



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9845/1
Permit Holder:	Flat Rocks One Wind Farm Pty Ltd as the trustee for Flat Rocks One Wind Farm
Duration of Permit:	From 22 May 2023 to 22 May 2028

ADVICE NOTE

The land transfer referred to in condition 7 of this permit is intended to contribute towards the purchase and conservation in perpetuity of at least 6.7 hectares of native vegetation within Lot 8219 on Deposited Plan 149407, Mobrup, that comprises significant foraging habitat for *Zanda latirostris* (previously *Calyptrorhynchus latirostris*) (Carnaby's cockatoo) and that is significant as a remnant of native vegetation in an area that has been extensively cleared.

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purposes of access roads, construction of wind turbines, and cabling works associated with the Flat Rocks Wind Farm Stage 1 project.

2. Land on which clearing is to be done

Lot 10 on Plan 14464, Broomehill West
Lot 6599 on Deposited Plan 79216, Broomehill West
Lot 6854 on Deposited Plan 80143, Lumeah
Lot 7725 on Deposited Plan 80143, Lumeah
Lot 781 on Deposited Plan 100937, Lumeah
Lot 1943 on Deposited Plan 110745, Broomehill West
Lot 4168 on Deposited Plan 126280, Borderdale
Lot 4788 on Deposited Plan 127649, Borderdale
Lot 5614 on Deposited Plan 133067, Broomehill West
Lot 5979 on Deposited Plan 138658, Lumeah
Warrenup Road reserve (PIN 11107473), Broomehill West
Warrenup Road reserve (PIN 11107477), Broomehill West
Warrenup Road reserve (PIN 11107489), Broomehill West

Unnamed road reserve (PIN 11107491), Lumeah
Warrenup Road reserve (PIN 11164974), Borderdale and Broomehill West
Warrenup Road reserve (PIN 11164976), Borderdale

3. Clearing authorised

The permit holder must not clear more than 1.06 hectares of *native vegetation* within the areas cross-hatched yellow in Figures 1-9 of Schedule 1.

PART II – MANAGEMENT CONDITIONS

4. Avoid, minimise, and reduce impacts and extent of clearing

In determining the *native vegetation* authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending order of preference:

- (a) avoid the clearing of *native vegetation*;
- (b) minimise the amount of *native vegetation* to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

5. Weed and dieback management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no known *dieback* or *weed*-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

6. Directional clearing

The permit holder must conduct clearing activities in a slow, progressive manner towards adjacent *native vegetation* to allow fauna to move into adjacent *native vegetation* ahead of the clearing activity.

7. Offsets – land transfer

- (a) Prior to 22 May 2024, the permit holder must fund the Department of Biodiversity Conservation and Attractions with an amount sufficient to purchase at least 6.7 hectares of native vegetation within Lot 8219 on Deposited Plan 149407, Mobrur, to be ceded to the Department of Biodiversity Conservation and Attractions for conservation.
- (b) The permit holder must provide documentary evidence to the *CEO* that the amount referred to in condition 7(a) of this permit has been paid to the Department of Biodiversity Conservation and Attractions within three months of payment.

PART III - RECORD KEEPING AND REPORTING

8. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	<ul style="list-style-type: none">(a) the species composition, structure, and density of the cleared area;(b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA20), expressing the geographical coordinates in Eastings and Northings;(c) the date that the area was cleared;(d) the size of the area cleared (in hectares);(e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 4; and(f) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> and <i>dieback</i> in accordance with condition 5;(g) actions taken to undertake directional clearing in accordance with condition 6; and(h) actions taken to facilitate land transfer in accordance with condition 7.

9. Reporting

The permit holder must provide to the *CEO* the records required under condition 8 of this permit when requested by the *CEO*.

DEFINITIONS

In this permit, the terms in Table have the meanings defined.

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
dieback	means the effect of <i>Phytophthora</i> species on native vegetation.

Term	Definition
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986</i> (WA)
fill	means material used to increase the ground level, or to fill a depression.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
weeds	means any plant – <ul style="list-style-type: none"> (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i>; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS



Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

28 April 2023

Schedule 1

The boundary of the area authorised to be cleared is shown in the map below (Figure 1).

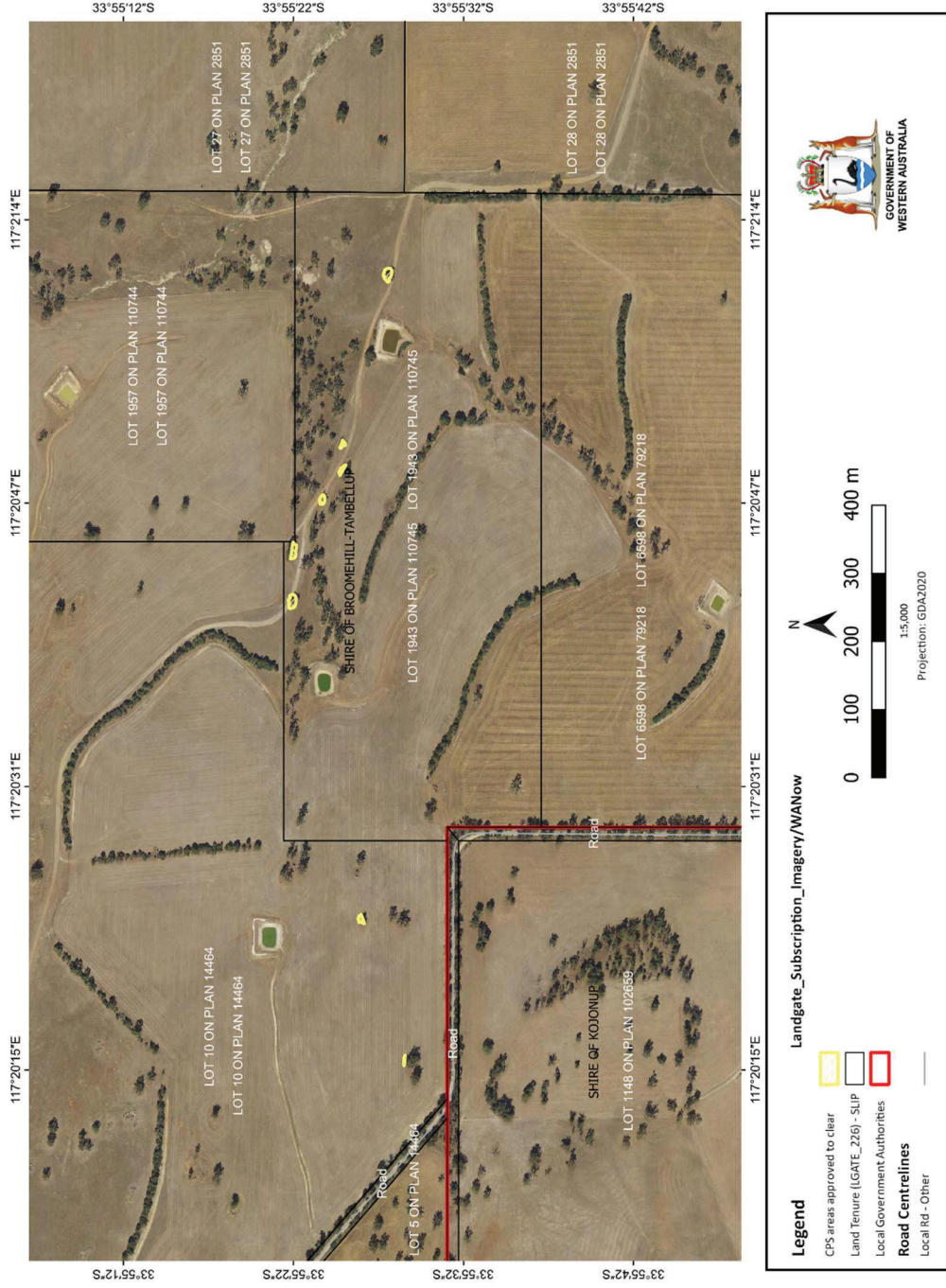


Figure 1: Map of the boundary of the area within which clearing may occur.

The boundary of the area authorised to be cleared is shown in the map below (Figure 2).

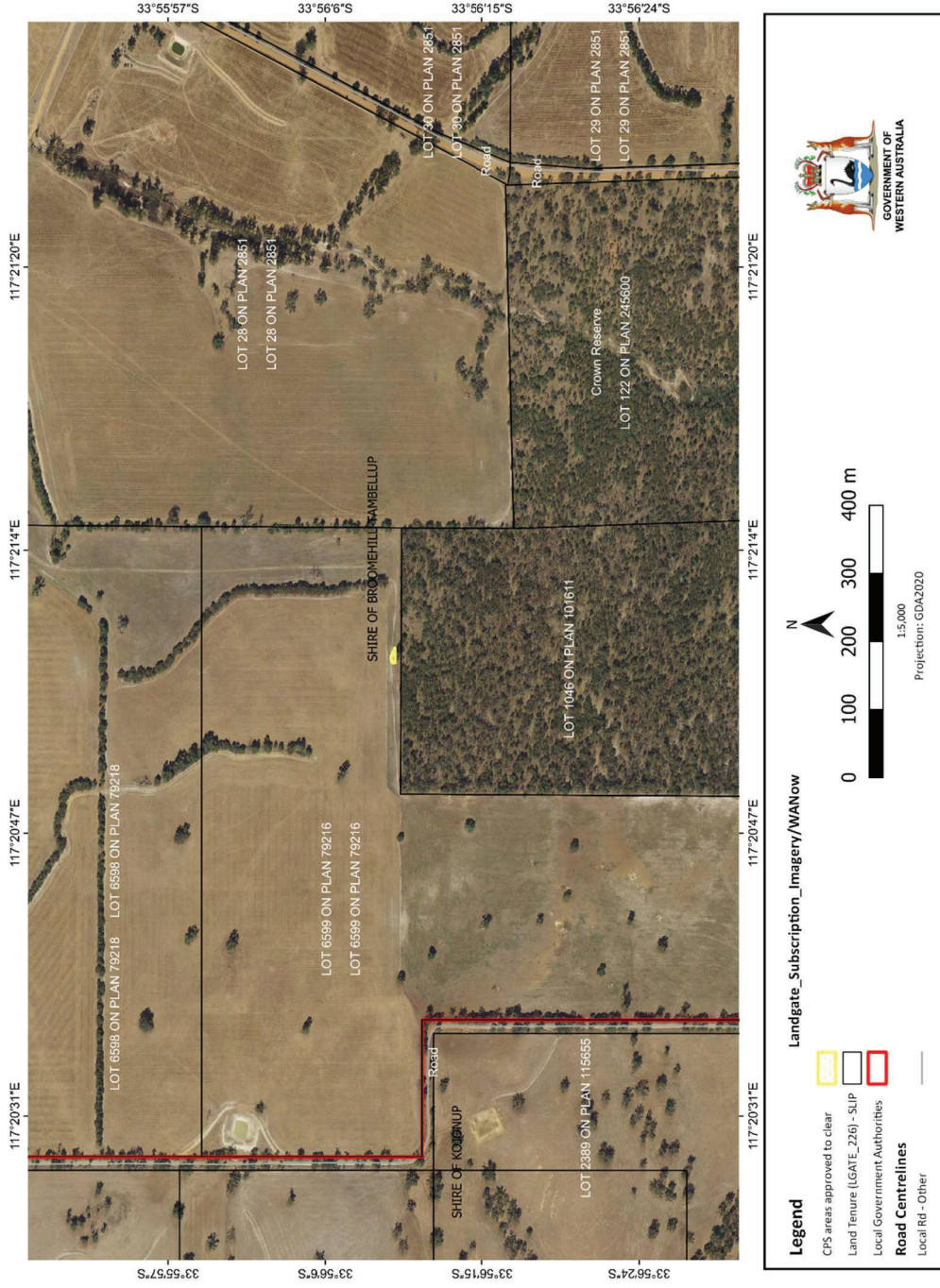


Figure 2: Map of the boundary of the area within which clearing may occur.

The boundary of the area authorised to be cleared is shown in the map below (Figure 3).

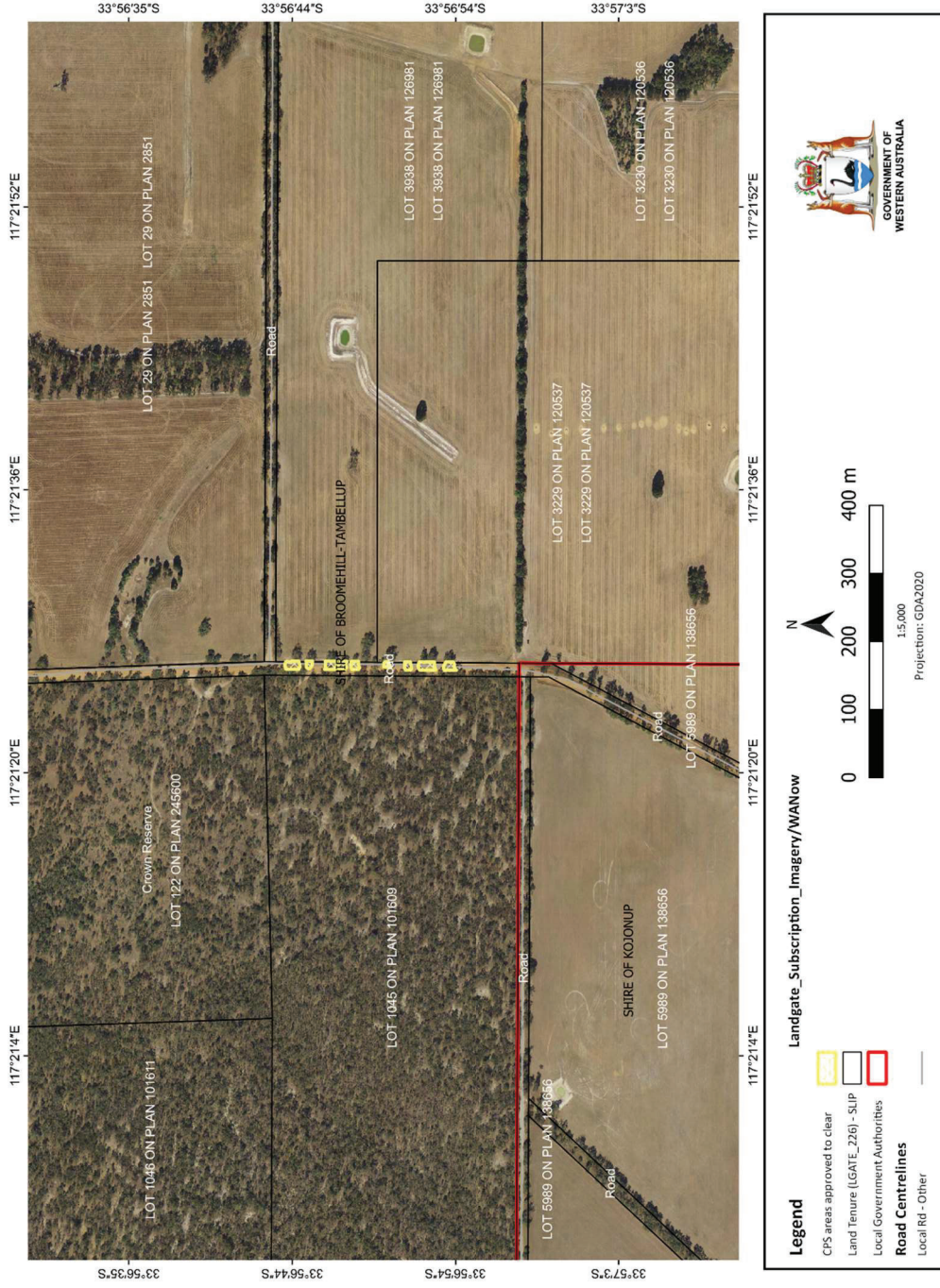


Figure 3: Map of the boundary of the area within which clearing may occur.

The boundary of the area authorised to be cleared is shown in the map below (Figure 4).

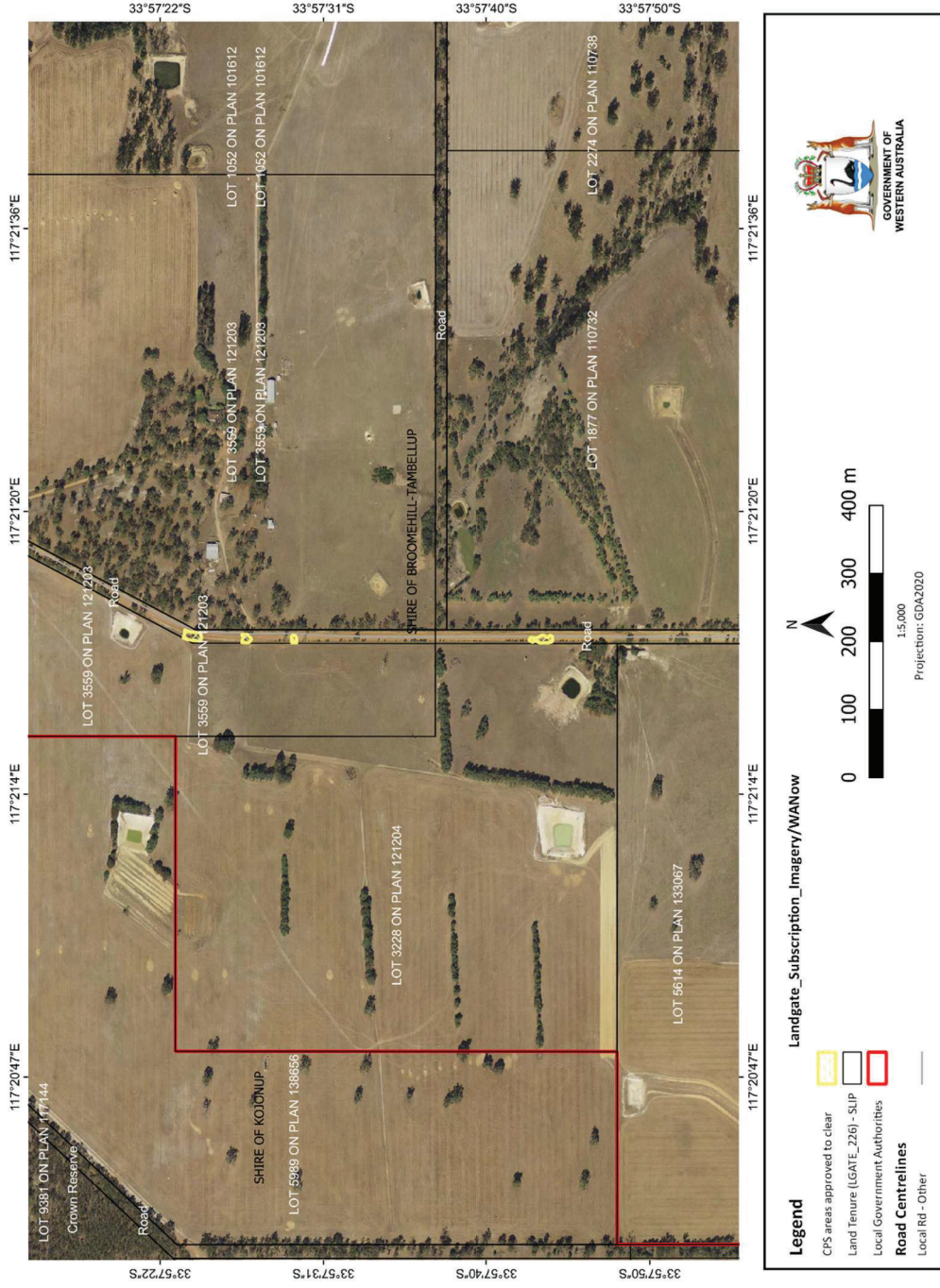


Figure 4: Map of the boundary of the area within which clearing may occur.

