel No: +61 2 8907 9000 www.arcadis.com/au

1

Nicole Brewer
Director, Energy Assessments
Planning & Assessment
Department of Planning, Industry & Environment (DPIE)
4 Parramatta Square
12 Darcy Street
Parramatta
NSW 2150

Sent by email to: Nicole.Brewer@planning.nsw.gov.au

25/06/2021

Re. Flyers Creek Wind Farm (MP 08_0252) - Biodiversity Condition D1 (a) and D3

Dear Nicole,

I am writing to follow on from a previous letter to you dated 25 February 2020 and email/phone correspondence in April 2020. This correspondence was regarding the Flyers Creek Wind Farm Conditions of Consent (CoC) relating to Biodiversity and is appended to this letter in Appendix A (1.1 and 1.2).

As discussed in April 2020, Flyers Creek Wind Farm Pty Ltd (the Proponent) have a concern regarding the conflicting nature of the biodiversity conditions included in the Flyers Creek Wind Farm CoC. Condition D5 states that the baseline mapping of the vegetation and key habitat must be updated and the offset liability defined. However, Condition D1 (a) and D3 specify a pre-determined clearance limit for Endangered Ecological Communities (EEC) and for hollow bearing trees (HBT), which relate only to the Biodiversity Development Assessment Report (BDAR) undertaken for the 132kV power line at Modification 4 (MOD 4) and does not account for any clearance associated with the wider project site.

Note, the reference to EEC in the CoC is presumed to mean Critically Endangered Ecological Community (CEEC), due to the presence of Box Gum Woodland, the only Threatened Ecological Community (TEC) on the site, which is listed as a CEEC under the *Biodiversity Conservation Act 2016*, not an EEC.

This letter will provide:

- Information on the baseline mapping of the vegetation and key habitat within the wider project site:
- An estimate of the expected CEEC clearance based on the Approved Project Layout and the Draft Microsited Project Layout;
- Information on potential hollow-bearing tree impacts; and
- A request under the 'unless the Secretary agrees otherwise' provision of Condition D1 (a) and D3 to increase the CEEC and HBT clearance limits in line with the baseline vegetation mapping data.

Registered office: Level 16, 580 George Street, Sydney NSW 2000, Australia ABN 76 104 485 289

Vegetation classification within the study area

Native vegetation mapping for the Environmental Impact Statement (EIS) in 2011 (Aurecon) classified vegetation in the study area into "Remnant woodland" and "Denser stands of scattered trees" in accordance with the legislation at the time, which did not provide standardised vegetation mapping. Patches of mapped native vegetation represent Box Gum Woodland, commensurate with White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions, a CEEC under the BC Act (formerly listed under the Threatened Species Conservation Act 1995).

With the introduction of the BC Act in 2017 and the associated Biodiversity Assessment Method (BAM), vegetation mapping became streamlined into Plant Community Types (PCTs) to allow for consistent vegetation classification and offsetting across NSW. Vegetation mapping undertaken at the time of the EIS, subject to project approval, pre dated the BAM and therefore was not in accordance with this methodology.

Condition D5 of the CoC states that the baseline mapping of the vegetation and key habitat within the final disturbance area must be updated prior to commencement of construction. This was completed by NGH Environmental in 2019/20 using the BAM to classify native vegetation into PCTs and to consider the potential TEC status of mapped vegetation.

The PCT mapping also includes an update to the extent of BC Act listed Box Gum Woodland CEEC patches across the study area. No vegetation in the study area was found to meet the condition thresholds for Box Gum Woodland or any other TEC listed under the federal *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) or any other TEC listed under the BC Act.

The extent of Box Gum Woodland CEEC has been mapped across the broader study area in Figure 1a-h.

Project footprints

The project footprints which have been overlain with the baseline vegetation mapping to estimate the expected CEEC and HBT clearance are:

- 1. Approved Layout this is the project layout as approved (MOD 4, August 2019); and
- 2. Draft Microsited Layout this is the project layout which the Proponent has developed during preliminary detailed design and microsting of the wind turbines and wind farm infrastructure and has involved a considered effort to reduce the overall project footprint and to avoid areas of CEEC and other key constraints where practicable. This is currently under development and as such is in draft form, however provides a strong indication of the expected final wind farm project layout.

Construction disturbance buffers for each element of wind farm infrastructure were applied to both the Approved Layout and the Draft Microsited Layout to determine the overall construction disturbance footprint of each.

Since the Approved Layout mapping data did not include detail on the extent and layout of some project infrastructure or cut and fill requirements, an assumption was made based on the Draft Microsited Layout and applied to the Approved Layout. This included:

- 1. Estimating an average width of access track hardstand and cut/fill of 15m; and
- 2. Applying a projected extent of the turbine foundations and hardstand/blade laydown areas at each turbine location.

It should be noted that clearing for cut and fill has not been accounted for in some of the wind farm infrastructure for the Approved Layout. As such, the extent of the construction disturbance footprint for the Approved Layout would likely be higher than estimated in this review, however we are comfortable

that the final microsited layout construction disturbance footprint will be lower than the current Approved Layout estimate and content to proceed on this basis.

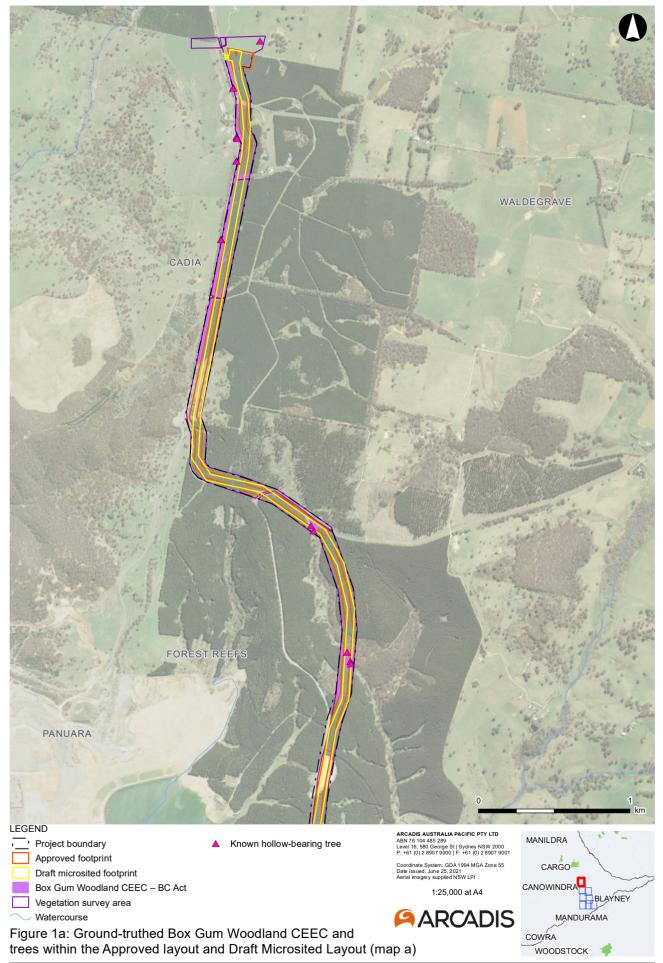
CEEC impacts

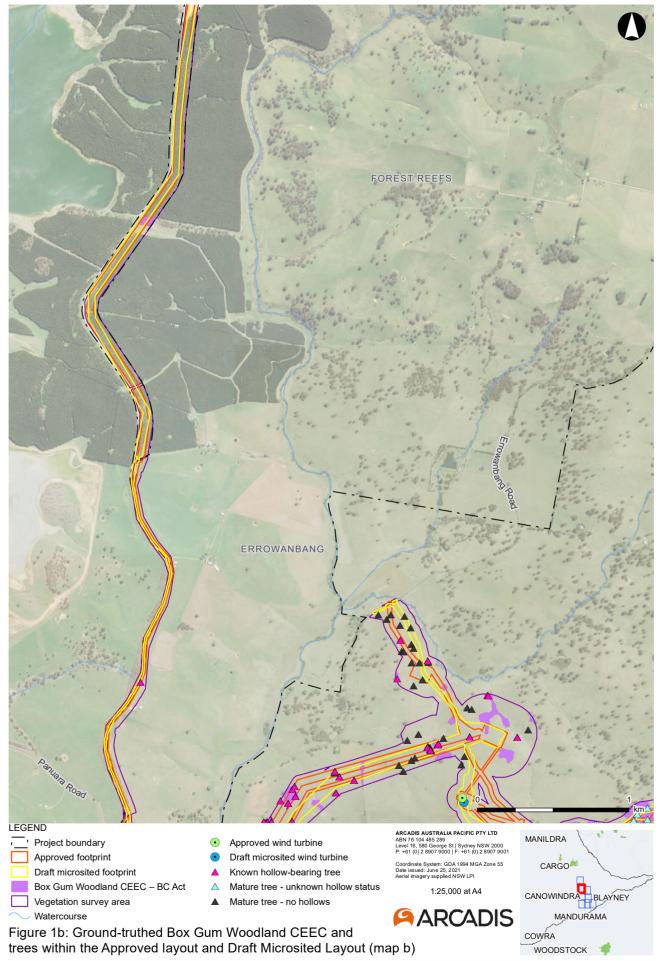
Impacts to Box Gum Woodland CEEC for the Approved Layout and Draft Microsited Layout have been calculated for each construction disturbance footprint using the updated vegetation mapping undertaken by NGH Environmental.

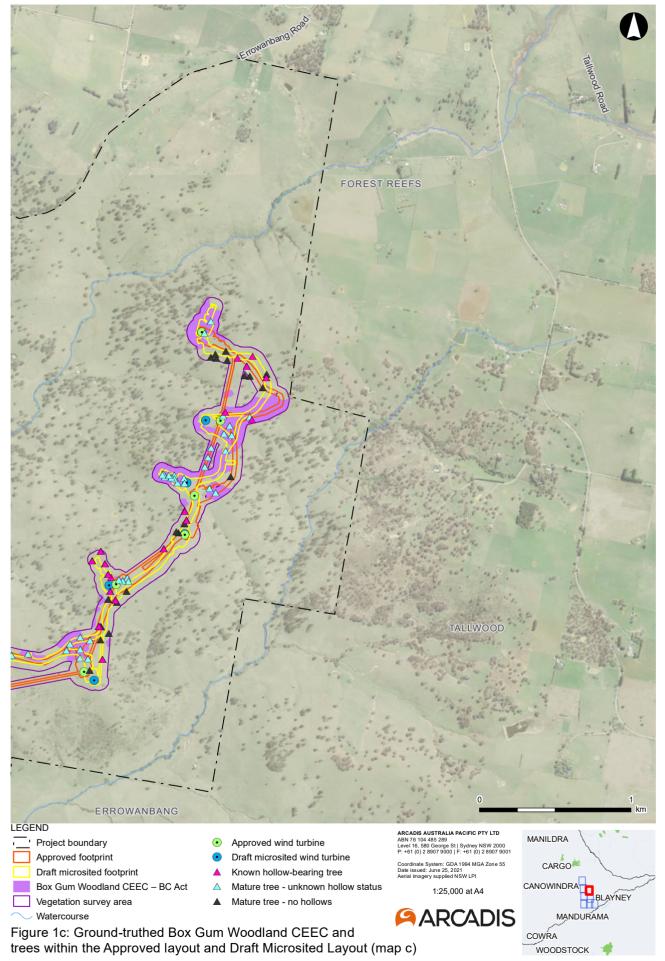
Table 1 outlines these impacts within the footprint for the 132kV power line, and the wider project site. It shows that the Approved Layout would result in the clearance of approximately 28.1 ha of CEEC in total, 24.4 ha of which is within the wider project site (excluding the 132kV power line). The Draft Microsited Layout would result in the clearance of 26.3 ha of CEEC, 22.6 ha of which is within the wider project site (excluding the 132kV power line), demonstrating the Proponent's efforts to reduce impacts to CEEC through micrositing. Box Gum Woodland overlain with the two footprints are mapped in Figure 1a-h.