The boundary of the area authorised to be cleared is shown in the map below (Figure 5).

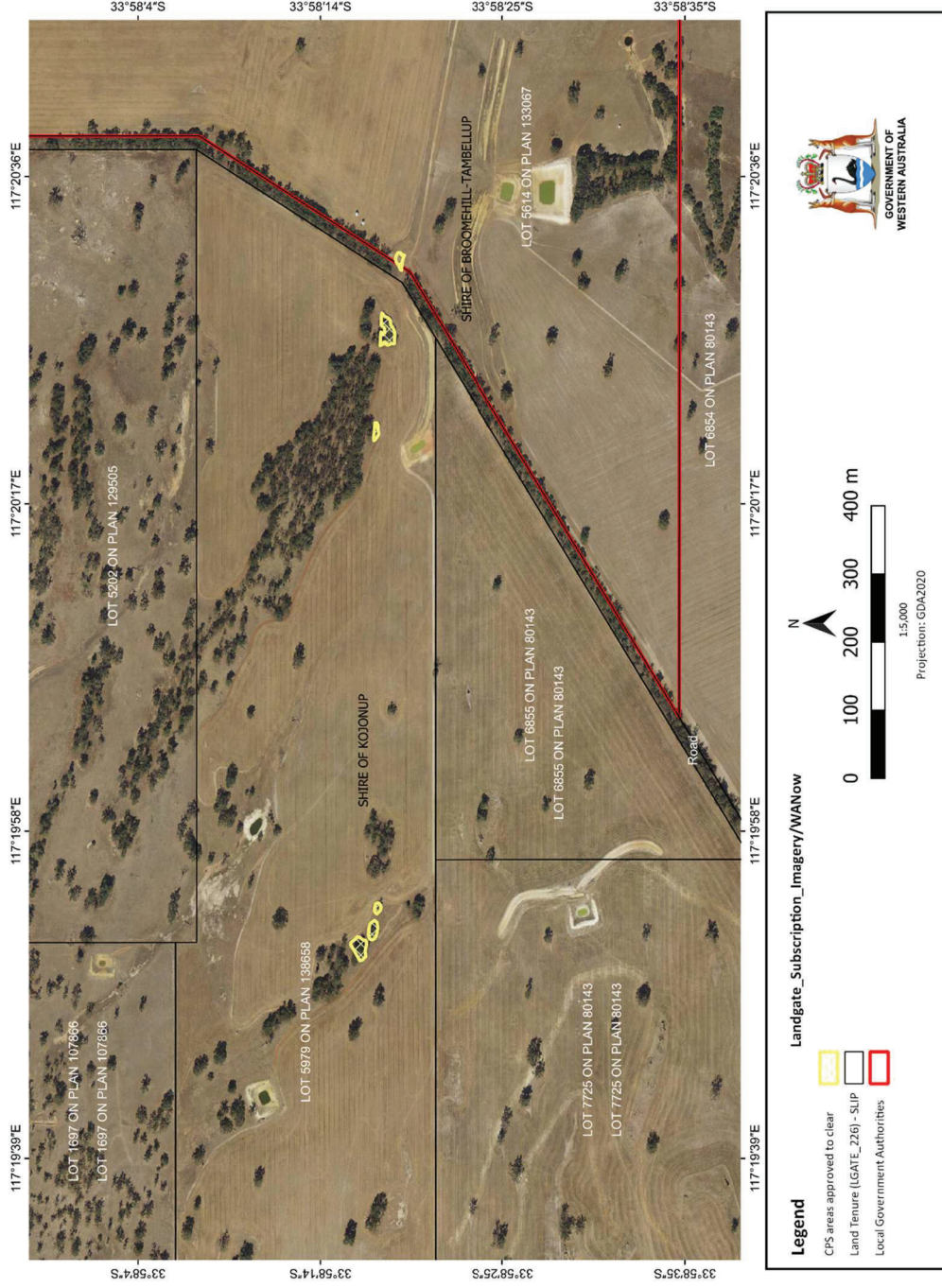


Figure 5: Map of the boundary of the area within which clearing may occur.

The boundary of the area authorised to be cleared is shown in the map below (Figure 6).

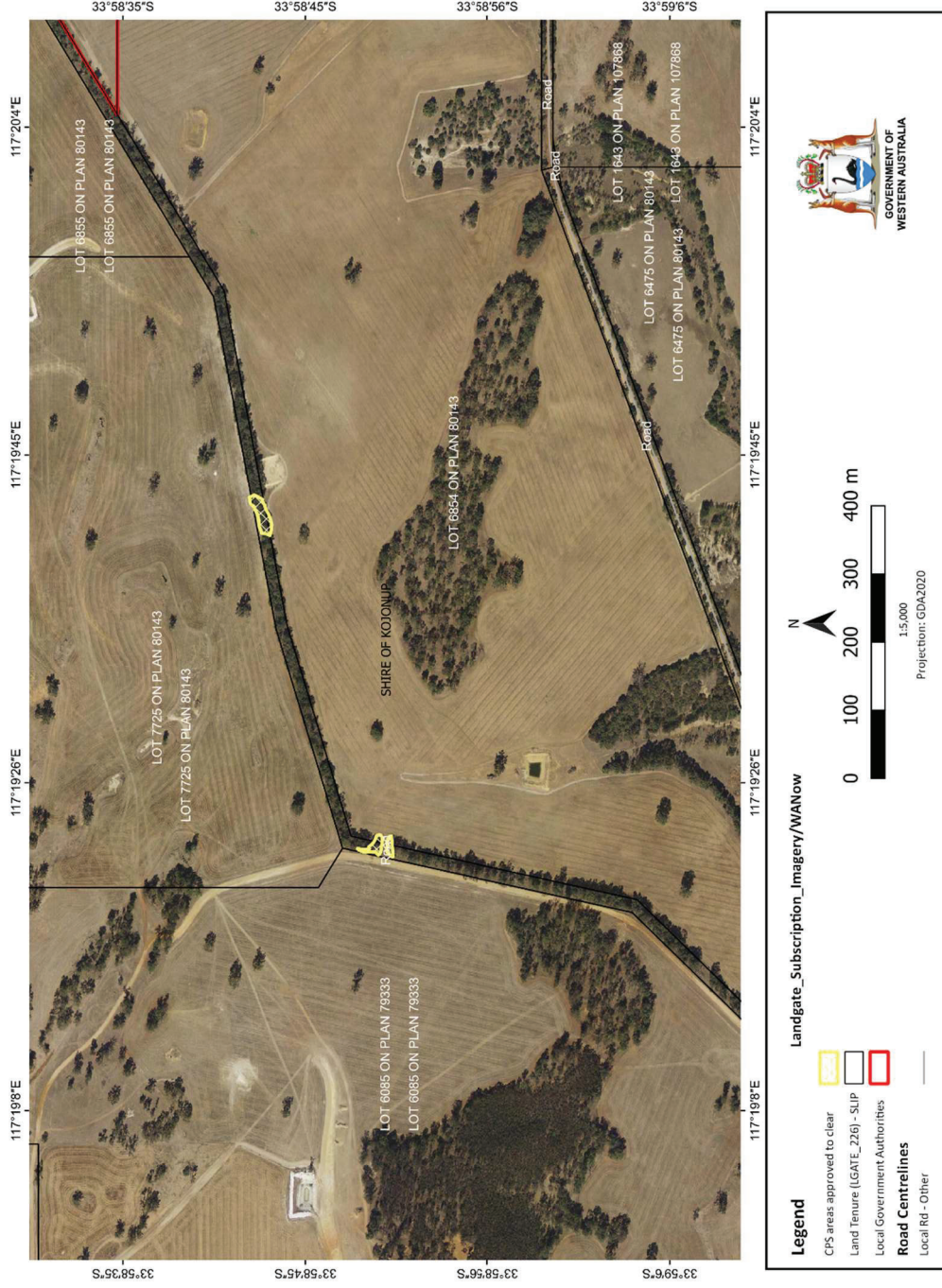


Figure 6: Map of the boundary of the area within which clearing may occur.

The boundary of the area authorised to be cleared is shown in the map below (Figure 7).

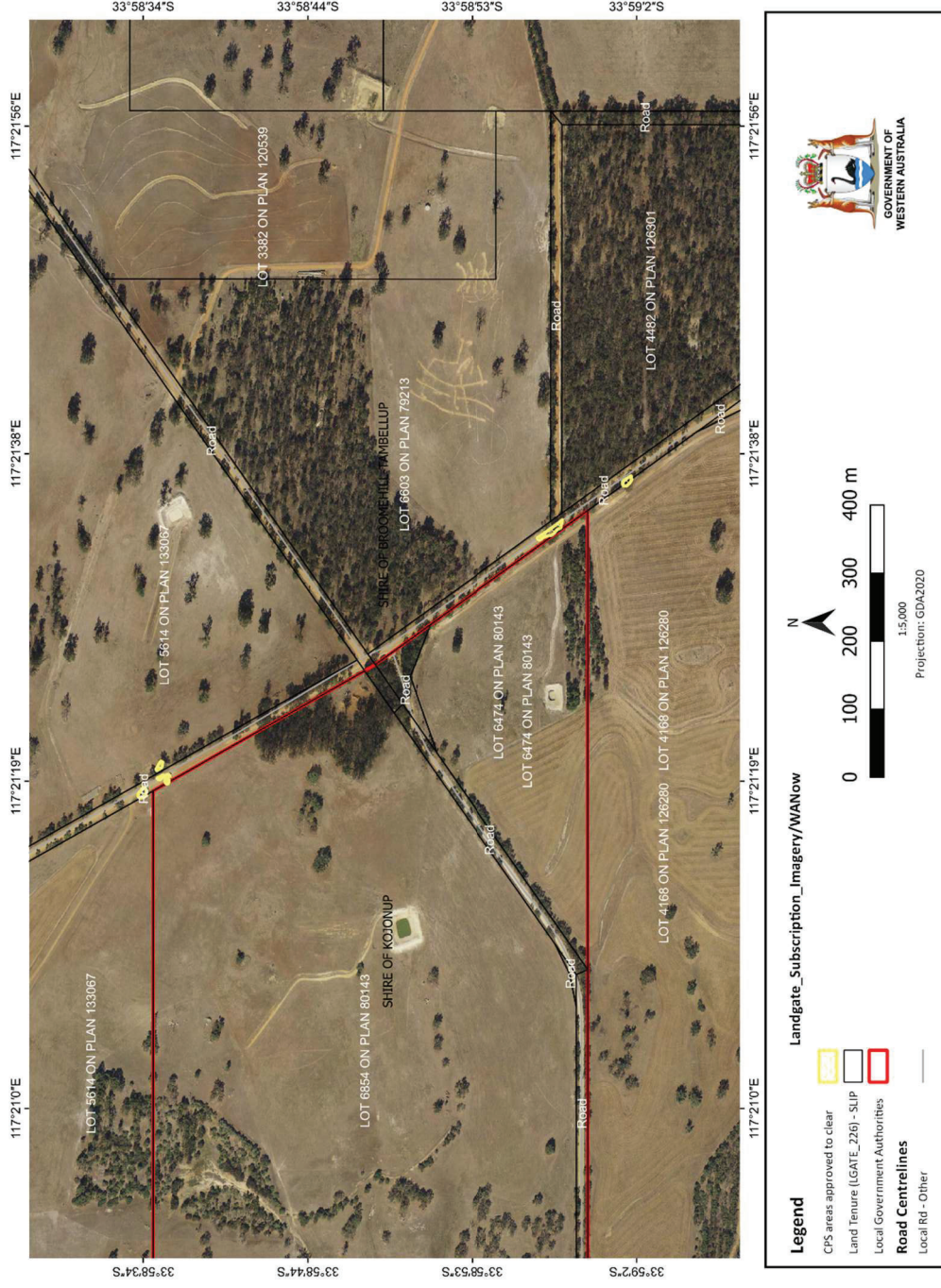


Figure 7: Map of the boundary of the area within which clearing may occur.

The boundary of the area authorised to be cleared is shown in the map below (Figure 8).

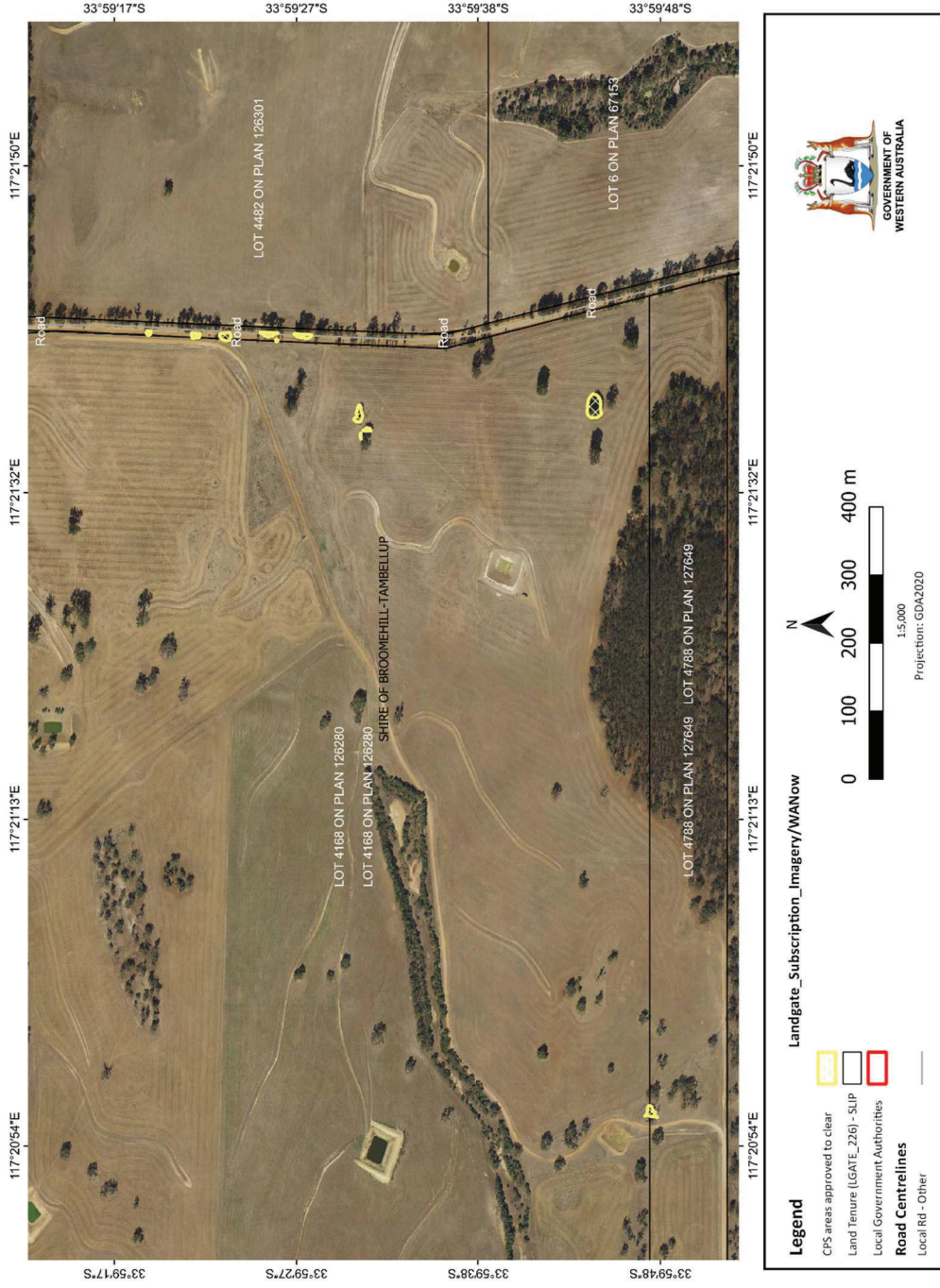


Figure 8: Map of the boundary of the area within which clearing may occur.

The boundary of the area authorised to be cleared is shown in the map below (Figure 9).



Figure 9: Map of the boundary of the area within which clearing may occur.



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9845/1
Permit type:	Purpose permit
Applicant name:	Flat Rocks One Wind Farm Pty Ltd as the trustee for Flat Rocks One Wind Farm
Application received:	10 August 2022
Application area:	1.06 (revised) hectares of native vegetation
Purpose of clearing:	Access roads, construction of wind turbines and cabling works
Method of clearing:	Mechanical
Property:	Lot 10 on Plan 14464 Lot 6599 on Deposited Plan 79216 Lot 6854 on Deposited Plan 80143 Lot 7725 on Deposited Plan 80143 Lot 781 on Deposited Plan 100937 Lot 1943 on Deposited Plan 110745 Lot 4168 on Deposited Plan 126280 Lot 4788 on Deposited Plan 127649 Lot 5614 on Deposited Plan 133067 Lot 5979 on Deposited Plan 138658 Warrenup Road reserve (PIN 11107473) Warrenup Road reserve (PIN 11107477) Warrenup Road reserve (PIN 11107489) Unnamed road reserve (PIN 11107491) Warrenup Road reserve (PIN 11164974) Warrenup Road reserve (PIN 11164976)
Location (LGA area/s):	Shire of Broomehill-Tambellup Shire of Kojonup
Localities (suburb/s):	Borderdale Broomehill West Lumeah

1.2. Description of clearing activities

The vegetation proposed to be cleared comprises stands of paddock trees and roadside remnant native vegetation distributed across 16 separate areas (see Figure 1, Section 1.5). The proposed clearing is to facilitate the construction of the Flat Rocks Wind Farm (FRWF) Stage 1 project and associated supporting infrastructure, including wind turbine footprints and blade clearance areas, permanent access tracks, and cable alignments.

The application was revised during the assessment process following further analysis of the infrastructure requirements and transport routes undertaken by the Applicant and in response to a request for information issued by the Department of Water and Environmental Regulation (DWER). The changes resulted in a reduction in the amount of clearing from 1.77 hectares to 1.06 hectares to avoid and minimise the clearing impacts (see Section 3.1 for further details).

1.3. Decision on application

Decision:	Granted
Decision date:	28 April 2023
Decision area:	1.06 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed, and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The DWER advertised the application for a total of 28 days and one submission was received. Consideration of matters raised in the public submission is summarised in Appendix B.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix C), relevant datasets (see Appendix H.1), the findings of flora, vegetation, and fauna assessments (Mattiske, 2022a; Mattiske, 2016), impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021), and a black cockatoo habitat assessment (Mattiske, 2023) (see 0), the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration that the objective of the proposal is to support an increase in the supply of renewable energy in Western Australia and is aligned with the State's objective to develop a cleaner, more diverse, and affordable electricity network.

The assessment identified that the proposed clearing will result in:

- the loss of 1.06 hectares of native vegetation that provides significant foraging habitat for Carnaby's cockatoo,
- the loss of 1.06 hectares of native vegetation that is significant as a remnant of native vegetation in an area that has been extensively cleared,
- the loss of approximately 0.59 hectares that acts as an ecological linkage in an extensively cleared landscape,
- the loss of approximately 0.2 hectares of native vegetation growing in, or in association with, an environment associated with a watercourse, and
- the potential introduction and spread of weeds and dieback into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values, including local conservation areas.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined that some of the impacts of the proposed clearing, including direct impacts to individual fauna and the potential to facilitate the introduction of weeds and dieback, can be minimised and managed to unlikely lead to an unacceptable risk to environmental values through permit conditioning. However, impacts to foraging habitat for Carnaby's cockatoo and significant remnant vegetation remained significant even after the application of minimisation and mitigation measures and constituted a significant residual impact.