Table 1:CEEC impacts for the Approved Layout and Draft Microsited Layout

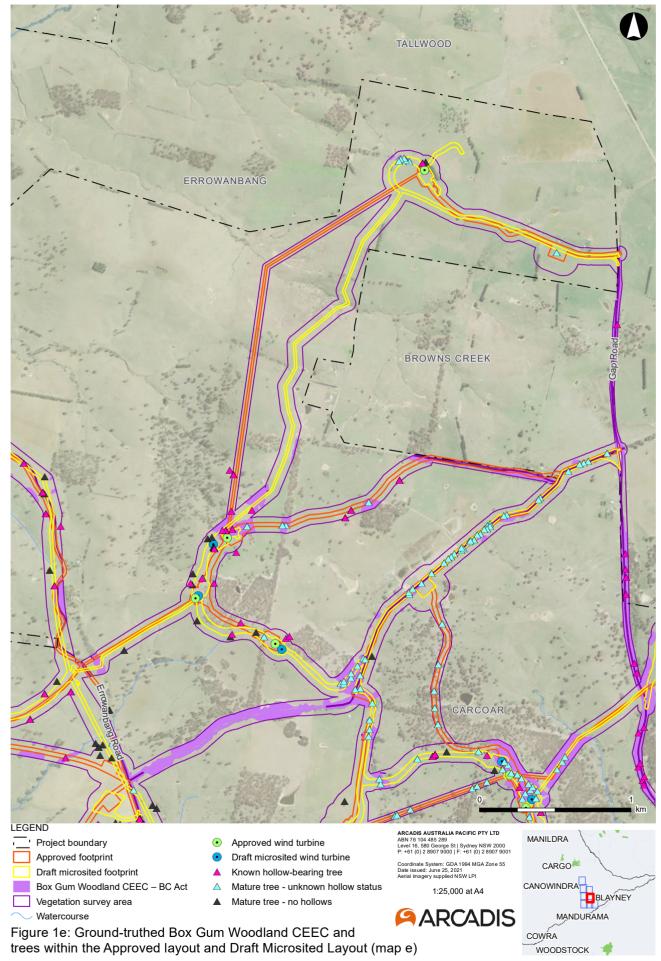
| | Approved Layout | Draft Microsited Layout |
|---|-----------------|-------------------------|
| Project site (excluding 132kV power line) | 24.4 ha | 22.6 ha |
| 132kV power line | 3.7 ha | 3.7 ha |
| Total | 28.1 ha | 26.3 ha |

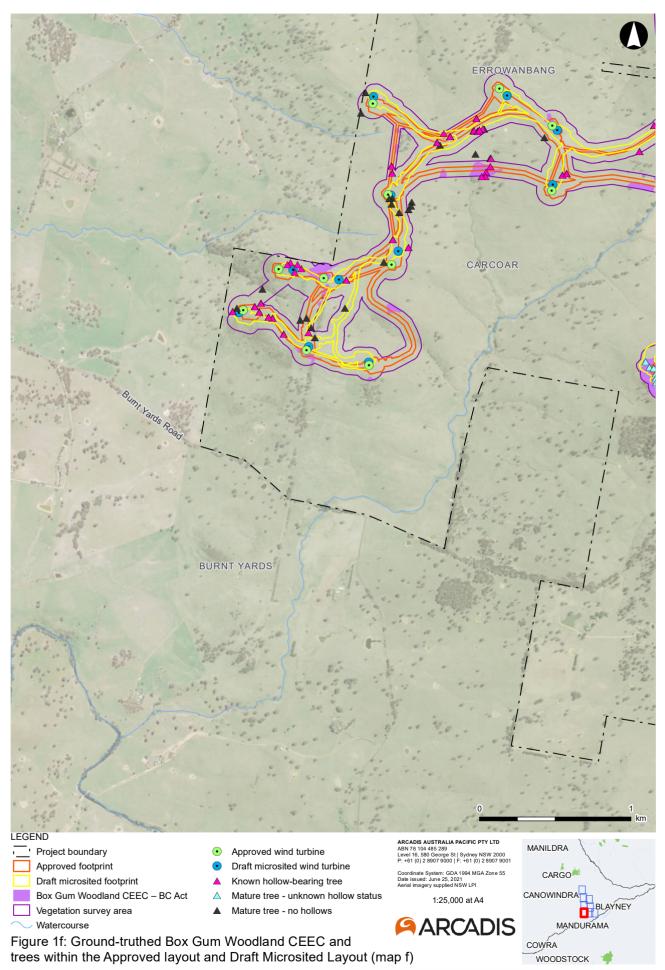


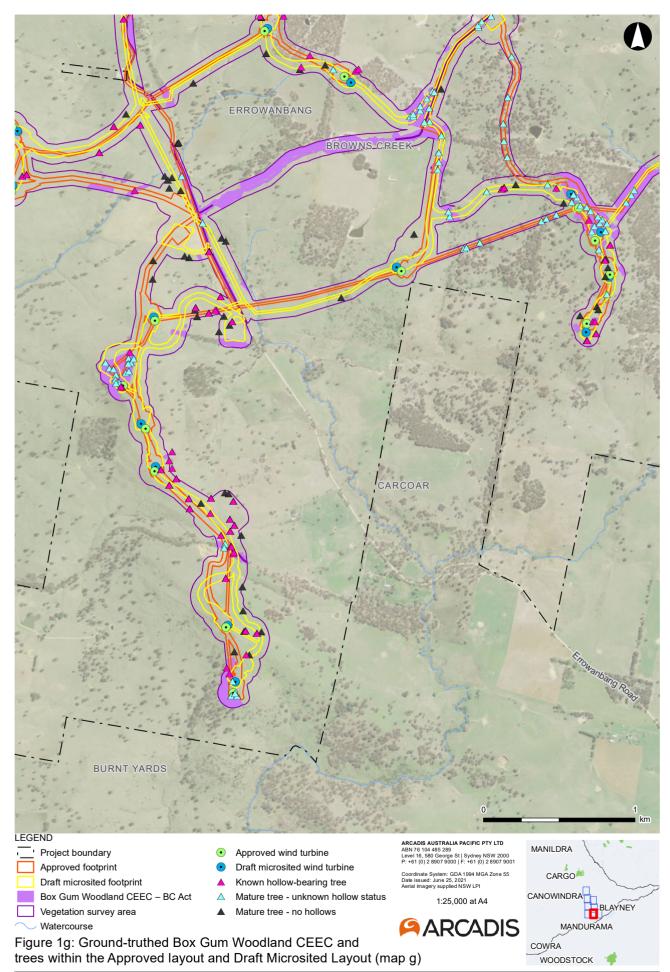


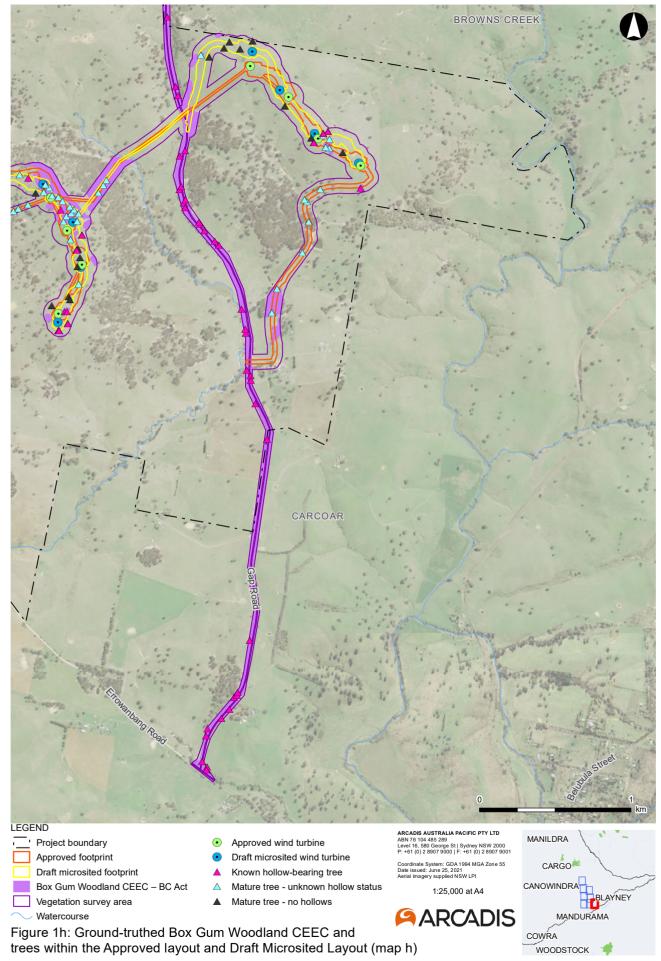












CEEC impacts (continued)

When assessed against the mapped vegetation baseline, the Approved Layout inclusive of construction disturbance buffers would result in an estimated clearing of approximately 28.1 ha of Box Gum Woodland CEEC. Flyers Creek Wind Farm CoC D1 (a) states that:

D1. The Proponent must:

(a) ensure that no more than 3.7 ha of EEC is cleared for the project, unless the Secretary agrees otherwise;

Concern was raised by the Proponent in previous correspondence (Appendix A 1.1) that the clearing limit of 3.7 ha was based solely on the impacts of MOD 4, which related specifically to the 132kV power line and associated BDAR and that there was direct conflict with Condition D5 which states that the Proponent must update the baseline mapping of vegetation and define the offset liability for the wider site.

Based on this, the Proponent requests that an upper CEEC clearance limit of 28.1 ha, including the 3.7 ha EEC attributable to the 132kV power line footprint is agreed by the Secretary

Once the detailed design has been finalised for the project, the final microsited project layout plus construction disturbance area will be overlain with the baseline vegetation and the offset liability will be defined and agreed in the Biodiversity Offset Package (BOP) under Condition D5 (b) in consultation with the Biodiversity Conservation Division (BCD) and the Secretary. The Proponent is committed to offsetting the CEEC cleared for the project.

Hollow-bearing trees

Under the BAM, hollow-bearing trees are required to be identified in vegetation zones, and 50m by 20m (0.1ha) plots in the vegetation zone are to be placed in areas with hollow-bearing trees such that hollow loss is incorporated into offset calculations.

Hollow-bearing tree assessment can be highly variable as hollows may not be visible or easily misinterpreted as a hollow from ground level. Rather, large tree benchmarks have been shown to be a more accurate representation of habitat values and these are also counted in BAM plots.

The full extent of hollows at Flyers Creek Wind Farm has been surveyed within the patches of woodland to determine species credits for hollow-dependant species, though comprehensive mapping on a tree by tree basis has not been undertaken. This is in line with the BAM.