The Delegated Officer determined that the acquisition and conservation in perpetuity of at least 6.7 hectares of native vegetation that provides 6.7 hectares of significant foraging habitat for Carnaby's cockatoo and at least 5.31 hectares that is significant as a remnant of native vegetation in an area that has been extensively cleared within Lot 8219 on Deposited Plan 149407, Mobrup, was sufficient to counterbalance the significant residual impacts of the proposed clearing (see Section 4).

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise, and reduce the impacts and extent of clearing,
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback,
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity, and
- within 12 months of the commencement date of the permit, fund the purchase of at least 6.7 hectares of native vegetation that provides significant foraging habitat for Carnaby’s cockatoo and is significant as a remnant within an area that has been extensively cleared within Lot 8219 on Deposited Plan 149407, Mobrup, to be ceded to the Department of Biodiversity Conservation and Attractions (DBCA) for conservation.

1.5. Site maps

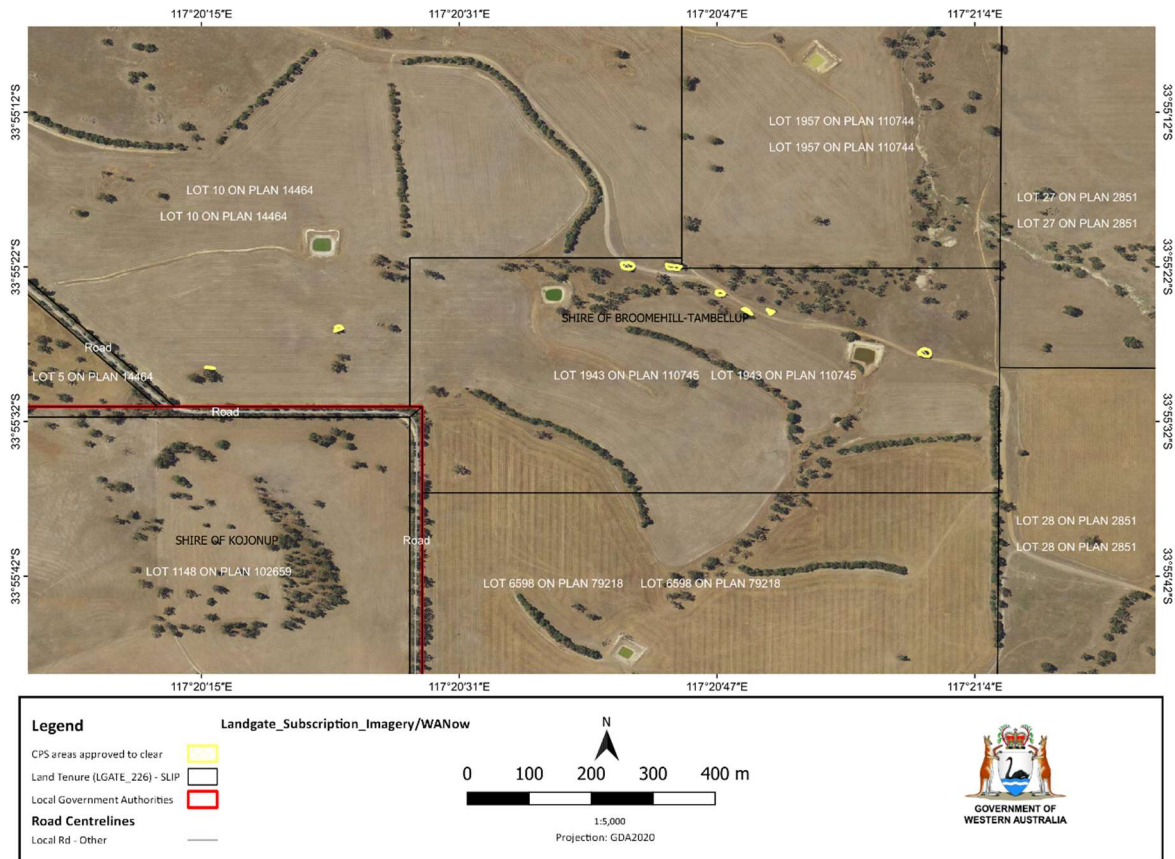


Figure 1 The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

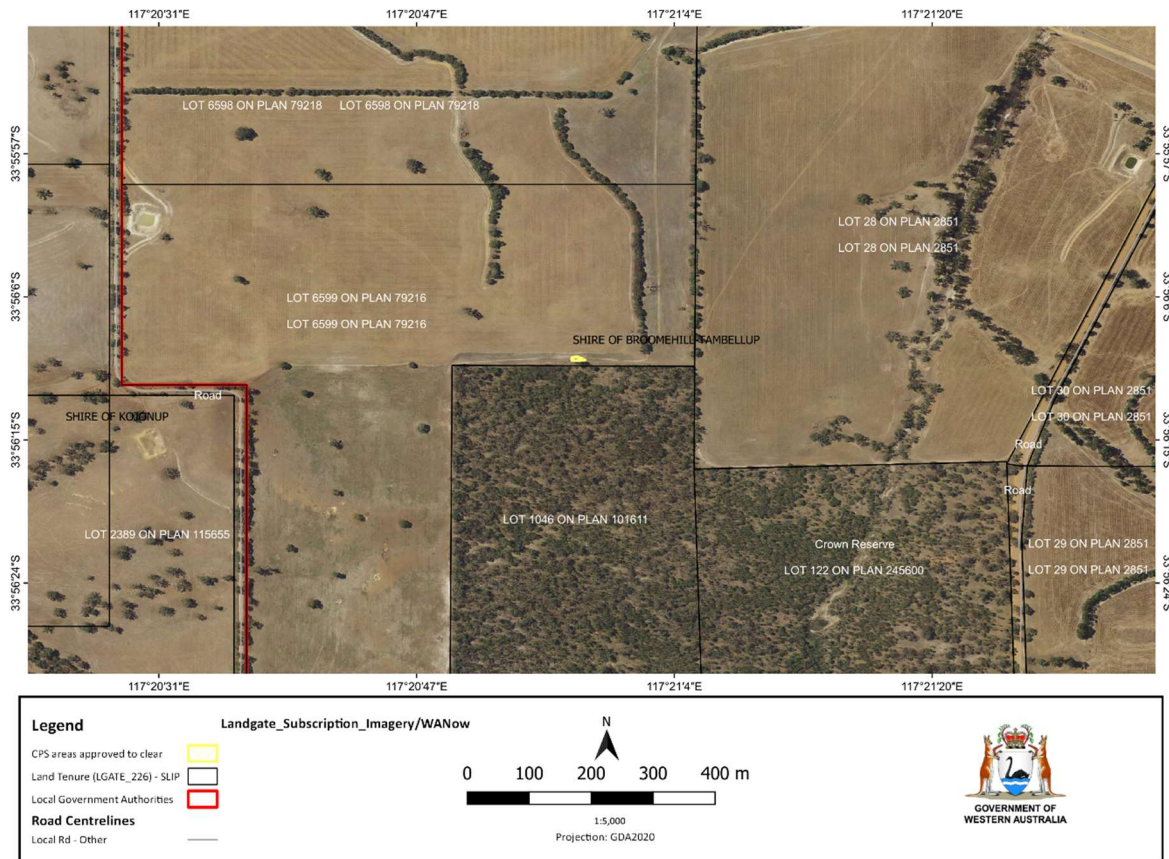


Figure 2 The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

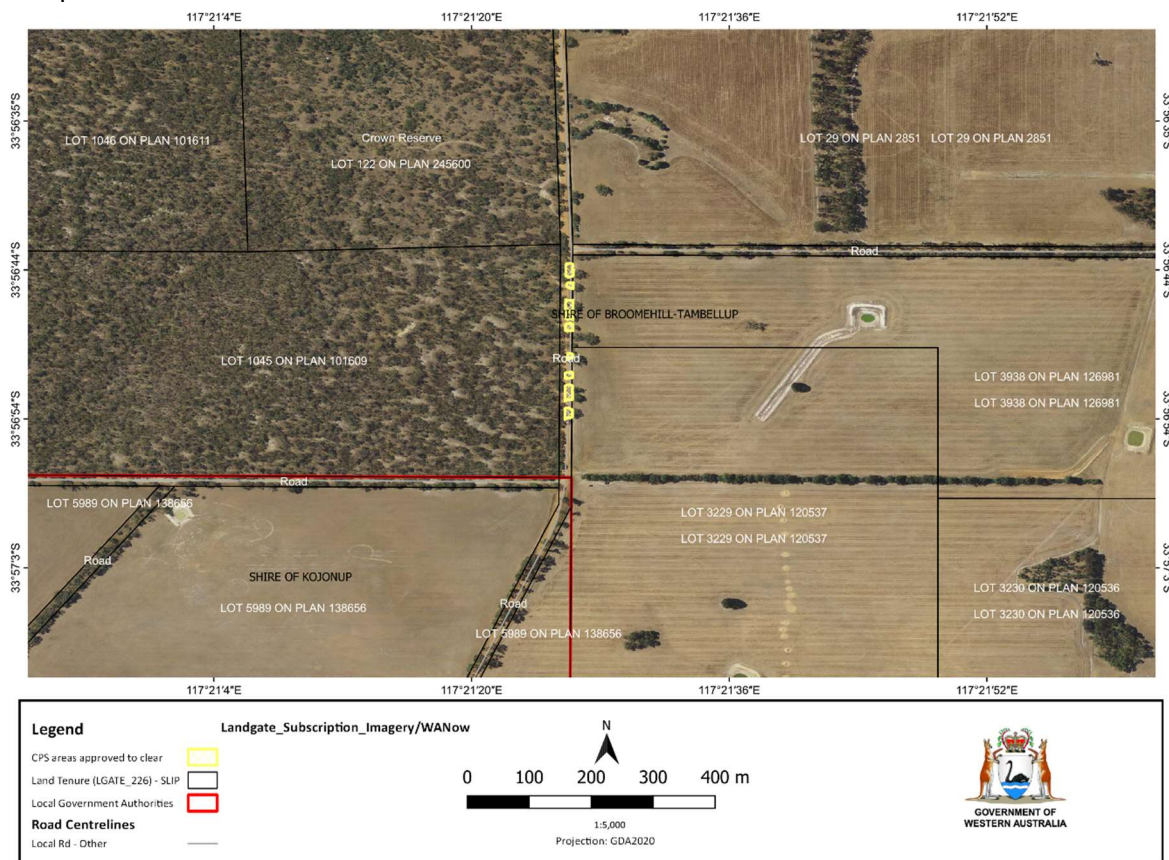


Figure 3 The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

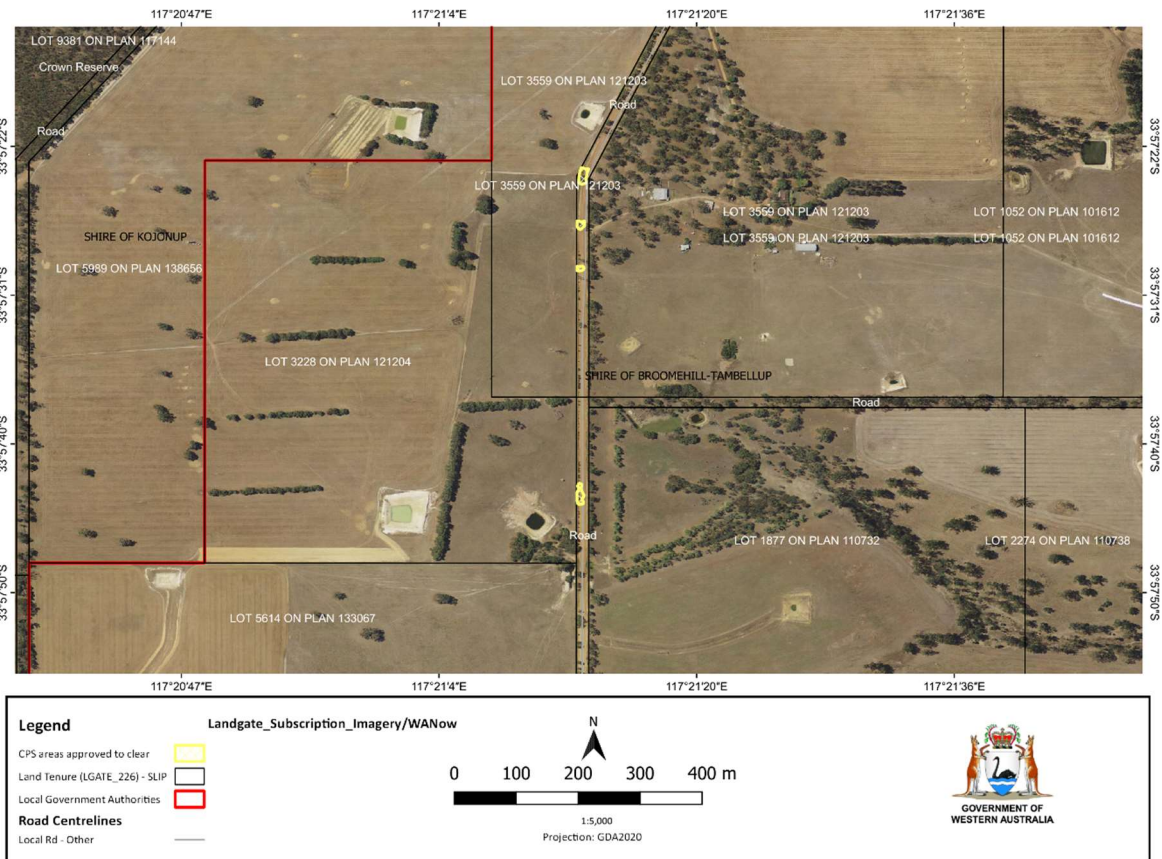


Figure 4 The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

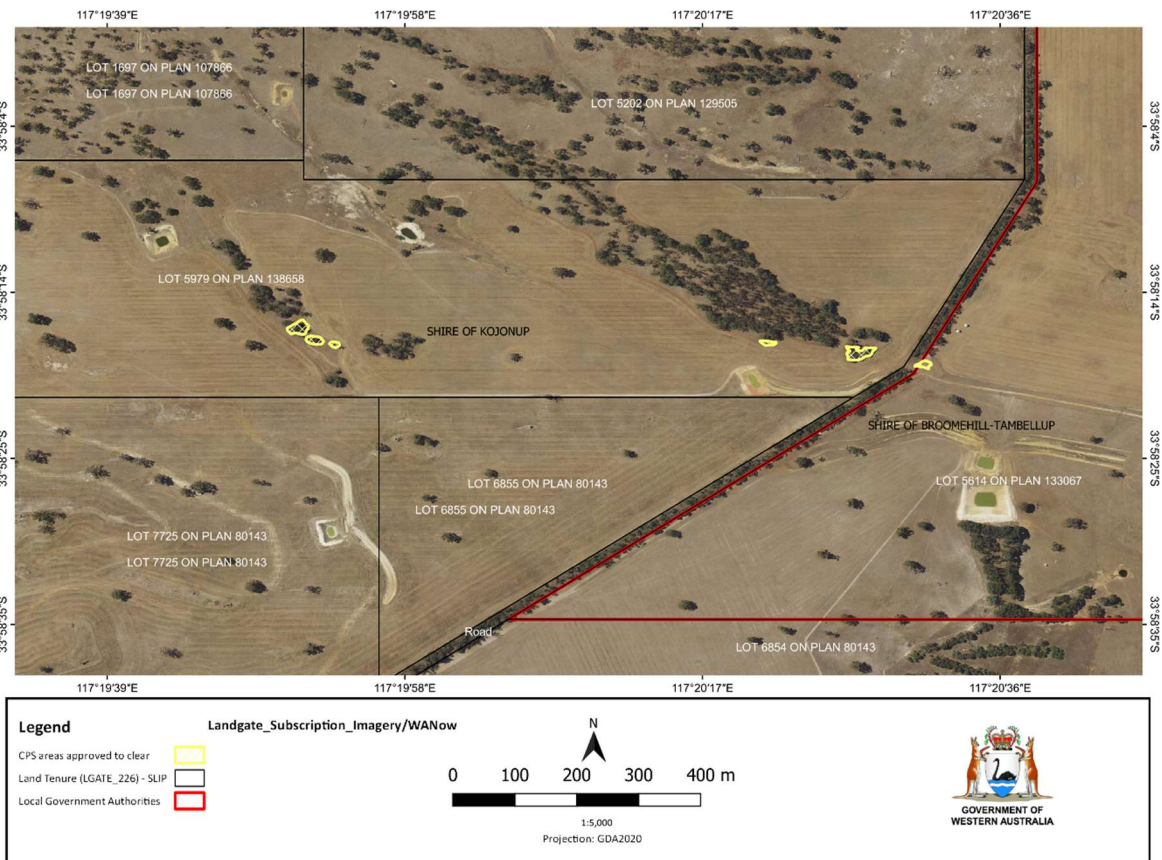


Figure 5 The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

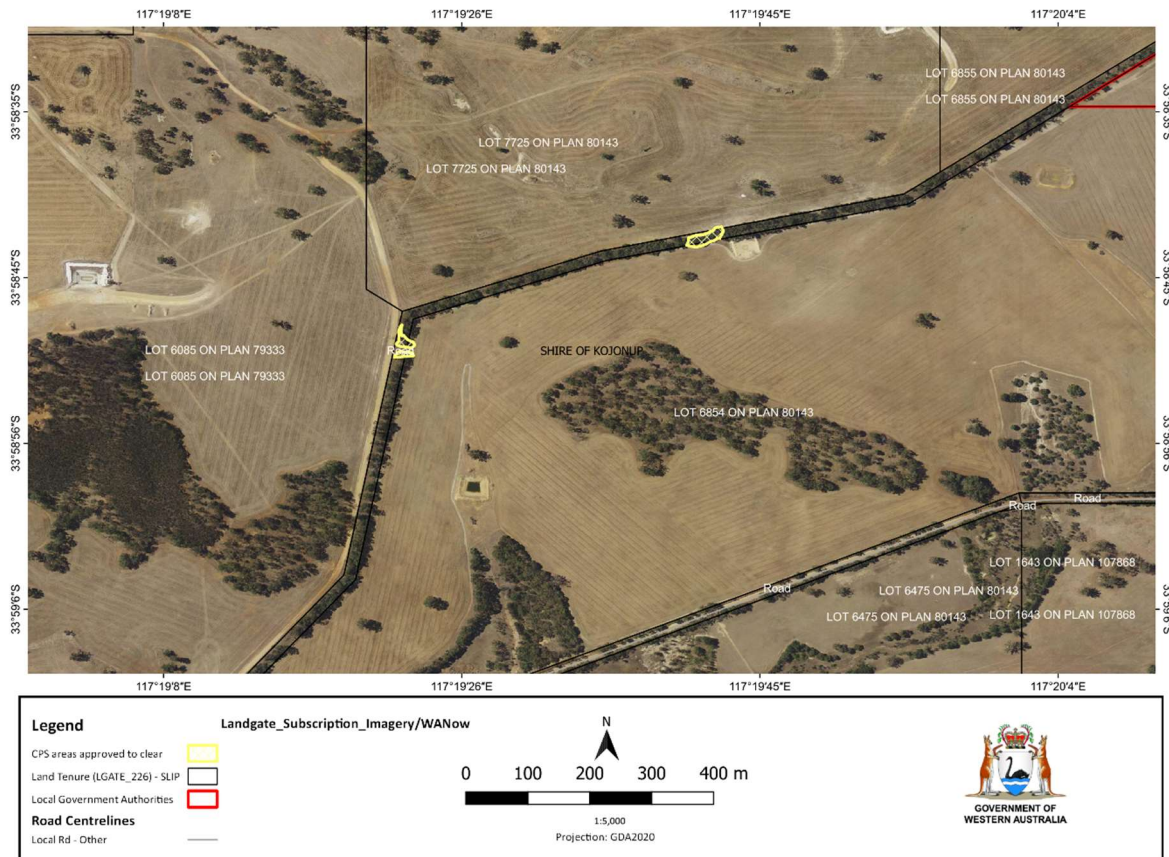


Figure 6 The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

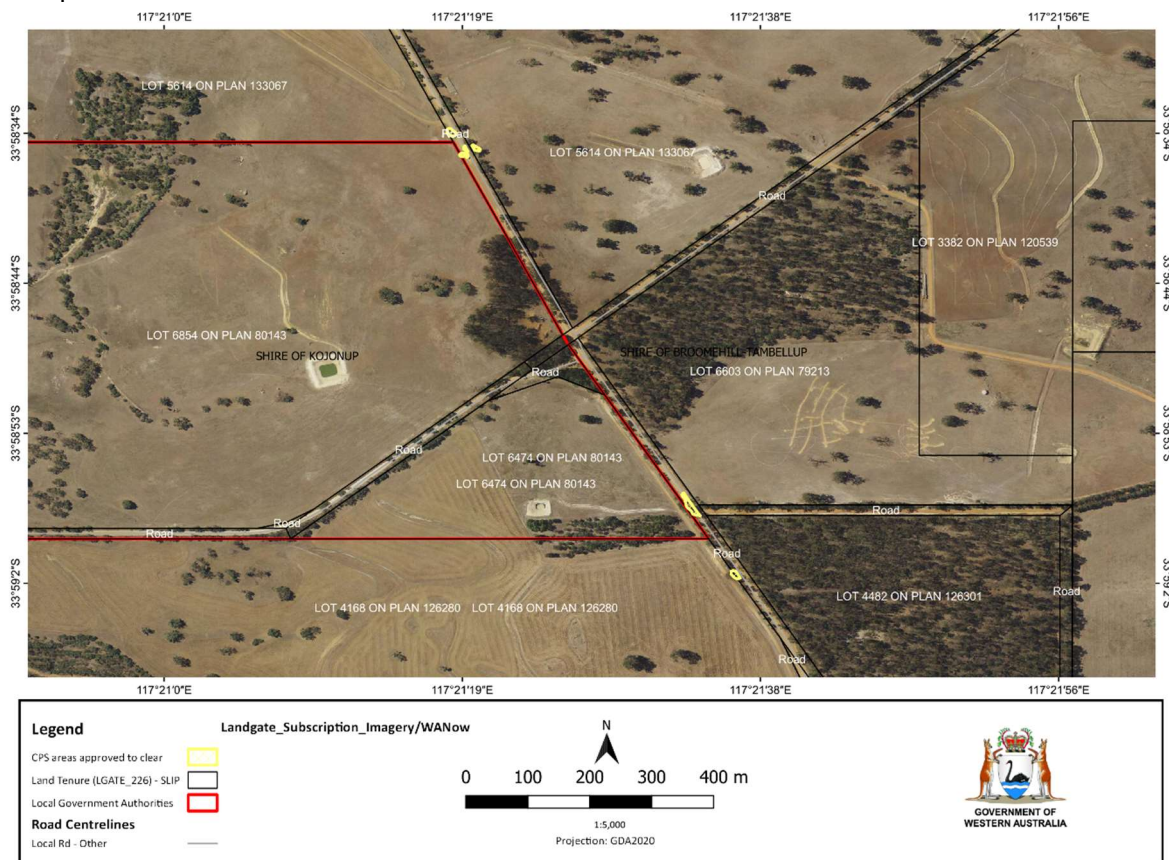


Figure 7 The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

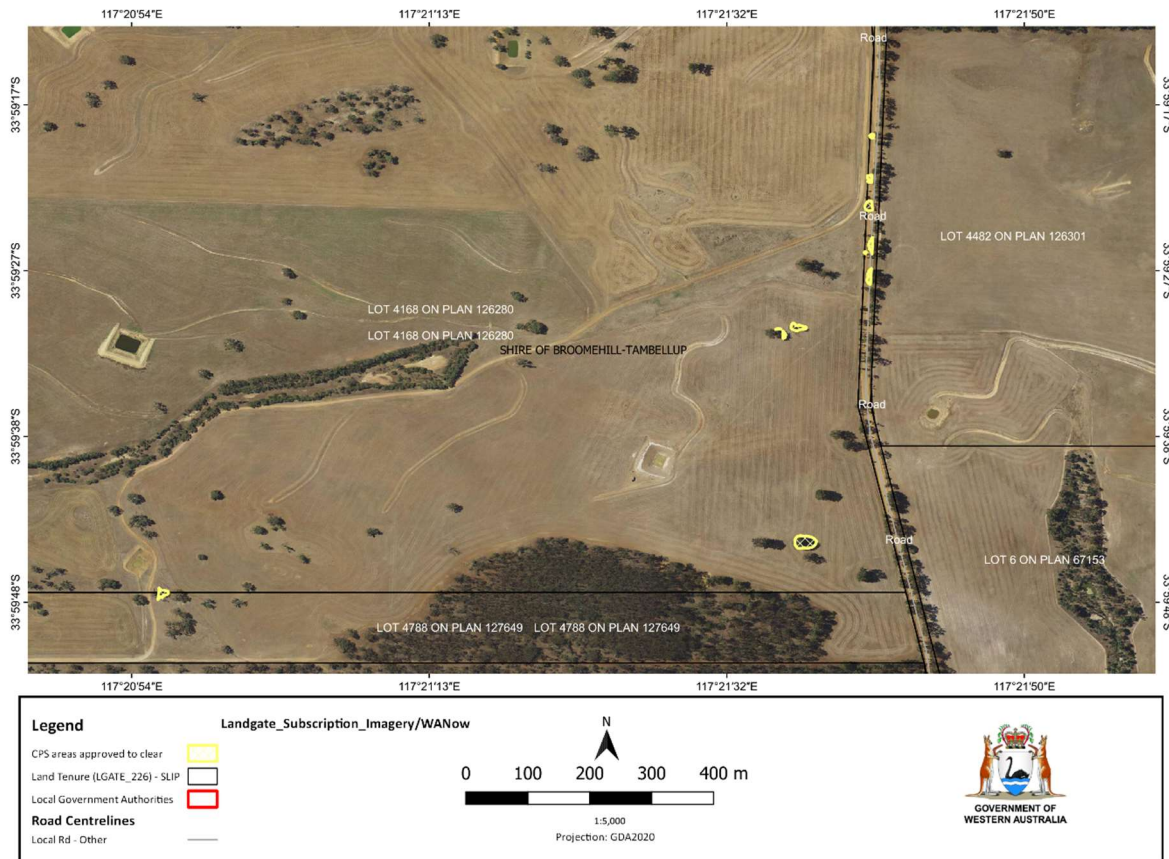


Figure 8 The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

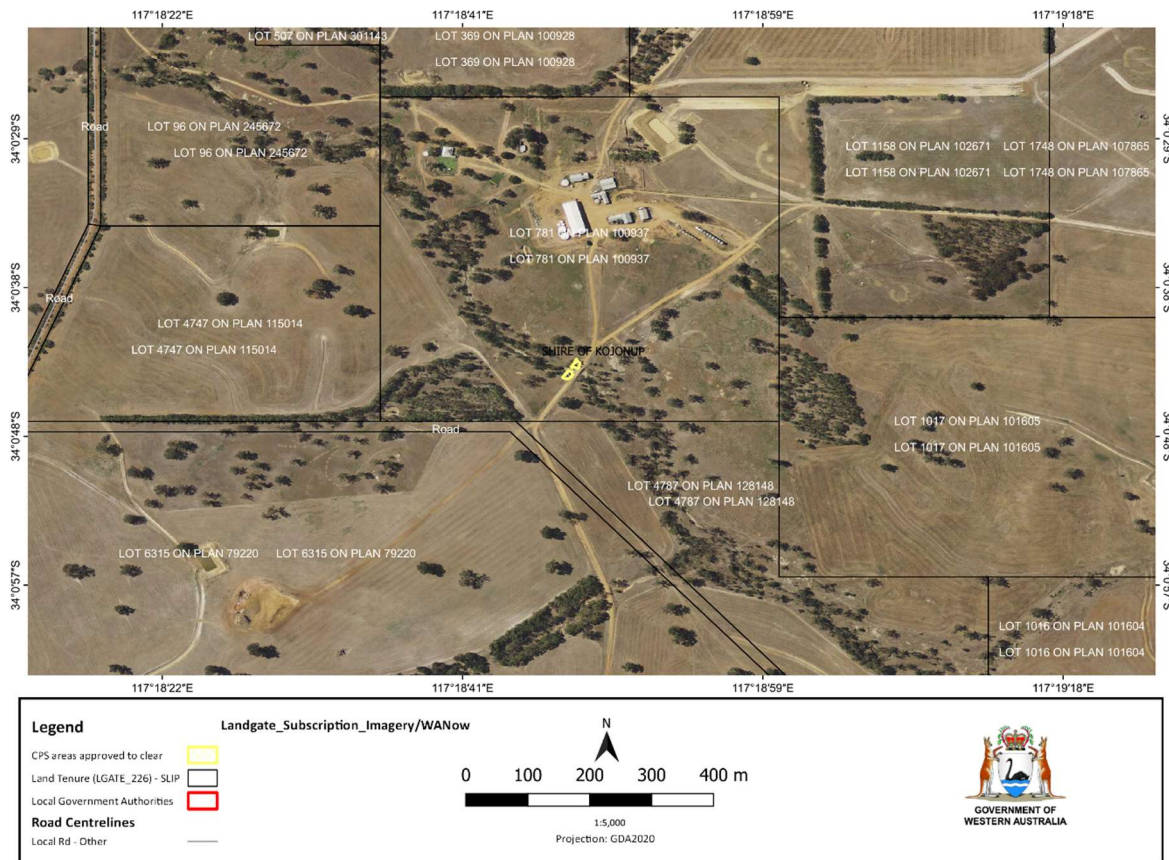


Figure 9 The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the polluter pays principle
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)

Relevant policies considered during the assessment include:

- *Environmental Offsets Policy* (2011)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- *Environmental Offsets Guidelines* (August 2014)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Project background

The FRWF project relates to a large-scale wind farm development in the Shires of Kojonup and Broomehill-Tambellup, with an aim to support the increase in supply of renewable energy in Western Australia and align with the State's objective to develop a cleaner, more diverse, and affordable electricity network (FRWF, 2022). The FRWF project will be developed in two stages and this clearing permit application relates to Stage 1 only (FRWF, 2022). Stage 1 of the project will involve the establishment of 18 wind turbines as well as supporting infrastructure such as access roads, electrical cables, laydown yards, and construction facilities (FRWF, 2022).

The applicant has indicated that approximately 0.552 hectares of native vegetation additional to the application area for CPS 9845/1 will be cleared under exemptions pursuant to the Clearing Regulations (FRWF, 2022). The applicant advised that this includes clearing for structures (Regulation 5, Item 1), clearing for vehicular access tracks (Regulation 5, Item 12), and clearing of isolated paddock trees (Regulation 5, Item 19) (FRWF, 2022). The decision to utilise an exemption is the responsibility of the individual or entity intending to clear native vegetation.

Avoidance and minimisation

The applicant advised that the clearing proposed relates only to areas where clearing cannot be avoided due to requirements for wind turbine footprints and blade clearance areas, permanent access tracks and cabling alignments (FRWF, 2022). The applicant advised that every effort has been taken during the design iteration process to avoid and minimise the extent of clearing, including:

- Reducing the total number of proposed turbines for the FRWF Stage 1 from 44 to 18,
- Utilising existing cleared areas for turbine footprints where possible, resulting in seven turbine footprint areas that will require no clearing,