Mapped mature trees across the site are shown in Figure 1 in three categories:

- Known hollow-bearing trees these are trees which have been surveyed on site as hollowbearing;
- ii. Mature trees no hollows these are trees which have been surveyed on site as not containing any hollows; and
- iii. Mature trees unknown hollow status these are trees which have not been the subject of survey on site and could potentially contain a hollow.

The total trees to be impacted for the approved layout and the draft microsited layout are shown in Table 2. A total of 73 known hollow-bearing trees and a maximum of 189 trees with the potential to contain hollows are within the Approved Layout.

Table 2: Mature tree impacts

| | Approved Layout | Draft Microsited Layout |
|--------------------------------------|-----------------|-------------------------|
| Known hollow-bearing trees | 73 | 70 |
| Mature trees – unknown hollow status | 116 | 111 |
| Total | 189 | 181 |

Registered office: Level 16, 580 George Street, Sydney NSW 2000, Australia ABN 76 104 485 289

Based on this, the Proponent requests that an upper HBT clearance limit of 189, including any HBTs on the 132kV power line footprint, is agreed by the Secretary

Under the BAM, offsets would be created for conservation of similar habitat with representative hollow-bearing trees and large trees through the sourcing of credits under the Biodiversity Offset Scheme in accordance with CoC D5 (b) which states:

Prior to the commencement of construction, unless the Secretary agrees otherwise, the Proponent must:

(b) calculate the biodiversity offset credit liabilities for the project in accordance with the Biodiversity Assessment Methodology under the NSW Biodiversity Offsets Scheme, in consultation with OEH, and to the satisfaction of the Secretary.

Offsets would be determined under a BOP prepared in consultation with BCD and the Secretary to meet CoC D5 and D6.

D6 states:

Within 2 years of the commencement of construction, unless the Secretary agrees otherwise, the Proponent must retire the required biodiversity credits, to the satisfaction of OEH.

- (a) acquiring or retiring 'biodiversity credits' within the meaning of the Biodiversity Conservation Act 2016:
- (b) making payments to the Biodiversity Conservation Fund; or
- (c) funding a biodiversity conservation action that benefits the entity impacted and is listed in the ancillary rules of the biodiversity offset scheme.

Recommendations and next steps

Where impacts cannot be avoided or minimised through detailed design mitigation where practicable, the Proponent is committed to offsetting all impacts to native vegetation, including Box Gum Woodland CEEC, and hollow-bearing trees/fauna habitat values by retiring credits through the Biodiversity Offset Scheme as conditioned in the Flyers Creek Wind Farm CoC D5 and D6.

The Proponent requests that the 'unless the Secretary agrees otherwise' provision of CoC D1 (a) and D3 relating to clearance limits for CEEC vegetation and hollow bearing trees is enacted to reflect the updated baseline vegetation survey data and resolve the conflicting nature of the Project Approval.

The Proponent requests that the Secretary agrees to the following limits for the Flyers Creek Wind Farm:

- 1. Clearance of up to 28.1 hectares of CEEC; and
- 2. Removal of up to 189 hollow-bearing trees.

Please could you review this letter and provide the Proponent with confirmation of the administrative process for enacting the agreement of the Secretary as outlined above.

If you have any questions or would like to discuss in detail, please contact me or Megan Richardson (the Proponent).

Yours sincerely

Kate Carroll Technical Discipline Leader - Ecology 0418 490 019

CC. Heather Tilley (Arcadis)

APPENDIX A PREVIOUS CORRESPONDENCE

1.1 Letter to DPIE 25 February 2020



Arcadis Australia Pacific Pty Ltd Level 16, 580 George Street Sydney NSW 2000 Tel No: +61 2 8907 9000 www.arcadis.com/au

May Patterson
Team leader
Planning & Assessment
Department of Planning, Industry & Environment
4 Parramatta Square
12 Darcy Street
Parramatta
NSW 2150

Sent by email to: May.Patterson@planning.nsw.gov.au

Cc: Nicole.Brewer@ planning.nsw.gov.au

25/02/2020

Re. Flyers Creek Wind Farm (MP 08 0252) - Biodiversity

Dear May & Nicole,

Thanks for your time at the teleconference on Thursday 6th February 2020 to discuss the Flyers Creek Wind Farm Conditions of Consent (CoC) relating to Biodiversity. Arcadis has prepared this letter to provide a comparison of the baseline native tree vegetation mapping provided in the Flyers Creek Wind Farm Environmental Impact Statement (EIS) prepared by Aurecon in 2011 and the preliminary microsited version of the approved (Modification 4) project layout.

Background

Flyers Creek Wind Farm was approved by the Planning Assessment Commission (as a delegate of the Minister for Planning and Infrastructure) on 14 March 2014. Four modifications to this approval have subsequently been submitted, the most recent of which, Modification 4 (MOD 4), was approved in August 2019.

MOD 4 CoC D1(a) and D3 state that:

D1. The Proponent must:

- (a) ensure that no more than 3.7 ha of EEC is cleared for the project, unless the Secretary agrees otherwise; and...
- D3. No more than 26 hollow bearing trees shall be removed for the project, unless the Secretary agrees otherwise.

Concern has been raised by Infigen Energy that these clearing limits have been based solely on the impacts of MOD 4 and relate specifically to the Biodiversity Development Assessment Report carried out at MOD 4 for the 132kV power line and do not accommodate an allowance for the construction of the wider wind farm project.

At the time of preparing the original EIS (Aurecon 2011) it was anticipated that the loss of native tree vegetation would be about 1.1 hectares (ha). However, it was accepted that the exact loss could not be calculated until the detailed design for the project had been completed. The proposed impacts to native tree vegetation were outlined in Figure 10.1 of the EIS (Aurecon 2011). Since the EIS was

prepared, several turbines and related project infrastructure have been subsequently removed from the design.

MOD 4 CoC D5 states that:

D5. Prior to the commencement of construction, unless the Secretary agrees otherwise, the Proponent must:

- (a) update the baseline mapping of the vegetation and key habitat within the final disturbance area;
- (b) calculate the biodiversity offset credit liabilities for the project in accordance with the Biodiversity Assessment Methodology under the NSW Biodiversity Offsets Scheme, in consultation with OEH, and to the satisfaction of the Secretary.

Flyers Creek Wind Farm Pty Ltd (the Proponent) are committed to implementing this condition and have undertaken baseline mapping for the majority of the preliminary microsited layout in accordance with the Biodiversity Assessment Method 2017 (BAM). Notwithstanding, the clearing limits imposed by CoC D1 conflicts with and precludes the implementation of CoC D5 by restricting clearing based on the now obsolete EIS 2011 native tree vegetation mapping.

In a teleconference with the Department of Planning, Industry and Environment (DPIE) on 6 February 2020 it was agreed that in order to determine whether the impacts associated with the preliminary microsited project layout are consistent with those of the baseline native tree vegetation mapping provided in the EIS , figures should be prepared to compare the two. This approach would allow DPIE to consider the consistency of potential native tree vegetation impacts to input to the determination of the pathway for resolution of the issue.

This letter has been prepared to document the findings of the comparison.

Methods

The spatial data associated with Figure 10.1 of the EIS (Aurecon, 2011) was not available therefore it was recreated for the purposes of this letter (see Figure 1) using the following methodology:

- The existing PDF map of EIS Figure 10.1 was imported into GIS and georeferenced using the cadastral boundaries;
- The Wind Turbine point layer was then used to verify that the georeferencing was accurate against existing datasets;
- At a scale of 1:1000, the polygons for scattered trees and remnant woodland were traced to create new polygon features in GIS; and
- To ensure consistency in map datum, all work was done in GDA_1994_MGA_Zone_55.

There is an inherent margin of error associated with digitisation in this way as Figure 10.1 used a published scale of 1:56,850 and the line work within the PDF has a projected width of about 50 metres on the ground. Since the comparison within this letter is qualitative, this margin of error is not considered to present a significant limitation on the information presented below.

Following the digitisation of the Figure 10.1 EIS 2011 data, the baseline native tree vegetation ('Denser stands of scattered trees' and 'Remnant woodland') were overlaid with the preliminary microsited layout of the approved project layout to determine whether the impacts are generally consistent (see Figure 2).

Flyers Creek Wind Farm

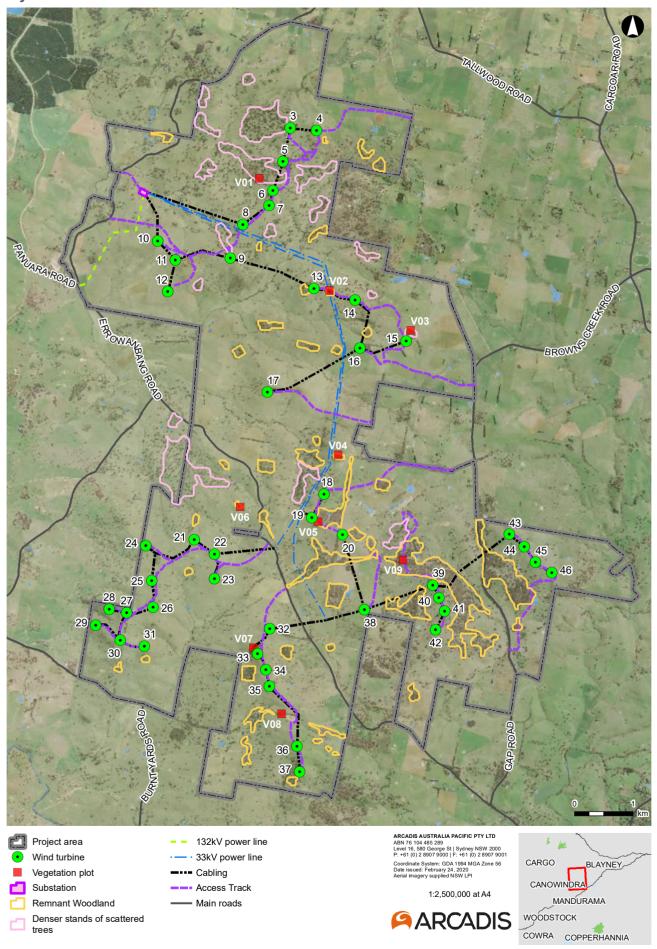
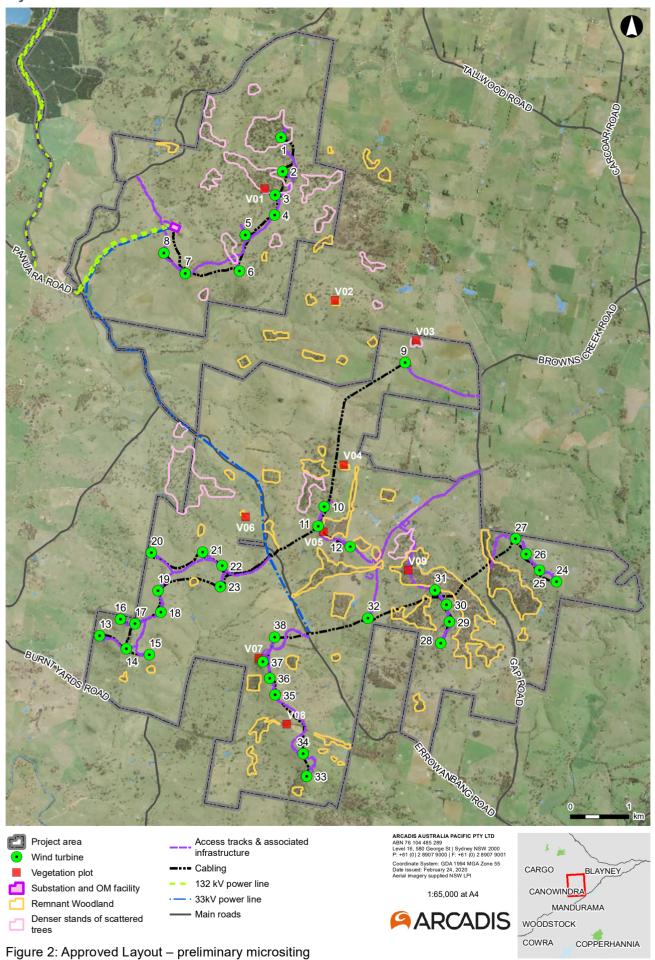