- Utilising existing access tracks and cleared areas for access, cabling and construction works, where possible,
- Refining access routes and turbine design options considering alternative routes and consultation with stakeholders, design engineers, and environmental consultants,
- Considering the findings of biological surveys to guide design options and avoid impacts to significant environmental values such as potential black cockatoo breeding trees and vegetation representative of the Eucalypt Woodlands of the Western Australia Wheatbelt (Wheatbelt Woodlands) threatened ecological community (TEC),

- Altering the cabling alignment to ensure intact remnant vegetation is maintained where possible, for example designing the cabling alignment to crossover from east to west along Warrenup Road to avoid remnant vegetation directly adjacent to Ngopitchup Nature Reserve, and
- Opting to undertake pruning and trimming as an alternative to clearing along the cabling alignment and micro-siting of turbines, where possible (FRWF, 2022).

During the validation of the application, the applicant revised the application area from 2.094 hectares to 1.77 hectares to align with the relevant land tenure boundaries for the properties in which clearing will occur. During the assessment of the application, the applicant undertook further analysis of the infrastructure requirements and transport routes and subsequently reduced the application area from 1.77 hectares to 1.06 hectares (see Figure 10 below). The applicant advised that the reduction in the application area was achieved through:

- Design changes including minor alterations to route alignments and changes to drainage methodology to avoid trees or reduce impacts to minor trimming,
- Changes to construction methodologies such as consolidating multiple work areas to reduce the clearing footprint, and
- Removing one entry/exit point from the design as an existing road was identified as an alternative (Enel Green Power, 2023).

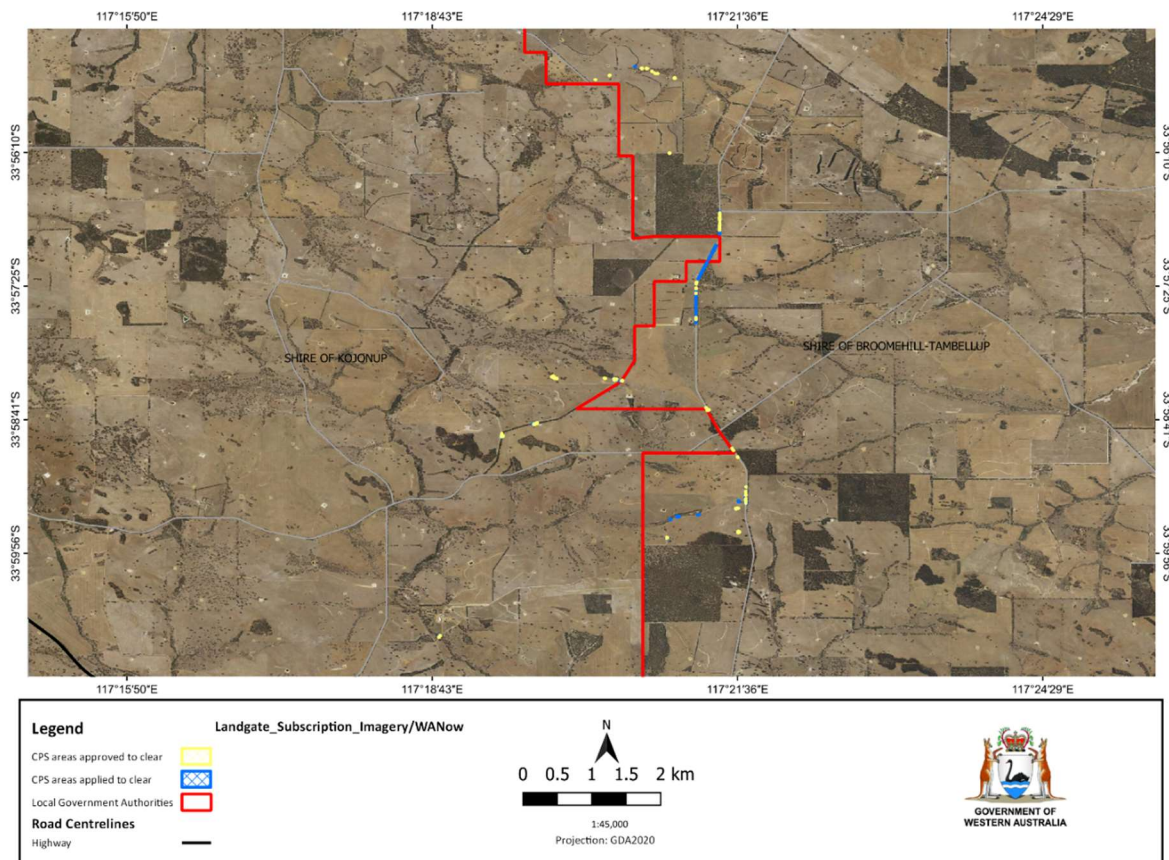


Figure 10. Comparison of originally proposed clearing area of 1.77 hectares (cross-hatched blue) and reduced clearing area of 1.06 hectares (cross-hatched yellow).

Mitigation

The applicant has advised that their contractors will operate under an Environmental Management Plan (EMP) throughout native vegetation clearing and subsequent construction of the FRWF Stage 1 project, which includes provisions for minimising clearing impacts such as:

- Access to site during construction and for ongoing operations will be via existing local roads and tracks, aiming to limit ground disturbance and clearing of vegetation,
- All electrical cables within the windfarm will be underground and avoid remnant vegetation where practicable, with WTG and cable routes located in cleared agricultural paddocks,
- Native vegetation clearing will be limited to the approved boundaries under the clearing permit,
- Standard vehicle hygiene procedures will be implemented during the construction phase to minimise soil disturbance and spread of weeds and pathogens,

- Existing drainage systems will be maintained to ensure clearing activities and construction areas do not disrupt or divert historic water flow patterns,
- Stockpiling and laydown areas will be limited to existing cleared areas,
- Any sick or injured fauna encountered onsite will be transported to Kojonup or Katanning Veterinarian Centre
- Maintain vegetation cover for as long as possible and incorporate silt traps and drainage provisions to prevent run off and minimise erosion and sedimentation (Westforce Construction, 2022).

The applicant has indicated that the native vegetation proposed to be cleared is required for permanent infrastructure (turbines, cabling, and supporting infrastructure) and that temporary access roads will be converted to permanent access roads for entrance, exit, and ongoing maintenance of the wind farm at the completion of construction activities (FRWF, 2022). Therefore, there are no opportunities for rehabilitation of the impact areas (FRWF, 2022). The applicant advised that where clearing of riparian vegetation cannot be avoided, re-planting of riparian species within an adjacent area will be investigated, where possible (FRWF, 2022).

Conclusion

After consideration of avoidance and mitigation measures, it was determined that an offset to counterbalance the significant residual impacts to significant foraging habitat for Carnaby's cockatoo and significant remnant vegetation within an extensively cleared landscape was necessary. In accordance with the Government of Western Australia's *Environmental Offsets Policy* and *Environmental Offsets Guidelines*, these significant residual impacts have been addressed through the conditioning of environmental offset requirements on the permit. The nature and suitability of the offset provided are summarised in Section 4.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix C) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see **Error! Reference source not found.**) identified that the impacts of the proposed clearing present a risk to biological values (fauna), significant remnant vegetation and conservation areas, and land and water resources. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (fauna) - Clearing Principles (a) and (b)

Assessment

Noting the findings of biological surveys for the application area (Mattiske, 2023; Mattiske, 2022a; Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021; Mattiske, 2016), the site characteristics (see Appendix C), and the habitat preferences of the conservation significant fauna species recorded in the local area, the application area was considered to contain suitable habitat for the following:

- *Cacatua pastinator pastinator* (Muir's corella) (listed as a conservation dependent species by the Department of Biodiversity, Conservation and Attractions (DBCA)),
- *Calyptorhynchus banksii naso* (Forest red-tailed black cockatoo) (listed as Vulnerable under the BC Act and EPBC Act),
- *Dasyurus geoffroyi* (Chuditch) (listed as Vulnerable under the BC Act and EPBC Act),
- *Falco peregrinus* (Peregrine falcon) (listed as other specially protected fauna by DBCA),
- *Isodon fusciventer* (Quenda) (listed as Priority 4 by DBCA),
- *Phascogale calura* (red-tailed phascogale) (listed as a conservation dependent species by DBCA and as Vulnerable under the EPBC Act),
- *Zanda baudinii* (previously *Calyptorhynchus baudinii*) (Baudin's cockatoo) (listed as Endangered under the BC Act and EPBC Act), and
- *Zanda latirostris* (previously *Calyptorhynchus latirostris*) (Carnaby's cockatoo) (listed as Endangered under the BC Act and EPBC Act).

The applicant may have notification responsibilities under the EPBC Act for impacts to Carnaby's cockatoo and its habitat, as set out in the EPBC Act referral guidelines for the species. It is understood that the applicant has contacted the federal Department of Climate Change, Energy, the Environment and Water (DCCEEW) to discuss EPBC Act referral requirements.

Black cockatoo species

Breeding habitat

Baudin's cockatoo, Carnaby's cockatoo and the forest red-tailed black cockatoo, collectively known as black cockatoo species, are known to nest in hollows of live and dead trees, including *Corymbia calophylla* (marri), *Eucalyptus*

marginata (jarrah), *Eucalyptus diversicolor* (karri), *Eucalyptus wandoo* (wandoo), *Eucalyptus gomphocephala* (tuart), *Eucalyptus rudis* (flooded gum), and other *Eucalyptus* spp. (Commonwealth of Australia, 2012). 'Breeding habitat' for black cockatoos includes trees of these species that either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow, where suitable DBH for nest hollows is 500 millimetres for most tree species (Commonwealth of Australia, 2012). Breeding black cockatoos also generally forage within a 6-to-12-kilometre radius of their nesting site (Commonwealth of Australia, 2012). As the application area is located within the modelled range for all three black cockatoo species and contains suitable tree species for foraging and breeding, it is considered to comprise potential breeding habitat.

A black cockatoo habitat assessment of the Flat Rocks Wind Farm Stage 1 project area identified a total of 37 habitat trees with a DBH greater than 500 millimetres within the application area, including 12 marri trees, six jarrah trees, eight flooded gums, and 11 wandoo trees (Mattiske, 2023). An additional 104 habitat trees were identified outside of the proposed clearing area for CPS 9845/1 including a combination of native, non-native, and planted trees, of which five trees contained potentially suitable breeding hollows with no evidence of use (Mattiske, 2023). All five trees containing potentially suitable breeding hollows have been excluded from the proposed clearing area and will be retained. No habitat trees within the application area were identified to contain hollows suitable for breeding by black cockatoo species during the black cockatoo habitat assessment (Mattiske, 2023). Three marri trees within the application were identified to contain hollows that are not likely to be suitable for use by black cockatoo species at present, due to insufficient entrance size (Mattiske, 2023). Given the above, the application area is not considered to contain any suitable breeding hollows for black cockatoo species and is unlikely to comprise significant breeding habitat, at present. Therefore, the proposed clearing is not considered likely to significantly impact breeding by black cockatoo species in the local area.

Roosting habitat

It is acknowledged that the 37 habitat trees within the application area may also represent suitable roosting habitat for black cockatoo species. According to available databases, there are no known roost sites within the local area with the closest confirmed roost site for black cockatoo species being approximately 21 kilometres north-west of the application area. No evidence of roosting by black cockatoo species has been observed during the black cockatoo habitat assessment (Mattiske, 2023) or other biological surveys of the Flat Rocks Wind Farm Stage 1 project area (Mattiske, 2022a; Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021; Mattiske, 2016). Further, roosting is typically noted to occur within suitable trees close to an important water source and within an area of quality foraging habitat (Commonwealth of Australia, 2022). As the application area does not transect any permanent watercourses and contains sparsely distributed foraging habitat in historically cleared paddocks or adjacent to road infrastructure, the proposed clearing is not considered likely to result in the loss of significant roosting habitat for any black cockatoo species.

Foraging habitat

Black cockatoo species are noted to forage on a range of plant species, with the primary foraging resources varying between species (Commonwealth of Australia, 2022). Carnaby's cockatoos forage on the seeds, nuts, and flowers of a variety of plants, including Proteaceous species (*Banksia* spp., *Hakea* spp., and *Grevillea* spp.), as well as *Allocasuarina* and *Eucalyptus* species, marri, and a range of introduced species (Valentine and Stock, 2008). Forest red-tailed black cockatoos feed predominantly on the seeds of marri and jarrah, which comprise approximately 90 per cent of their diet (DEC, 2008a). Baudin's cockatoos primarily feed on the seeds of marri, but may also forage on the seeds of jarrah and Proteaceous species (DEC, 2008a). Given the application area contains marri, jarrah, wandoo, and flooded gum, as well as occasional *Allocasuarina* spp., and occurs within the predicted occurrence range for all three black cockatoo species, the application area is likely to provide suitable foraging habitat for black cockatoos.

The black cockatoo habitat assessment noted that the application area includes preferred foraging habitat for black cockatoo species including marri, but that there are limited fruiting bodies available for foraging at present (Mattiske, 2023). No evidence of foraging by black cockatoo species or individuals utilising the Flat Rocks Wind Farm Stage 1 project area were observed during the black cockatoo habitat assessment (Mattiske, 2023) or basic fauna surveys of the area (Mattiske, 2022a; Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021; Mattiske, 2016). However, it was noted that foraging on marri by forest red-tailed black cockatoos has been observed in the area previously (Mattiske, 2023). It is acknowledged that the black cockatoo habitat assessment did not include mapping of suitable foraging habitat or an assessment of the quality of foraging habitat within the application area. Based on the habitat tree species described in the black cockatoo habitat assessment (Mattiske, 2023) and the vegetation composition outlined in the other biological surveys of the Flat Rocks Wind Farm Stage 1 project area (Mattiske, 2022a; Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021; Mattiske, 2016), this assessment has assumed that the entire 1.06-hectare application area contains suitable foraging habitat for all three black cockatoo species.

In regard to the forest red-tailed black cockatoo and Baudin's cockatoo, critical habitat for these species is defined as all marri, karri and jarrah forests, woodlands and remnants in the south-west of Western Australia receiving more than 600 millimetres of annual average rainfall (DEC, 2008a). According to available databases, the application area has a mean annual rainfall of approximately 495 millimetres (BoM, 2023). Further, only the southernmost portion of the application area occurs within the modelled range of the forest red-tailed black cockatoo and the application area occurs within one kilometre of the easternmost extent of the modelled range for Baudin's cockatoo. While the referral guidelines for black cockatoo species specifies that foraging habitat within 12 kilometres of a breeding site and within 6 kilometres of a night roost are of particular importance for the species (Commonwealth of Australia, 2022), the application area occurs approximately 47.5 kilometres south-east of the nearest confirmed breeding site for the forest red-tailed black cockatoo, approximately 15 kilometres south-east of the nearest known breeding area for Baudin's cockatoo, and approximately 21 kilometres south-east of the closest confirmed roost site for any black cockatoo species. Given the above, while the application area may provide for opportunistic foraging by Baudin's cockatoo and the forest red-tailed black cockatoo in the local area, it is not considered likely that the foraging habitat within the application area would meet the definition of critical habitat for Baudin's cockatoo or the forest red-tailed black cockatoo or is critical in supporting the ongoing maintenance of breeding or roosting by these species in the region. Therefore, the proposed clearing is not considered likely to impact significant foraging habitat for Baudin's cockatoo or the forest red-tailed black cockatoo.

Critical habitat for Carnaby's cockatoo includes any habitat that provides for feeding, watering, regular night roosting and potential for breeding (DPAW, 2013). As the application area includes 1.06 hectares of suitable foraging habitat and includes preferred foraging species for the region, it may be considered critical habitat for Carnaby's cockatoo. As outlined above, foraging habitat within 12 kilometres of a breeding site is of particular importance for the continuation of Carnaby's cockatoo (Commonwealth of Australia, 2022). According to available databases, there are 23 confirmed or potential breeding sites within 12 kilometres of the application area and therefore, the vegetation within the application area may support foraging by breeding populations.

A 12-kilometre radius surrounding these local breeding sites includes vegetation within both the Jarrah Forest and Avon Wheatbelt Interim Biogeographic Regionalisation of Australia (IBRA) bioregions. Only the Jarrah Forest bioregion has been mapped for potential black cockatoo foraging habitat, however the mapped Beard vegetation complexes within this 12-kilometre radius include associations 3, 4, 27, 967, 968, 976, and 1967, all of which are described to contain suitable foraging habitat for Carnaby's cockatoo including marri, jarrah, wandoo, *Eucalyptus loxophleba* (York gum), *Allocasuarina* spp., and proteaceous species (Shepherd, et al., 2001). Based on the descriptions of the mapped vegetation associations, a maximum of approximately 9090 hectares of potential foraging habitat for Carnaby's cockatoo persists within 12-kilometres of the local breeding sites, of which the application area comprises approximately 0.012 per cent. Whilst the application area consists of isolated and degraded stands of paddock trees and roadside remnant native vegetation distributed across 16 separate areas varying in size from 0.001 hectares to 0.112 hectares, there are limited large remnants of native vegetation in the local area and a significant portion of the remaining foraging habitat in proximity to local breeding sites is likely to be of a similar nature and condition to the application area, based on historical land uses in the region. Further, no potential foraging habitat within 12 kilometres of the local breeding sites occurs within conservation estate, according to available databases. Approximately 250 hectares (2.75 per cent) within the 12-kilometre radius exists within local reserves zoned for conservation purposes or areas placed under a binding agreement to conserve and maintain vegetation by local landholders. Therefore, the ongoing loss of foraging habitat within proximity to breeding sites in the region represents a significant risk to Carnaby's cockatoo.

Based on the above assessment, the loss of 1.06 hectares of foraging habitat within proximity to breeding sites and in an extensively cleared landscape with limited secure conservation tenure is considered to represent a significant impact to critical Carnaby's cockatoo habitat.

Other avian species

Muir's corella inhabits large live or dead eucalypts, particularly marri, jarrah, flooded gum, *Eucalyptus cornuta* (Yate) and *Melaleuca preissiana* (moonah) in forested areas or as lone trees in paddocks and along roadsides in the region from Boyup Brook, McAlinden and Qualeup, south to Lake Muir and the lower Perup River, and east to Frankland and Rocky Gully (DEC, 2008b). As the application area comprises marri, jarrah, and flooded gum in stands of paddock trees and roadside remnant native vegetation, it may provide suitable habitat for Muir's corella. However, the application area is unlikely to provide suitable breeding habitat for Muir's corella, given the black cockatoo habitat assessment identified only three small hollows within the application area that had insufficient entrance size to be suitable for large birds (Mattiske, 2023). According to available databases, the closest record of Muir's corella is also approximately 16.5 kilometres east of the application area and the core range of the species is greater than 20 kilometres west of the application area. Given the degraded nature of the application area, the lack of suitable breeding habitat, and the distribution of Muir's corella, it is considered unlikely that the application area provides significant foraging habitat for this species.

The peregrine falcon typically nests on rocky ledges in tall, vertical cliff faces and gorges, or in tall trees associated with drainage lines, and can hunt in a range of habitat types including timbered watercourses, riverine environments, wetlands, plains, open woodlands, and pylons and spires of buildings (Australian Museum, 2021). Given it contains remnant woodland areas in a rural area, the application area may provide suitable foraging habitat for the peregrine falcon but is unlikely to provide suitable nesting habitat. Noting that the peregrine falcon is a highly mobile species with a large home range that does not rely on specialist niche habitats, the species is likely to be transient in the application area only and it is unlikely that the application area represents significant habitat for the species. Further, noting that the application proposes to clear only stands of paddock trees and roadside remnant native vegetation distributed across 16 separate areas and varying in size from 0.001 hectares to 0.112 hectares, it is unlikely that the peregrine falcon would be reliant on the application area for foraging in the local area.

Ground-dwelling and arboreal fauna species

Chuditch are carnivorous marsupials, typically associated with riparian jarrah forest or other forest, woodland or shrubland habitats that contain suitable den sites, including hollow logs and tree hollows, and sufficient prey biomass (DEC, 2012a). Given the application area includes remnant marri, jarrah, and wandoo woodland and riparian areas, it may provide suitable habitat for chuditch. However, chuditch occupy relatively large home ranges with a core home range of approximately 400 hectares for males and 90 hectares for females, defined by den locations (DEC, 2012a). Given the application area comprises 16 separate areas of degraded remnant vegetation and is separated from larger remnants of suitable habitat by historically cleared paddock and road infrastructure, it is highly unlikely that it would provide sufficient connectivity or den resources to comprise part of a core home range for chuditch. Therefore, the proposed clearing is unlikely to result in impacts to significant habitat for chuditch.

Quenda are ground-dwelling marsupials, typically associated with forest or woodlands near watercourses, where understorey consists of dense scrub and leaf litter is abundant (DEC, 2012b). Given the application area includes remnant marri, jarrah, and wandoo woodland and riparian areas, it may provide suitable habitat for quenda. However, it is acknowledged that the application area comprises stands of paddock trees and roadside remnant native vegetation distributed across 16 separate areas and in Degraded to Completely Degraded (Keighery, 1994) condition and is unlikely to represent the dense understorey typically associated with significant habitat for quenda. Given the extent of each remnant and the lack of connectivity between the application area and larger remnants of native vegetation, the application area is not considered likely to comprise significant habitat for the species.

The red-tailed phascogale is largely confined to woodlands with oldgrowth hollow-producing eucalypts, particularly wandoo and York gum (*Eucalyptus loxophleba*), often with associated rock sheoak (*Allocasuarina huegeliana*) (TSSC, 2016). As the application area comprises remnant marri, jarrah, and wandoo woodland, it may provide suitable habitat for the red-tailed phascogale. Further, the black cockatoo habitat assessment identified three marri trees within the application area containing small hollows (Mattiske, 2023) but that these were not assessed for suitability for use by small mammals and therefore, may be suitable for use by the red-tailed phascogale. However, the red-tailed phascogale exhibits a preference for long undisturbed habitat with a continuous canopy (DEC, 2012c). The application area consists of isolated stands of paddock trees or linear strips of roadside remnant vegetation in Degraded to Completely Degraded (Keighery, 1994) condition and ranging in size from 0.001 hectares to 0.112 hectares. Aerial imagery and photographs contained in the applicant's impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021) also indicate that canopy connectivity within the application area and between the application area and other nearby remnant vegetation is limited. Given the lack of continuous canopy and the disturbed nature of the application area, it is unlikely that the proposed clearing will impact significant habitat for the red-tailed phascogale.

Given the above assessment, it is considered unlikely that conservation significant ground-dwelling or arboreal fauna species are utilising the application area and it is also acknowledged that no evidence of use by these species was observed during biological surveys of the Flat Rocks Wind Farm project area (Mattiske, 2023; Mattiske 2022a; Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021; Mattiske, 2016). However, the implementation of slow, progressive directional clearing is considered to aid any ground-dwelling or arboreal fauna present at the time of clearing to move into adjacent native vegetation outside of the clearing area and is considered appropriate to minimise the potential for direct impacts to individuals.

Ecological linkage

The application area includes approximately 0.59 hectares of remnant native vegetation that form north-south linear linkages along roadsides. A portion of this roadside vegetation was assessed as part of the Roadside Conservation Committee's (RCC's) roadside conservation value mapping program and was considered to have medium to high conservation value as a roadside remnant (RCC, 2005). Given the extensively cleared local area, it is likely that the application area is contributing to the ecological function of these linkages and providing dispersal habitat between larger remnants in the local area including Ngopitchup Nature Reserve. However, as outlined in the assessments

above, the application area is in Degraded to Completely Degraded (Keighery, 1994) condition and comprises 16 separate areas ranging in size from 0.001 hectares to 0.112 hectares which have limited understorey and canopy connectivity both within each remnant and between other areas of native vegetation in the local area. Given the condition of the vegetation and patchiness of connectivity, as well as the presence of other linear linkages throughout the landscape based on aerial imagery, it is considered unlikely that the proposed clearing will significantly reduce connectivity between remnant vegetation in the landscape or result in significant impacts to fauna dispersal through the local area.

Conclusion

Based on the above assessment, the proposed clearing will result in the loss of 1.06 hectares of significant foraging habitat for Carnaby's cockatoo. For the reasons set out above, it is considered that the impacts of the proposed clearing to significant foraging habitat for Carnaby's cockatoo constitutes a significant residual impact. In accordance with the Government of Western Australia's *Environmental Offsets Policy* (2011) and *Environmental Offsets Guidelines* (2014), this significant residual impact has been addressed through the conditioning of environmental offset requirements, as outlined under Section 4.

Based on the degraded condition of the application area, the extent and isolated nature of the 16 separate areas, and the lack of connectivity to other remnants of native vegetation, the proposed clearing is not considered likely to result in significant impacts to any other conservation significant avian, ground-dwelling, or arboreal fauna species, or to significantly impact the dispersal of fauna through the landscape. It is considered that the potential for direct impacts to any ground-dwelling fauna that may be utilising the application area at the time of the proposed clearing can be managed through a directional clearing condition.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Directional clearing, which requires slow, progressive, one directional clearing to allow terrestrial fauna to disperse ahead of the clearing activity should they occur on site at the time of clearing, and
- Offset – land transfer, which requires the permit holder to fund the purchase of 6.7 hectares of native vegetation that comprises significant foraging habitat for Carnaby's cockatoo within Lot 8219 on Deposited Plan 149407, Mobrup, to be ceded to DBCA for conservation, within 12 months of the commencement date of the permit.

3.2.2. Significant remnant vegetation and conservation areas - Clearing Principles (e) and (h)

Assessment

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The application area is located within the Jarrah Forest IBRA Bioregion which retains approximately 53.25 per cent of its pre-European vegetation extent (Government of Western Australia, 2019). The majority of the application area (approximately 87 per cent) is mapped within Beard vegetation associations 4 and 1073, which have an extent below the 30 per cent threshold, either state-wide or within the Jarrah Forest IBRA Bioregion (see Appendix C.2). The vegetation extent within the local area also falls below the national targets, with approximately 15.24 per cent of pre-European vegetation extent remaining within a 20-kilometre radius of the application area. Given the above, the application area is considered to be a remnant within an extensively cleared landscape.

As discussed under section 3.2.1, the application area provides significant foraging habitat for Carnaby's cockatoo and includes approximately 0.59 hectares of remnant native vegetation that form north-south linear linkages along roadsides that are likely to be functioning as ecological linkages for fauna in a highly cleared landscape. The application area is also representative of jarrah, marri, and wandoo-dominated Beard vegetation complexes that have been extensively cleared and would be considered regionally significant. Further, only approximately 240 hectares (0.9 per cent) of native vegetation in the local area occurs within secure conservation estate and the ongoing loss of remnant vegetation is a significant risk to the ecological values and function of the region. Given the above, the application area is considered to be significant as a remnant of native vegetation within an area that has been extensively cleared and impacts to significant remnant vegetation is considered to be a significant residual impact of the proposed clearing.