Figure 1: Remnant Woodland & Forest Vegetation (Figure 10.1 of Environmental Impact Assessment, Aurecon, 2011)

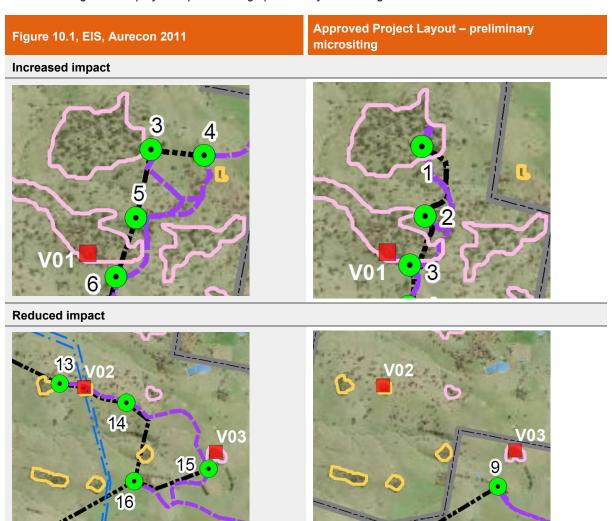
Flyers Creek Wind Farm



Impact comparison

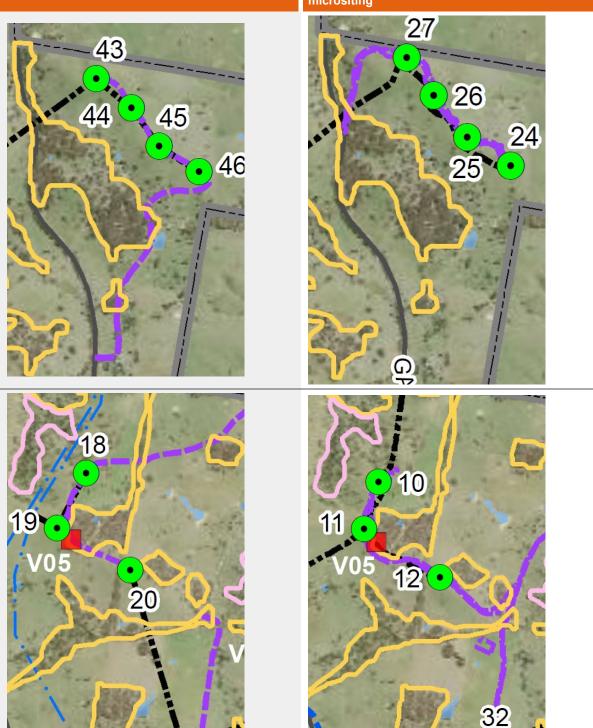
Table 1 provides a comparison of the project layouts to show the locations where the impacts have changed. Note that the wind turbines have been renumbered in the preliminary microsited approved project layout. Impacts associated with the remainder of the turbine locations (not captured in Table 1) remain unchanged.

Table 1: Changes to the project impacts through preliminary micrositing





Approved Project Layout – preliminary micrositing



The changes to the project layout have resulted in minor alterations to the impacts of the project with both an increase and a decrease in the impact in specific locations. Overall it is considered likely that the impact of the project on native tree vegetation as shown in Figure 10.1 of the EIS (Aurecon, 2011) has decreased in the preliminary microsited version of the approved project layout. A quantitative assessment of the two designs is not possible as it is unclear what assumptions were placed on the EIS project layout when calculating the anticipated clearing limit of about 1.1 hectares of native tree vegetation.

The EIS (Aurecon, 2011) identified that 10 hollow bearing trees (HBTs) would be removed by the project based on the EIS project layout and the HBTs that were identified during the associated field investigations. The preliminary microsited version of the approved project layout would remove approximately five hollow bearing trees, based on the HBT mapping data. Therefore, the preliminary micrositing has reduced the number of HBTs that would be removed.

Conclusion

This letter has provided a comparison of the anticipated impacts of the EIS (Aurecon, 2011) project layout and the preliminary microsited approved (MOD 4) project layout on 'denser stands of scattered trees' and 'remnant woodland', as mapped in Figure 10.1 of the EIS (Aurecon 2011). The preliminary microsited approved project layout has resulted in minor additional removal of native tree vegetation in the northern portion of the project site, as well as minor avoidance of impacts at several locations in the south.

On balance, the preliminary microsited approved project layout has resulted in an overall reduction in impacts to native tree vegetation as assessed in the EIS (Aurecon, 2011). In addition, the preliminary microsited approved project layout has also reduced the number of HBTs that would be removed, based on the EIS HBT mapping.