The application area along the northern portion of Warrenup Road occurs within 40 metres of Ngopitchup Nature Reserve and has the potential to facilitate the spread of weeds and dieback to the adjacent nature reserve and other significant remnant vegetation in the local area, including nearby mapped occurrences of the Wheatbelt Woodlands TEC. However, no clearing of native vegetation is proposed to occur within Ngopitchup Nature Reserve. The

applicant has taken steps to minimise impacts to the reserve, including deviating the cabling alignment to the eastern side of Warrenup Road to ensure the clearing area is separated from Ngopitchup Nature Reserve by the existing road and that no intact remnants of native vegetation in this area will be cleared. Therefore, a weed and dieback management condition is considered to minimise this risk, and it is not considered likely that the proposed clearing will have a significant impact on the environmental values of any adjacent or nearby conservation area.

Conclusion

Based on the above assessment, the proposed clearing will result in the loss of 1.06 hectares that is significant as a remnant of native vegetation in an area that has been extensively cleared and may facilitate the spread of weeds and dieback into adjacent remnant vegetation, including nearby Ngopitchup Nature Reserve. As outlined above, it is considered that the risk of weed and dieback spread to nearby remnant vegetation and conservation areas can be managed by taking steps to minimise the risk of the introduction and spread of weeds and dieback and does not constitute a significant residual impact.

For the reasons set out above, it is considered that the impacts of the proposed clearing to significant remnant vegetation constitutes a significant residual impact. In accordance with the Government of Western Australia's *Environmental Offsets Policy* (2011) and *Environmental Offsets Guidelines* (2014), this significant residual impact has been addressed through the conditioning of environmental offset requirements, as outlined under Section 4.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Dieback and weed control, which ensures protocols are put in place to limit the introduction and transportation of dieback- and weed-affected materials, and
- Offset – land transfer, which requires the permit holder to fund the purchase of native vegetation that contains at least 5.31 hectares that is significant as a remnant of native vegetation within an area that has been extensively cleared within Lot 8219 on Deposited Plan 149407, Mobrur, to be ceded to DBCA for conservation, within 12 months of the commencement date of the permit.

3.2.3. Water resources - Clearing Principles (f) and (i)

Assessment

As approximately 0.2 hectares of the application area intersects or occurs within 50 metres of several non-perennial tributaries, waterbodies, and drainage lines across seven areas, some of the vegetation within the application area may be considered to be growing in, or in association with, an environment associated with a watercourse. Some of the application area contains flooded gum and *Melaleuca raphiophylla* (swamp paperbark), which may be indicative of riparian areas. However, given the proposed clearing in riparian areas is limited to isolated stands of paddock trees over weeds in Completely Degraded (Keighery, 1994) condition, it is not considered likely that the proposed clearing will result in any significant impacts to the ecological values of the vegetation communities associated with the watercourses that transect the application area. Further, given the non-perennial nature of the watercourses and the extent of the proposed clearing across seven riparian areas, it is likely that any water quality impacts will be limited to short-term increases in sedimentation and turbidity and are unlikely to be significant.

The applicant has committed in their EMP to ensuring existing drainage systems are maintained to ensure water flow patterns are not disrupted or diverted, as well as implementing silt traps and drainage provisions to prevent run off and minimise erosion and sedimentation (Westforce Construction, 2022). These provisions are also expected to minimise water quality impacts and indirect impacts to riparian vegetation adjacent to the clearing area. While it is acknowledged that the applicant's supporting documentation indicates that the re-planting of riparian species within an adjacent area will be investigated where clearing of riparian vegetation cannot be avoided (FRWF, 2022), the Delegated Officer considered that the risk of significant impacts to riparian vegetation resulting from the proposed clearing is low based on the above assessment, and determined that it was not necessary to condition this as a mitigation measure on the clearing permit.

Conclusion

Based on the above assessment, the proposed clearing may result in the loss of up to 0.2 hectares of native vegetation growing in, or in association with, an environment associated with a watercourse. For the reasons set out above, the proposed clearing is unlikely to result in any significant or long-term impacts to the quality of surface or underground water or to the ecological values of the riparian communities associated with the watercourses that transect the application area. In considering the above, the Delegated Officer determined that the impacts of the proposed clearing on water resources does not constitute a significant residual impact.

Conditions

No vegetation management conditions required.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on DWER's website on 9 November 2022, inviting submissions from the public within a 21-day period. One submission was received at this time. The application was re-advertised on DWER's website on 31 March 2023 to reflect the revisions to the application area to avoid and minimise clearing impacts. Submissions from the public were invited within a 7-day period and no public submissions were received during the re-advertisement. Consideration of matters raised in the public submission is summarised in Appendix B.

In February 2011, the FRWF Stage 1 project was referred to the Western Australia Environmental Protection Authority (EPA) under section 38(1) of the EP Act. On 18 April 2011, the EPA determined not to assess the proposal and no advice was given. On 26 August 2022, it is understood that a third party again referred the FRWF Stage 1 project to the EPA under section 38(1) of the EP Act. On 20 September 2022, the EPA determined that the proposal referred by the third party was not significantly different to the original proposal referred in February 2011 and determined that the decision not to assess the proposal remained valid.

Other relevant authorisations required for the proposed land use include:

- Development approval (DA) under the P&D Act (issued by the Shire of Kojonup), and
- DA under the P&D Act (issued by the Joint Development Assessment Panel (JDAP) for the Shire of Broomehill-Tambellup).

In November 2011, DA for the FRWF Stage 1 project was obtained from the Shire of Kojonup (Enel Green Power, 2022). Several minor amendments and timeframe extensions to the DA have been approved by the Shire of Kojonup since the original authorisation, including in July, September and December 2016, August 2021, and December 2022 (Enel Green Power, 2022). The Shire of Kojonup advised DWER that the proposed clearing is consistent with the Shire's Local Planning Scheme and that the relevant DAs remain valid and active (Shire of Kojonup, 2022).

In July 2013, the JDAP issued a DA for the FRWF Stage 1 project in the Shire of Broomehill-Tambellup (Enel Green Power, 2022). Several minor amendments and timeframe extensions to the DA have been approved by JDAP since the original authorisation, including in May 2017, December 2021, and December 2022 (Enel Green Power, 2022). The Shire of Broomehill-Tambellup advised DWER that approval was provided to the Applicant to undertake clearing within Shire road reserves on 10 August 2022 and that this approval remains valid (Shire of Broomehill-Tambellup, 2022).

On 29 January 2022, the proposal was referred to the then Commonwealth Department of Agriculture, Water and Environment (DAWE) (now DCCEEW) under the EPBC Act (Reference: EPBC 2022/9154). On 22 March 2022, DAWE determined that the proposed action was not a controlled action under the EPBC Act.

On 23 March 2023, DWER received a clearing permit application (CPS 10124/1) from Rex J Andrews Pty Limited for the proposed clearing of 0.05 hectares of native vegetation and two (2) native trees within Albany Highway road reserves (PIN 1253580 and PIN 11708497), Lumeah, for the purpose of hazard reduction during the transportation of wind turbine blades to the Flat Rocks Wind Farm Stage 1 project area. The Delegated Officer understands that while CPS 10124/1 will support the Flat Rocks Wind Farm Stage 1 project, the clearing required for turbine clearance during transport is the responsibility of Rex J Andrews Pty Limited and is not explicitly related to the purpose of the clearing proposed under CPS 9845/1, being access roads, construction of wind turbines, and cabling works within the Flat Rocks Wind Farm Stage 1 project area. Given the nature and extent of the proposed clearing under CPS 10124/1 and the distance from the application area (approximately eight kilometres south), the Delegated Officer considers it acceptable to assess the proposal as a separate clearing permit application in this instance. The Delegated Officer notes that the assessment of such a proposal will involve consideration of the cumulative impacts to the environmental values of the region.

4 Suitability of offsets

Through the detailed assessment outlined in Section 3.2 above, the Delegated Officer has determined that the following significant residual impacts remain after the application of the avoidance and mitigation measures summarised in Section 3.1:

- The loss of 1.06 hectares of significant foraging habitat for Carnaby's cockatoo, and
- The loss of 1.06 hectares of native vegetation that is significant as a remnant of native vegetation in an area that has been extensively cleared.

The applicant proposed an environmental offset consisting of the acquisition of 10 hectares of native vegetation that provides significant foraging habitat for Carnaby's cockatoo and is significant as a remnant within an area that has been extensively cleared within Lot 8219 on Deposited Plan 149407, Mobrup, to be ceded to DBCA for conservation. Lot 8219 on Deposited Plan 149407, Mobrup, is located approximately 35 kilometres west of the application area for CPS 9845/1, within the Shire of Kojonup and Jarrah Forest IBRA bioregion (see Figure 11 below).

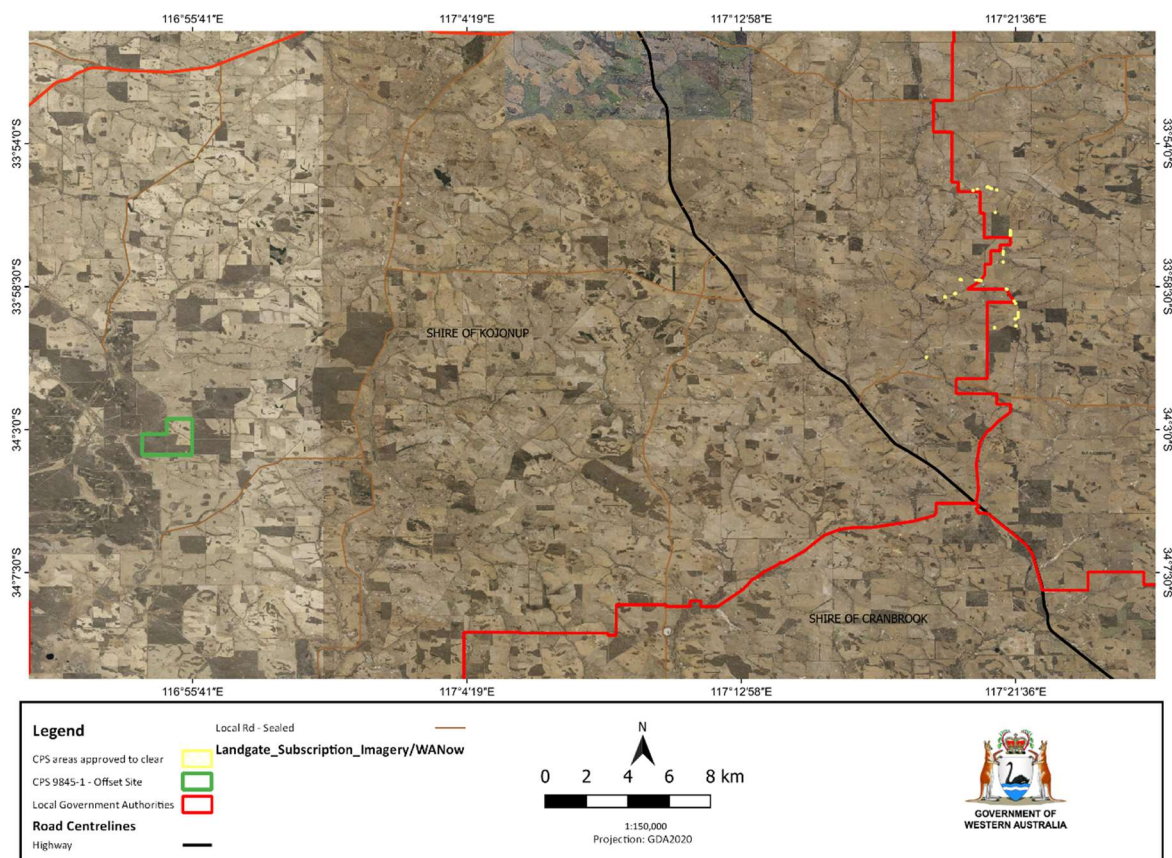


Figure 11. Location of Lot 8219 on Deposited Plan 149407, Mobrup (outlined green), in relation to the application area for CPS 9845/1 (cross-hatched yellow).

Advice provided by DBCA indicates that the vegetation within Lot 8219 on Deposited Plan 149407, Mobrup, consists of jarrah and wandoo woodland in Degraded to Excellent (Keighery, 1994) condition, with occasional marri and *Banksia sessilis* and is likely to provide foraging habitat for Carnaby's cockatoo within 12-kilometres of mapped breeding sites (DBCA, 2022). Spatial data indicates that the local area retains approximately 28 per cent of its pre-European vegetation extent and is mapped within Beard vegetation association 4, which is consistent with the vegetation within the application area and is considered extensively cleared under the national objectives and targets for biodiversity conservation. The Delegated Officer also took into consideration that a significant proportion of the remaining vegetation within the local area is contained within Lot 8219 on Deposited Plan 149407, Mobrup, and adjacent properties due to historical agriculture. Therefore, retaining the vegetation within these properties long-term is essential to ensuring the local area does not fall further below national objectives and targets. The Delegated Officer considered that the acquisition and conservation in perpetuity of native vegetation within Lot 8219 on Deposited Plan 149407, Mobrup, will contribute to the long-term persistence of significant foraging habitat and significant remnant vegetation in the local area and will enhance the conservation value of DBCA managed estate in the region when managed in conjunction with adjacent properties.

In assessing whether the proposed offset is adequately proportionate to the significance of the habitat values being impacted, DWER undertook a calculation using the WA Environmental Offsets Metric. The calculation determined that the acquisition and conservation in perpetuity of at least 6.7 hectares of native vegetation in a Degraded to Excellent (Keighery, 1994) condition that provides 6.7 hectares of suitable foraging habitat for Carnaby's cockatoo and at least 5.31 hectares of vegetation that is significant as a remnant within an area that has been extensively cleared is adequate to counterbalance the significant residual impacts. It is acknowledged that the applicant has proposed the acquisition of 10 hectares of native vegetation within Lot 8219 on Deposited Plan 149407, Moberup, which exceeds the calculated offset required to counterbalance the significant residual impacts of the proposed clearing. DWER considers that the negotiation of the monetary value for the acquisition of 10 hectares is a matter for DBCA in consultation with the applicant.

The Delegated Officer considers that the proposed offset is consistent with the *Environmental Offsets Policy* (2011) and the *Environmental Offsets Guidelines* (2014), and adequately counterbalances the significant residual impacts to Carnaby's cockatoo foraging habitat and significant remnant vegetation. The justification for the values used in the offset calculation is provided in Appendix F.

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
<p>The applicant provided a copy of their Environmental Management Plan (EMP) on 2 December 2022 in response to a request from DWER (Westforce Construction, 2022).</p>	<p>The provisions of the EMP are summarised in <i>Avoidance and mitigation measures</i> (see Section 3.1).</p>
<p>On 23 December 2023, the applicant provided a response to several matters raised in the public submission received during the advertisement period, in response to a formal Request for Further Information issued by DWER (Enel Green Power, 2022).</p>	<p>The information provided by the applicant is considered in <i>Details of public submissions</i> (see Appendix B).</p>
<p>The applicant provided the following additional supporting information on 28 March 2023 in response to a formal Request for Further Information issued by DWER:</p> <ul style="list-style-type: none"> • Further information on stakeholder engagement during the FRWF Stage 1 project, • A reduction in the proposed clearing area from 1.77 hectares to 1.06 hectares to reflect updated infrastructure requirements and transport routes and to avoid and minimise clearing impacts, • A black cockatoo habitat assessment (Mattiske, 2023), • A copy of the current DAs for the FRWF Stage 1 project within the Shires of Kojonup and Broomehill-Tambellup, • Evidence of authority to access and clear native vegetation within all properties under application, and • The identification of a satisfactory environmental offset to counterbalance significant residual impacts to Carnaby's cockatoo foraging habitat and significant remnant vegetation (Enel Green Power, 2023). 	<p>The additional information provided was considered as follows:</p> <ul style="list-style-type: none"> • Further information on stakeholder engagement is considered in <i>Details of public submissions</i> (see Appendix B), • The reduction in the proposed clearing area is considered in <i>Avoidance and mitigation measures</i> (see Section 3.1), • The findings of the black cockatoo habitat assessment are considered in <i>Assessment of impacts on environmental values</i> (see Section 3.2.1), • The relevant DAs are considered in <i>Relevant planning instruments and other matters</i> (see Section 3.3), • The evidence of authority to access the properties under application has been considered in the validation of the application under section 51E of the EP Act, and • The proposed environmental offset is considered in <i>Suitability of offsets</i> (see Section 4) and <i>Offset calculator value justification</i> (see Appendix F).

Appendix B. Details of public submissions

The Submission (2022) raised nine grounds in total, with supporting information provided as comments under each ground of submission. Where the comments within the grounds of submission raised similar concerns, they have been combined in the summary table below to provide a streamlined response.

	Ground of Submission	Summary of comments	Consideration of comment
1.	The application is insufficient and invalid in that it does not adequately comply with the requirements of the <i>Environmental Protection Act 1986</i> and the subsidiary legislation the <i>Environmental Protection (Clearing of Native Vegetation) Regulations 2004</i> .	<p>The application is not accompanied by information demonstrating proof of ownership and authority to access and clear the native vegetation under application.</p> <p>The application does not accurately describe the extent of the proposed clearing in that:</p> <ul style="list-style-type: none"> • Clearing for tracks and trenching required for the burial of high voltage cables will impact shrubs, grasses, and groundcover plants, while the application focuses on impacts to trees, • The application does not justify the revision in the size of clearing from 2.094 hectares stated on the application form to the 1.77 hectares advertised, and • The application does not include both the number of individual trees and the size of the area proposed to be cleared. 	<p>On 9 November 2022, the Delegated Officer determined that the clearing permit application was made in accordance with the requirements outlined in sections 51E(1) and (2) of the EP Act.</p> <p>Information relating to proof of landownership and authority to access the land under application is not published as part of the advertisement of a clearing permit application to respect the privacy of landowners. Authority to access was provided to DWER prior to the acceptance of the application and the readvertisement.</p> <p>The extent of the application area for a clearing permit application can be described as either the total area of clearing in hectares or as the total number of individual trees proposed to be removed, based on what is appropriate in the context of the application. In this instance, the proposed clearing area is considered to comprise canopy, mid-storey, and understorey species and therefore, is described as the total area of clearing in hectares.</p> <p>As outlined in <i>Avoidance and mitigation measures</i> (see Section 3.1), the application was revised from 2.094 hectares to 1.77 hectares during the validation of the application to correct projection errors that resulted in misalignment between the application area and the relevant land tenure boundaries for the properties in which clearing will occur.</p> <p>Further revisions to the application area were undertaken during the assessment of the application which are described <i>Avoidance and mitigation measures</i> (see Section 3.1).</p>

	Ground of Submission	Summary of comments	Consideration of comment
		<p>The application form does not include a reasonable clearing timeframe, as the proposed clearing start date does not allow for public comments to be made on the application.</p>	<p>The timeframe of clearing specified in Part 5.5 of the <i>NV-F01 Application for new permit or referral to clear native vegetation</i> indicates the period in which the applicant proposes to clear only.</p> <p>The processing of clearing permit applications follows due process regardless of the clearing timeframe indicated on the application form and is undertaken in accordance with Part V Division 2 of the EP Act, including requirements to invite any person who wishes to comment on the application and information to do so within the specified timeframe.</p>
		<p>The application form states that it will be ensured that TECs and cockatoo habitat trees are not cleared, when the survey reports do not provide sufficient information to conclude that all occurrences of TECs and cockatoo habitat trees have been identified and avoided.</p>	<p>The assessment of this clearing permit application is supported by the findings of flora, vegetation, and fauna assessments (Mattiske, 2022a; Mattiske, 2016), impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021), and a black cockatoo habitat assessment (Mattiske, 2023). The Delegated Officer considered that this information is sufficient to inform the assessment of impacts to TECs and black cockatoo habitat (see Appendix G).</p> <p>The assessment of impacts to these environmental values are outlined in <i>Assessment of impacts on environmental values</i> (see Section 3.2.3), <i>Site characteristics</i> (see Appendix C), and <i>Assessment against the clearing principles</i> (see Appendix D).</p>
		<p>The application form indicates that the proposed clearing has been referred to the EPA, when the referral to the EPA did not include clearing of native vegetation and therefore, is irrelevant.</p>	<p>In considering a clearing permit application, the Delegated Officer shall have regard to any development approval, planning instrument, or other matter, that they consider relevant, in accordance with section 51O of the EP Act.</p> <p>The previous referral to the EPA under Part IV of the EP Act is considered a relevant matter to the history of the project and is outlined in <i>Relevant planning instruments and other matters</i> (see Section 3.3).</p>

	<p>The application does not include satisfactory information to support the avoidance and mitigation commitments made by the applicant and provides contradictory information, including stating that:</p> <ul style="list-style-type: none"> • “For clearing of riparian vegetation (clearing sites 19, 39, 40, 41 and 60) an equal area of the same species of vegetation will be planted adjacent to the cleared area”, when no revegetation plan is provided, • The total number of turbines has been reduced to minimise the required clearing, when there is no supporting evidence for this claim in the Development Applications as turbine numbers were reduced but much larger turbines were proposed (1.8MW increased to 4.2MW), • A Construction Management Plan (CMP) is being prepared for the project, when no CMP has been provided to allow the adequacy of controls to be assessed, and • All vegetation to be cleared is required for permanent infrastructure and there are no opportunities for rehabilitation, when the applicant’s Traffic Management Plan (TMP) described several temporary access roads during construction. 	<p>The avoidance and mitigation commitments proposed by the applicant and associated supporting information are summarised in <i>Avoidance and mitigation measures</i> (see Section 3.1).</p> <p>The applicant advised that re-planting of riparian species within an adjacent area will be investigated where permissible by the landowners that will continue to utilise cleared areas adjacent to the impact sites as agricultural land and road infrastructure (Enel Green Power, 2022). The Delegated Officer considered that the proposed clearing has a low risk of significant impacts to riparian vegetation and determined that it was not necessary to condition direct mitigation measures on the clearing permit. The assessment of impacts to riparian vegetation is outlined in <i>Assessment of impacts on environmental values</i> (see Section 3.2.3).</p> <p>The applicant provided current DAs from the Shires of Kojonup and Broomehill-Tambellup which demonstrate that the total number of turbines was reduced from the originally approved 44 to the currently proposed 18 (Enel Green Power, 2023). The applicant has indicated that the reduced number of turbines has reduced the extent of clearing through reducing the total number of impact areas and allowing vegetation to be pruned for turbine clearance rather than clear-felled in some areas (Enel Green Power, 2022).</p> <p>The applicant provided a copy of their EMP on 2 December 2022 in response to a request from DWER (Westforce Construction, 2022). A copy of the EMP is available at https://ftp.dwer.wa.gov.au/permit/9845/.</p> <p>It is understood that the TMP is conditioned under the DA for the Flat Rocks Wind Farm Stage 1 project and relates to the management of vehicular traffic during transport and construction of wind farm infrastructure. The applicant has advised that reference to “temporary access roads” in the TMP refers to existing access points to the temporary site facilities and that, upon completion of construction, these will be converted into permanent access roads (Enel</p>
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	Ground of Submission	Summary of comments	Consideration of comment
		<p>The application form states that the proposed access routes and turbine design options have been developed in consultation with stakeholders, when adjoining landowners have not been consulted about native vegetation clearing at any stage.</p>	<p>Green Power, 2022). Therefore, there is no scope to rehabilitate these areas (Enel Green Power, 2022).</p> <p>The applicant advised that specific stakeholder engagement in relation to the proposed clearing under CPS 9845/1 has focused on the landowners and managers of the impact areas (Enel Green Power, 2023). However, the applicant advised that engagement with adjoining landowners and the local community has been undertaken in the broader context of the project, particularly during the DA process in accordance with the provisions of the P&D Act (Enel Green Power, 2023).</p> <p>The applicant also advised that during the pre-construction planning phase in 2022, in-person meetings were held on 15 different occasions with neighbours located within 5 kilometres of the approved turbine locations and an online meeting was held with a local stakeholder group (Enel Green Power, 2022). The applicant indicated that the feedback provided in these meetings has been used to further avoid and minimise impacts on native vegetation and explore opportunities to proactively support local research and recovery efforts for local flora and fauna species (Enel Green Power, 2023). In addition, the feedback is being used to develop a voluntary Neighbour Benefit Sharing Program for all neighbours within a 5-kilometre radius to recognise the actual and perceived impacts of the project and share its benefits with the community (Enel Green Power, 2023).</p> <p>In addition to the meetings, the applicant advised that engagement with the local community has been facilitated through notification letters issued by registered post and monthly project updates via email for those registered on the project updates distribution list (Enel Green Power, 2023). The applicant also advised that a local Community Liaison Officer has been engaged and a Community Information Centre has opened in Kojonup one day a week or by appointment to keep the community informed of the project details and timing (Enel Green Power, 2023).</p>

2.	<p>The flora and vegetation surveys used to support the clearing permit application fail to meet the requirements of the Environmental Protection Authority's (EPA's) Technical guidance – <i>Flora and Vegetation Surveys for Environmental Impact Assessment</i> (EPA, 2016).</p>	<p>The survey effort of the two flora and vegetation surveys (Mattiske, 2022a; Mattiske, 2016) is not adequate to accurately identify the vegetation composition or condition of the application area or conclude presence or absence of conservation significant flora or ecological communities, based on the fact that:</p> <ul style="list-style-type: none"> • Field data was collected over one day in 2010 for the entire 6820-hectare development envelope and no further field work was undertaken in 2016 or 2022, • The survey assumed no vegetation would be cleared and therefore, the survey effort was not based on the true scale and nature of the potential impacts, • The 2010 field survey was carried out on 29 September 2010 following a drier than average winter and flora and vegetation may not have been detectable, • The survey reports state that the survey was carried out by biologists, not botanists, and fails to provide the level of experience of the persons carrying out the survey, • The two flora and vegetation surveys do not acknowledge that the two orchids, <i>Caladenia integra</i> (P4) and <i>Caladenia x triangularis</i> (P4), described as possibly occurring within the survey area, may be present yet undetectable as they do not always flower annually, • The 2022 survey report states that 21 sampling sites were selected in 2010 and a further 18 in 2021 but does not provide details on sampling technique, • Vegetation and condition mapping has been extrapolated beyond the areas that could have been reasonably assessed, • The survey reports fail to note previous flora and vegetation surveys undertaken in the area and do not identify quadrat-based regional databases, • The survey reports fail to acknowledge the significance of patches that have been heavily cleared and degraded and are at the natural edge of their range, • The survey reports do not include species accumulation curves to indicate if sampling is adequate, 	<p>The methodology and survey effort of the two flora and vegetation surveys for the Flat Rocks Wind Farm Stage 1 project area (Mattiske, 2022a; Mattiske, 2016) is outlined in <i>Biological survey information excerpts</i> (see Appendix G) and clarifies many of the comments raised by the Submission (2022) in relation to the uncertainty of sampling methodology, database searches, and effort.</p> <p>The EPA Technical Guidance recommends surveys in the South West and Interzone Botanical Provinces occur in Spring with supplementary surveys after autumn rains (EPA, 2016). The 2016 survey report states that Kojonup experienced below average rainfall in the few months preceding the survey, but that the survey timing in September to October 2010 would not have been a significant limitation, given above average rain was received in these months (Mattiske, 2016). While it is acknowledged that the field survey undertaken in December 2021 was out of season, given the degree of degradation and fragmentation of the application area, as well as the conservation statuses and habitat preferences of local flora including <i>Caladenia integra</i> and <i>Caladenia x triangularis</i>, it was determined unlikely that significant habitat for conservation significant flora species occurs within the application and additional in-season surveys were not required to inform the assessment of impacts.</p> <p>The guidance specifies that “the botanist leading the survey should have at least five years’ experience in botanical survey in the bioregion in which the survey is to be conducted” (EPA, 2016). The lead botanist of the flora and vegetation surveys (Mattiske, 2022a; Mattiske, 2016) has over 40 years’ botanical and ecological experience conducting biological surveys in Western Australia (Enel Green Power, 2023) and is considered suitably qualified.</p> <p>The guidance notes that “species accumulation curves (SAC) will generally indicate if an area has been adequately sampled” but SAC are not explicitly required to be undertaken to confirm adequacy of sample size. The guidance also states that “the survey effort should be adequate to characterise the flora and vegetation within the survey area” and that site selection for a</p>
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	<ul style="list-style-type: none"> • The survey reports fail to provide sufficient detail on the methods used to classify the vegetation, be it empirical or structural (the latter being the preferred method for significant vegetation such as the Wheatbelt Woodlands TEC), and • The survey reports do not include appropriate analysis techniques or a rationale for the data treatment (or lack thereof) and interpretations e.g., multivariate comparative analysis and dendrograms. 	<p>reconnaissance survey should validate and elaborate on the desktop study information and map the vegetation units at a broad scale (EPA, 2016). The survey reports state that “aerial photography of a suitable scale was used to map the project area. Sites within areas of remnant vegetation were chosen from these aerials based on a 50-metre grid design starting at the designated boundary of the survey area”. This is likely adequate to survey and map vegetation units in the landscape at a broad scale.</p> <p>According to the guidance, structurally based classification is acceptable for reconnaissance level surveys, which describes differences between vegetation units using vegetation structure and dominant species described in desktop studies and confirmed by low intensity sampling (EPA, 2016). Floristic composition vegetation classification, which may include multivariate comparative analysis and dendrograms, is the preferred classification system for a detailed survey as it is repeatable and focuses on the suite of species present within a quadrat (EPA, 2016). The vegetation composition has been classified structurally in the flora and vegetation surveys (Mattiske, 2022a; Mattiske, 2016).</p> <p>Given the degraded condition of the vegetation, the context of the application area as isolated stands of paddock trees or roadside remnant vegetation in a rural landscape, and the consistency in survey findings between years, the sampling effort is considered adequate to define and map vegetation composition and condition and identify conservation significant flora and ecological communities, when considered in combination with the impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021) and black cockatoo habitat assessment (Mattiske, 2023).</p> <p>In considering the above and the information outlined in <i>Biological survey information excerpts</i> (see Appendix G), the Delegated Officer considers that the methodology and survey effort of the two flora and vegetation surveys (Mattiske, 2022a; Mattiske, 2016) is in accordance with the EPA Technical Guidance – <i>Flora and Vegetation</i></p>
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	Ground of Submission	Summary of comments	Consideration of comment
		<p>The survey effort of the impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021) is not adequate to accurately identify the vegetation composition or condition of the application area or conclude presence or absence of conservation significant flora or ecological communities, based on the fact that:</p> <ul style="list-style-type: none"> • The impact footprint assessments for tracks, turbines, and cabling do not adhere to EPA Technical Guidance for flora and vegetation surveys and are not listed as limitations in the survey report, and • The timing of the impact footprint assessments for tracks and turbines were not suitable for identification of flora. 	<p><i>Surveys for Environmental Impact Assessment</i> (EPA, 2016) for a reconnaissance level flora survey.</p> <p>The methodology and survey effort of the impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021) is outlined in <i>Biological survey information excerpts</i> (see Appendix G).</p> <p>As outlined in response to the comments above, the ideal botanical survey timing for the South West and Interzone Botanical Provinces is in Spring (EPA, 2016). While it is acknowledged that the footprint assessments were undertaken outside of this peak survey timing (in March, June, and December), the assessments identified that the proposed impact areas for tracks, turbines, and cabling consist of isolated stands of paddock trees or roadside remnant vegetation in Degraded to Completely Degraded (Keighery, 1994) condition (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021). Given the degree of degradation, as well as the conservation statuses and habitat preferences of local flora, it was determined unlikely that significant habitat for conservation significant flora species occurs within the application area and the sampling effort was considered adequate for the assessment of impacts to flora.</p> <p>Given the degraded condition and context of the application area in a matrix of historically-cleared agricultural land, the Delegated Officer considers that the impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021) are in accordance with the methodology described in the EPA Technical Guidance – <i>Flora and Vegetation Surveys for Environmental Impact Assessment</i> (EPA, 2016) for a reconnaissance level flora survey.</p>

	Ground of Submission	Summary of comments	Consideration of comment
		<p>The assessment of the presence or absence of the Wheatbelt Woodlands TEC within the application area is not adequate, based on the fact that:</p> <ul style="list-style-type: none"> • The 2022 survey report states that the proposed development does not directly disturb remnant areas of the TEC, implying areas supporting the TEC were identified during surveys, • The impact footprint assessments fail to apply key diagnostic criteria and condition thresholds for the Wheatbelt Woodlands TEC in regard to roadside patches, and • The survey reports do not map significant vegetation despite the EPA Technical Guidance stating that “where the TEC or PEC is defined at a regional scale (association, alliance, complex, system or broader), vegetation sub-units of the listed ecological community should be identified so that the overall impact on the biodiversity values of the TEC or PEC can be evaluated”. 	<p>The survey report states that the proposed development avoids areas currently mapped as representative of the Wheatbelt Woodlands TEC under the DCCEE EPBC Act Protected Matters Search Tool and other available databases (Mattiske, 2022a). No vegetation with the application area was identified as being analogous to the Wheatbelt Woodlands TEC as defined by its key diagnostic criteria, in either the flora and vegetation surveys (Mattiske, 2022a; Mattiske, 2016) or footprint impact assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021). As no vegetation representative of the Wheatbelt Woodlands TEC was identified in the surveys, there was no requirement to map this community in the survey reports.</p> <p>DWER’s assessment of impacts to the Wheatbelt Woodlands TEC are summarised in <i>Site characteristics</i> (see Appendix C.1).</p>
3.	<p>The fauna surveys used to support the clearing permit application fail to meet the requirements of the EPA’s Technical Guidance - <i>Terrestrial vertebrate fauna surveys for environmental impact assessment</i> (EPA, 2020).</p>	<p>The fauna assessments (Mattiske, 2022a; Mattiske, 2016) and impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021) do not include a habitat assessment to determine impacts to black cockatoo species.</p>	<p>Following a preliminary assessment of the application, the Delegated Officer determined that the information contained in the fauna assessments (Mattiske, 2022a; Mattiske, 2016) and impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021) was not sufficient to inform the assessment of impacts to black cockatoo species.</p> <p>On 28 March 2023, the applicant submitted a black cockatoo habitat assessment (Mattiske, 2023) in response to a formal Request for Further Information issued by DWER. A copy of the black cockatoo habitat assessment is available at https://ftp.dwer.wa.gov.au/permit/9845/.</p> <p>DWER’s assessment of impacts to black cockatoo species is summarised in <i>Assessment of impacts on environmental values</i> (see Section 3.2.1).</p>

The survey effort of the two fauna assessments (Mattiske, 2022a; Mattiske, 2016) and the impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021) is not adequate to confirm the presence of fauna and their habitats, based on the fact that:

- The survey reports state that “observations were undertaken on the condition of the fauna habitats and remnants”, which is an insufficient method of confirming presence of fauna and habitat uses,
- The survey reports do not provide justification as to why some isolated paddock trees and patches to be cleared were not visited and assessed,
- The survey reports conclude that “in view of the degree of degradation, unless remnant areas are likely to be disturbed, there should not be any significant issues in relation to the native fauna species”, which is incorrect, and
- The survey reports fail to address the implications of cumulative impacts, habitat loss, degradation and fragmentation, and the changing climate.

The methodology and survey effort of the fauna assessments (Mattiske, 2022a; Mattiske, 2016) and the impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021) is outlined in *Biological survey information excerpts* (see Appendix G). As outlined in response to the comments above, an additional black cockatoo habitat assessment (Mattiske, 2023) was requested during the assessment of the clearing permit application to inform the assessment of impacts to black cockatoo species.

It is acknowledged that the fauna assessments (Mattiske, 2022a; Mattiske, 2016) only covered part of the application area for CPS 9845/1. However, the fauna values of application areas that were not assessed through the fauna assessments have been assessed through the black cockatoo habitat assessment (Mattiske, 2023) and/or the impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021).

The EPA Technical Guidance states that “during a basic survey, opportunistic fauna observations should be made, and low-intensity sampling can be used to gather data on the general faunal assemblages present”, where “a basic fauna survey should include habitat assessment, photography and mapping” (EPA, 2020). Given the degraded and fragmented nature of the application, the Delegated Officer considered that the sampling effort employed during the fauna assessments and impact footprint assessments is likely to be in accordance with the EPA’s Technical Guidance - *Terrestrial vertebrate fauna surveys for environmental impact assessment* (EPA, 2020) for a basic fauna survey.

While it is acknowledged that the survey reports do not discuss the implications of cumulative impacts, habitat loss, degradation and fragmentation, the Delegated Officer considers that these matters have been addressed in *Assessment of impacts on environmental values* (see Section 3.2) and *Site characteristics* (see Appendix C).