Yours sincerely

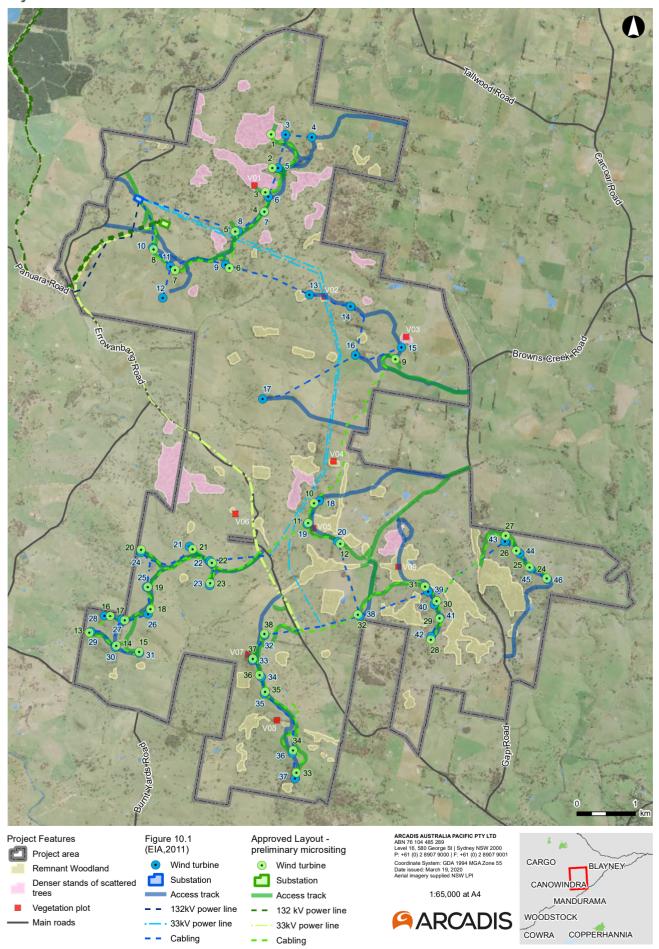
Ed Cooper

Technical Discipline Leader - Ecology

0410 765 736

CC. Heather Tilley (Arcadis)

Flyers Creek Wind Farm



| 1.2 Email summary of teleconference 9 April 2020 | | |
|--|--|--|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Carroll, Kate

From: Megan Richardson

Sent: Thursday, 9 April 2020 11:10 AM

To: Nicole Brewer (nicole.brewer@planning.nsw.gov.au) < nicole.brewer@planning.nsw.gov.au>

Cc: May.Patterson@planning.nsw.gov.au

Subject: Flyers Creek - Biodiversity Offset & Vegetation Clearing

Nicole,

Thanks for your time on the phone yesterday afternoon to discuss Flyers Creek and in particular the conditions of Project Approval which relate to biodiversity offset and vegetation clearing:

- Condition D1 (a) and D3: Biodiversity;
- Condition D5 and D6: Biodiversity Offset Package; and
- Condition F21 (f): Construction Flora & Fauna Management Plan.

As discussed, we have identified a concern regarding the conflicting nature of these conditions and Infigen's ability to both update the baseline vegetation mapping (D5 and F21 (f)) and define the offset liability (D5) whilst meeting the clearance limits specified in Condition D1 for EEC and D3 (a) for HBT.

We understand that we can manage this conflict under the existing approval as follows:

- That Infigen meet the requirements of the Biodiversity Development Assessment Report (BDAR) prepared for the 132kv transmission line under the BAM methodology during pre-approval stage of planning modification 4.
- That Infigen undertake updated (new) baseline vegetation mapping of the wider site disturbance area (excluding the 132kV) and calculates the offset liability as specified under Condition D5 using the BAM.
- The results of the 132kV BDAR undertaken at Mod 4 and the updated reporting on the wider site will require to be combined to give a final project offset liability under Condition D5. This information will be reported in the Biodiversity Offset Package (BOP) which requires consultation with BCD and approval by DPIE and where relevant in the CFFMP under Condition F21 (f).
- Based on the updated baseline vegetation mapping which has been undertaken to date on the wider site
 disturbance area, it is likely that more that 3.7 ha of EEC and 26 hollow bearing trees will require to be
 cleared during construction, noting that the 3.7 ha value is taken directly from the 132kV BDAR and
 therefore leaves no EEC clearing limit for the wider site. However, vegetation clearance is managed via the
 retirement of offsets under the BOP. There is also a provision under Condition D1 (a) and D3 allowing
 flexibility using the 'unless the Secretary agrees otherwise' provision.
- In order to document the above, we will lodge the following documents with DPIE for review and approval:
 - 1. Letter relating to Condition D1 (a) and D3:
 - Requesting approval under the 'unless the Secretary agrees otherwise' provision of these Conditions relating to the EEC & HBT removal;
 - Including information on:
 - history of the conditions & change in biodiversity mapping requirements
 - overlay of EA project layout with Approved microsited layout on original vegetation mapping
 - overlay of Mod 4 Approved Layout and Microsited Layout on updated vegetation mapping
 - justification for update to total EEC and HBT removal amount
 - 2. Preparation of BOP under D5 for DPIE approval
 - 3. Preparation of CFFMP under F21 (f) for DPIE approval

Please could you confirm by email that DPIE are content with the approach as detailed above?

Thanks Megan



Megan Richardson

Development Manager Level 17, 56 Pitt Street, Sydney NSW 2000 T +61 2 8031 9900 D +61 2 8031 9916 M +61 472 818 407 E megan.richardson@infigenenergy.com | www.infigenenergy.com

Our generation, your future **f in**



In response to the Covid-19 pandemic, Infigen has asked staff to work from home, to avoid all business travel, and to transition all meetings to conference calls. All of Infigen's divisions are equipped to operate remotely, and all aspects of Infigen's business continue as usual. These precautionary measures are aimed at protecting our people and contributing to the public health effort in our wider communities.