While DWER acknowledges that the clearing of native vegetation contributes to climate change, it is not

	Ground of Submission	Summary of comments	Consideration of comment
			considered reasonable to attribute a particular climate change impact to this particular proposal. However, DWER is in the process of reviewing its policy and procedures in respect to how climate risks may be relevant to clearing permit assessments to reflect the considerations outlined in the <i>Native Vegetation Policy (2022)</i> and <i>State Climate Policy (2020)</i> .
4.	The information provided in the ' <i>Flora, Vegetation and Fauna Assessment of the Flat Rocks Wind Farm Survey Area</i> ' (Mattiske, 2022a; Mattiske, 2016) is irrelevant and misleading.	<p>The surveyed areas are not inclusive of all clearing permit application areas and are not an adequate indication of the vegetation present within the application area, given:</p> <ul style="list-style-type: none"> • Survey data was only collected during the 2010 field survey, when the location of turbines was not confirmed, the cabling route was not part of the development envelope, and the Transport Management Plan was not prepared, • The survey area does not include areas of native vegetation within Warrenup Road reserve that are required to be cleared to allow for trenching for high voltage power cables, and • Only two areas included in the clearing permit application occur within the survey area and vegetation condition mapping is based on aerial photo interpretation and a basic survey, which is not adequate given the variability of soil types, landforms and vegetation in the Jarrah Forest and Avon Wheatbelt bioregions. 	<p>The flora, vegetation, and fauna values of all areas under application have been assessed through either the information obtained in the flora, vegetation, and fauna assessments (Mattiske, 2022a; Mattiske, 2016), the impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021), and/or the black cockatoo habitat assessment (Mattiske, 2023).</p> <p>As outlined in response to the comments above, the Delegated Officer considers that the assessments provided are in accordance with the methodology described in the EPA Technical Guidance for a reconnaissance level flora survey, basic fauna assessment, and black cockatoo habitat assessment, given the degraded condition and context of the application area in a matrix of historically cleared agricultural land. The methodology and survey effort of these assessments are outlined in <i>Biological survey information excerpts</i> (see Appendix G).</p>

	Ground of Submission	Summary of comments	Consideration of comment
5.	The information provided in the 'Impact Footprint Assessment of Turbine Footprints on Flat Rocks Wind Farm' (Mattiske, 2021), the 'Impact Footprint Assessment of Cabling on Flat Rocks Wind Farm' (Mattiske, 2022b), and the 'Impact Footprint Assessment of Track Establishment on Flat Rocks Wind Farm' (Mattiske, 2022c) is unclear.	There is no correlation between the sites specified in the impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021) and the clearing permit application area.	<p>Composite photo locations from the three impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021) were obtained by DWER to correlate the photographs and assessments contained in the survey reports to the relevant areas of the clearing permit application. This information and representative photographs are available in <i>Biological survey information excerpts</i> (see Appendix G).</p> <p>As outlined in response to the comments above, the flora, vegetation, and fauna values of all areas under application have been assessed through either the information obtained in the flora, vegetation, and fauna assessments (Mattiske, 2022a; Mattiske, 2016), the impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021), and/or the black cockatoo habitat assessment (Mattiske, 2023).</p>
6.	The proposed clearing is likely to be at variance with the clearing principles set out in Schedule 5 of the EP Act and, therefore, should be refused.	<p>The proposed clearing is likely to be at variance with clearing principles (b), (c), (d), and (e), and may be at variance with principles (f) and (h), given:</p> <ul style="list-style-type: none"> • There is insufficient information available to determine impacts to significant habitat for fauna, particularly black cockatoo species, • There is insufficient information available to determine impacts to rare flora as survey effort was inadequate, • There remains uncertainty as to whether the application area is consistent with the Wheatbelt Woodlands TEC, • The application area is within the Jarrah Forest Bioregion and within 5 kilometres of the Avon Wheatbelt Bioregion, both of which have been extensively cleared, • There remains uncertainty as to whether the application area includes riparian vegetation, due to conflicting information, and • The clearing area along Warrenup Road reserve is adjacent to Ngopitchup Nature Reserve and is likely to contribute to ecological function and connectivity of the reserve. 	<p>DWER's assessment of clearing permit applications is undertaken in accordance with <i>A guide to the assessment of applications to clear native vegetation</i> (DER, 2013) and <i>Procedure: Native vegetation clearing permits</i> (DWER, 2019). DWER's assessment is a risk-based and evidence-based judgment in accordance with the requirements of the EP Act on whether a clearing permit application is likely to have a significant effect on the environment. In considering whether to grant a clearing permit, the Delegated Officer must take into account not only the clearing principles, but also any planning instruments or other matters considered to be relevant. In accordance with section 51H of the EP Act, a clearing permit may be granted subject to conditions as necessary for the purposes of preventing, controlling, abating, or mitigating environmental harm or directly or indirectly offsetting the loss of the cleared vegetation, and proportionate to the assessed potential impact on the environment.</p> <p>DWER's assessment against the clearing principles set out in Schedule 5 of the EP Act is outlined in <i>Assessment against the clearing principles</i> (see Appendix D) and supported by the <i>Detailed assessment of application</i> (see Section 3).</p>

	Ground of Submission	Summary of comments	Consideration of comment
7.	It has not been satisfactorily shown that there will be no adverse environmental impact caused by the Flat Rocks Wind Farm project by reason of the matters raised in the letter to the Minister of the Environment and Climate Action dated 21 November 2022.	<p>The Flat Rocks Wind Farm project has the potential to result in several adverse environmental impacts, including to:</p> <ul style="list-style-type: none"> • Black cockatoo species, • Migratory flyways, and • Wheatbelt Woodlands TEC. 	<p>DWER's assessment outlined in <i>Reasons for decision</i> (see Section 1.4), <i>Detailed assessment of application</i> (see Section 3), <i>Suitability of offsets</i> (see Section 4), <i>Site characteristics</i> (see Appendix C), <i>Assessment against the clearing principles</i> (see Appendix D), and <i>Offset calculator value justification</i> (see Appendix F) details the assessed environmental impacts associated with the proposed clearing of native vegetation under CPS 9845/1.</p> <p>It should be noted that DWER undertakes environmental impact assessments for clearing permit applications based on the potential environmental impacts that result from the clearing of native vegetation. It is outside of the scope of DWER's clearing permit assessment under Part V of the EP Act to assess any potential impacts that may be attributable to the proposed end land use, in this case the operation of the Flat Rocks Wind Farm Stage 1.</p>
8.	The application gives insufficient regard to the relevant development approvals, planning instruments, and other matters, as required under section 51O of the EP Act.	<p>The proposal referred to the EPA under section 38(1) of the EP Act in February 2011 failed to include sufficient detail to allow the EPA to assess the proposal's impact on the environment and contained substantial errors that may have had an effect on the outcome of the EPA's decision.</p> <p>The proposed clearing area along Warrenup Road reserve for underground cabling was not included in the DA for the Shires of Kojonup and Broomehill-Tambellup.</p>	<p>The project history including referral to the EPA under Part IV of the EP Act is summarised in <i>Relevant planning instruments and other matters</i> (see Section 3.3). As the decision-making authority under Part IV has determined not to assess the proposal, the clearing permit application is valid and may proceed.</p> <p>Information provided by the applicant indicates that the underground cabling does not require a DA (Enel Green Power, 2022). This is consistent with advice received from the Shires of Kojonup and Broomehill-Tambellup which indicated that DA for the Flat Rocks Wind Farm Stage 1 project are current and valid, as outlined in <i>Relevant planning instruments and other matters</i> (see Section 3.3).</p> <p>The applicant has advised that the underground cabling along Warrenup Road reserve will be installed as part of an Easement Agreement between the applicant and the Shires of Kojonup and Broomehill-Tambellup (Enel Green Power, 2022). It is DWER's understanding that the Easement Agreements outlining the details of the works and responsibilities have been executed (Enel Green Power, 2022).</p>

	Ground of Submission	Summary of comments	Consideration of comment
		<p>Due process has not been followed by decision-making authorities during the DA process, specifically that:</p> <ul style="list-style-type: none"> • Neither Shire have adopted a local planning strategy on matters pertaining to a renewable energy facility and the local planning schemes do not include provisions to guide decision-making on renewable energy facilities, • Separation distances between turbines and sensitive receptors (dwellings) do not align with state and national policy, • The motion made by the Shire of Kojonup to approve the proposed amendment to the DA on 1 November 2022 was not approved by absolute majority and the motion should be lost (no amendment approved). The Shire should also defer a decision until JDAP has approved the amendment, to ensure consistency, • Any management plans that do not comply with the DA conditions prior 1 November 2022 should not be approved, and • The Shire should request the Minister for Environment to invoke their power under s43(1)(b) of the EP Act and direct the EPA to assess the project. 	<p>While the requirement to obtain other approvals is a relevant matter in the assessment of this clearing permit application, the Delegated Officer notes that the administration and processing of DA is the responsibility of the Shire of Kojonup and JDAP under the P&D Act.</p> <p>As outlined in <i>Relevant planning instruments and other matters</i> (see Section 3.3), the applicant is considered to hold the relevant approvals for the proposed land use post-clearing of native vegetation.</p>
9.	<p>The approval of the clearing permit application would be contrary to the regulatory best practice principles (DWER, 2020).</p>	<p>It is the Submission's (2022) view that approving the application would be contrary to the regulatory best practice principles (DWER, 2020), in particular those principles that require decisions to be risk based, evidence based, and consistent.</p>	<p>The Delegated Officer considers that DWER's assessment of the clearing permit application is in accordance with the regulatory principles outlined in the <i>Guideline: Regulatory Principles</i> (DWER, 2020). The assessment is considered to be:</p> <ul style="list-style-type: none"> • Risk-based, in that the decision is proportionate to the level of risk to the environment, • Evidence based, in that the decision and judgments made are based on the best-available information outlined in <i>Sources of information</i> (see Appendix H), noting that the available evidence can often have limitations, and • Consistent, in that the decision is consistent with the provisions of Part V of the EP Act and the decision is consistent with the outcomes under similar circumstances.

Appendix C. Site characteristics

C.1. Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to DWER at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix D.

Characteristic	Details
Local context	<p>The area proposed to be cleared comprises stands of paddock trees and roadside remnant native vegetation varying in size from 0.001 hectares to 0.112 hectares and are distributed across 16 separate areas of native vegetation in the intensive land use zone of Western Australia. The application areas are surrounded by agricultural land and comprise small, isolated remnants or linear strips of native vegetation in a highly cleared landscape. Spatial data indicates the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains approximately 15.24 per cent of the original native vegetation cover (see Appendix C.2.).</p>
Ecological linkage	<p>The application area is mapped within Strategic Zone C of the South West Macro Corridor, which represents areas of woody vegetation where polygons greater than 30 hectares in size are spaced greater than one kilometre from the woody vegetation within Strategic Zones A and B (Wilkins, et al., 2006). The main objective of the South West Macro Corridor project was to improve the long-term future of wildlife within national parks and nature reserves within the South Coast Region of Western Australia by further developing and promoting a regional-scale Macro Corridor Network of native vegetation with inland linkages along major river systems to protected areas and uncleared bushland (Wilkins, et al., 2006). The vegetation within Strategic Zone C potentially provides habitat for wildlife at the local scale but requires closer assessment to determine its value for a regional scale Macro Corridor Network (Wilkins, et al., 2006). Given the application area comprises stands of paddock trees and roadside remnant native vegetation varying in size from 0.001 hectares to 0.112 hectares and surrounded by agricultural land, it is unlikely that the application area is contributing significantly to the functionality of the South West Macro Corridor.</p> <p>However, the application area includes approximately 0.59 hectares of remnant native vegetation that form north-south linear linkages along roadsides. Approximately 0.06 hectares of these linear linkages are also mapped within vegetation surveyed as part of the Roadside Conservation Committee's (RCC's) roadside conservation value mapping program, which was undertaken by the RCC in 2005 (RCC, 2005). The surveyed vegetation, which runs along the length of the southern section of Warrenup Road to Albany Highway, was given a conservation value of between 5 and 8 on the left-hand side of the road and between 8 and 10 on the right-hand side of the road, described as:</p> <ul style="list-style-type: none"> • 5: medium- low conservation value roadsides characterised by disturbed natural structure, extent of native vegetation between 20 and 80 per cent, medium to low diversity of flora (between 0 and five species), weeds comprising between 20 and 80 per cent of total plants, and medium to low value as a biological corridor, • 8: medium-high conservation value roadsides characterised by generally intact natural structure with one stratum disturbed or absent, extent of native vegetation between 20 and 80 per cent, medium to high diversity of native flora (between 6 and 19 different species), weeds comprising between 20 and 80 per cent of total plants, and medium to high value as a biological corridor, and • 10: high conservation value roadsides characterised by intact natural structure with a number of strata, extent of native vegetation greater than 80 per cent, high diversity of native flora (greater than 20 different species), weeds comprising less than 20 per cent of total plants, and high value as a biological corridor (RCC, 2005).

Characteristic	Details
	Given the extensively cleared local area, it is likely that the application area is contributing to the ecological function of roadside linkages and providing dispersal habitat between larger remnants in the local area including Ngopitchup Nature Reserve.
Conservation areas	One section of the application area (totalling approximately 0.169 hectares) is situated along roadsides immediately adjacent to Ngopitchup Nature Reserve.
Vegetation description	<p>Photographs supplied by the applicant and the findings of flora, vegetation, and fauna assessments (Mattiske, 2022a; Mattiske, 2016), impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021), and a black cockatoo habitat assessment (Mattiske, 2023) indicate that the vegetation within the proposed clearing area consists of:</p> <ul style="list-style-type: none"> • Roadside remnant vegetation including marri, jarrah, and wandoo with occasional <i>Allocasuarina fraseriana</i> (sheoak), <i>Acacia acuminata</i> (jam) and <i>Acacia microbotrya</i> over weeds, and • Isolated stands of paddock trees over weeds including marri, jarrah, wandoo, flooded gum and occasional jam, <i>Melaleuca raphiophylla</i> (swamp paperbark), <i>Xanthorrhoea</i> spp., and <i>Lomandra</i> spp. <p>Representative photos and maps are available in 0.</p> <p>This is broadly consistent with the mapped Beard vegetation associations:</p> <ul style="list-style-type: none"> • Beard vegetation association 4, which is described as medium woodland of marri and wandoo, • Beard vegetation association 968, which is described as medium woodland of wandoo and mallet, and • Beard vegetation association 1073, which is described as medium woodland of jarrah, marri, and wandoo (Shepherd et al., 2001).
Vegetation condition	<p>Photographs supplied by the applicant and the findings of flora, vegetation, and fauna assessments (Mattiske, 2022a; Mattiske, 2016), impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021), and a black cockatoo habitat assessment (Mattiske, 2023) indicate that the vegetation within the proposed clearing area is in Degraded to Completely Degraded (Keighery, 1994) condition.</p> <p>The full Keighery (1994) condition rating scale is provided in 0. Representative photos and maps are available in 0.</p>
Climate and landform	The application area is located on gently undulating topography ranging from 330 to 370 metres Australia High Datum (mAHD). The application area has a mean annual maximum temperature of 22.5°C and a mean annual minimum temperature of 9.6°C. The mean annual rainfall and the annual evapotranspiration rate are both mapped at 600 millimetres. However, the mean annual rainfall recorded at the nearest Bureau of Meteorology weather stations (Cranham and Benalla) is 491.5 and 496.2 millimetres, respectively (BoM, 2023).
Soil description and land degradation risk	<p>The soil within the application area is mapped as the following systems:</p> <ul style="list-style-type: none"> • Farrar 1 Subsystem (257Fa_1), described as gravelly hill crests and upper slopes with mainly yellowish brown moderately deep to deep sandy gravels, • Farrar 2 Subsystem (257Fa_2), described as undulating rises and low hills with mainly grey deep sandy duplex soils, • Farrar 3 Subsystem (257Fa_3), described as rocky undulating rises and low hills with mainly grey deep sandy duplex, red sandy and loamy duplex formed on weathered bedrock, • Carrolup 1 Subsystem (257Ca_1), described as gravelly soils capping hill crests and upper slopes in the Carrolup system, and

Characteristic	Details
	<ul style="list-style-type: none"> Carrolup 2 Subsystem (257Ca_2), described as grey sandy duplex soils on slopes, hill crests and less commonly minor drainage lines, within the Carrolup system. <p>The soil types within the application area are mapped as having a low risk of land degradation resulting from water erosion, salinity, waterlogging, flooding, and phosphorus export, but as having a moderate to high risk of wind erosion and subsurface acidification (DPIRD, 2023).</p>
Waterbodies and hydrogeography	<p>The desktop assessment and aerial imagery indicate that the application area intersects or occurs within 50 metres of several non-perennial tributaries of the Wadjekanup River, Carlecatup Creek, and Slab Hut Gully systems. The closest wetland to the application area is a channel within the Hardy Estuary Blackwood catchment, located approximately 230 metres north of the application area, separated by historically cleared agricultural land and road infrastructure.</p> <p>The application area does not transect any water resources proclaimed under either the <i>Rights in Water and Irrigation Act 1914</i> (RIWI Act), <i>Metropolitan Water Supply Sewerage and Drainage Act 1909</i>, or <i>Country Areas Water Supply Act 1947</i> (CAWS Act).</p> <p>Groundwater salinity within the application area is mapped at 7000 to 35,000 milligrams per litre total dissolved solids.</p>
Flora	<p>The desktop assessment identified that a total of 11 conservation significant flora species have been recorded within the local area, comprising one Priority 2 (P2) flora species, four Priority 3 (P3) flora, four Priority 4 (P4) flora, and two threatened flora species (Western Australian Herbarium, 1998-). None of these existing records occur within the application area, with the closest record being an occurrence of <i>Schoenus natans</i> (P4) approximately 0.95 kilometres from the application area.</p> <p>No threatened or priority flora species have been identified within the application area or the broader Flat Rocks Wind Farm project site during the reconnaissance flora and vegetation surveys undertaken in 2010 and 2021 (Mattiske, 2022a; Mattiske, 2016) or in targeted searches of the application during on-ground impact footprint assessments (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021). It is acknowledged that the reconnaissance flora and vegetation survey undertaken in 2021 and the impact footprint assessments were undertaken outside of the spring flowering season and may not have been adequate to identify non-perennial or tuberous species known from the local area (WA Herbarium, 1998-). However, the flora and vegetation assessments identified that the application area consists of isolated stands of paddock trees or roadside remnant vegetation over weeds in Completely Degraded to Degraded (Keighery, 1994) condition, with very limited native understorey (Mattiske, 2022a; Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021; Mattiske, 2016). Based on the degree of degradation and the context of the application area in a matrix of agricultural land, it is considered unlikely that the application area contains suitable habitat for any threatened or priority flora species and further in-season flora surveys were not determined to be required.</p> <p>With consideration for the site characteristics set out above, relevant datasets (see Appendix H.1), the habitat preferences and conservation statuses of the aforementioned species, the distribution and extent of existing records, and biological survey information as summarised above (Mattiske, 2022a; Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021; Mattiske, 2016), the application area is unlikely to provide significant habitat for threatened or priority flora species and impacts to flora species did not require further consideration.</p>
Ecological communities	<p>The desktop assessment identified that the closest mapped state or federally listed TEC is an occurrence of the Wheatbelt Woodlands TEC, which occurs directly adjacent to the application area along Warrenup Road. The Wheatbelt Woodlands TEC is listed as</p>

Characteristic	Details
	<p>Critically Endangered under the Commonwealth EPBC Act and is considered Priority 3 priority ecological community (PEC) by DBCA in Western Australia.</p> <p>As outlined in the site characteristics set out above, the flora and vegetation assessments identified that the application area consists of isolated stands of paddock trees or roadside remnant vegetation over weeds in Completely Degraded to Degraded (Keighery, 1994) condition, with very limited native understorey (Mattiske, 2022a; Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021; Mattiske, 2016). The key diagnostic criteria for the Wheatbelt Woodlands TEC states that “for patches that occur as roadside verges, a minimum patch width of 5 metres applies to all Eucalypt Woodlands”, as well as the standard requirements for mature trees and understorey cover (DotE, 2015). The criteria also states “shelterbelts and windbreaks on farms, and narrow road verges, will usually be too small or too degraded to form part of the ecological community. Most patches left on farms, and many roadsides will fall outside the proposed listing” (DotE, 2015). Given the degree of degradation and the patchy, isolated nature of the vegetation along roadsides and windbreaks or within cleared paddocks, the application area was determined not to meet the patch size or condition thresholds to be considered representative of the Wheatbelt Woodlands TEC or any other TEC or PEC (Mattiske, 2022a; Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021; Mattiske, 2016).</p> <p>With consideration for the site characteristics set out above, relevant datasets (see Appendix H.1), the conservation advice for the Wheatbelt Woodland TEC (DotE, 2015), and biological survey information as summarised above (Mattiske, 2022a; Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021; Mattiske, 2016), the application area was not considered likely to contain vegetation representative of a TEC or PEC and impacts to conservation significant ecological communities did not require further consideration.</p>
Fauna	<p>The desktop assessment identified that a total of 18 threatened or priority fauna species have been recorded within the local area, including 10 threatened fauna species, three priority fauna species, four other specially protected fauna species, and one extinct species (DBCA, 2007-). None of these existing records occur within the application area, with the closest record being an occurrence of Carnaby's cockatoo, approximately 250 metres from the application area.</p> <p>With consideration for the site characteristics set out above, relevant datasets (see Appendix H.1), the habitat preferences of the aforementioned species, and biological survey information (Mattiske, 2023; Mattiske, 2022a; Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021; Mattiske, 2016), the application area may provide suitable habitat for eight conservation significant fauna species and impacts to these species required further consideration (see Appendix C.3).</p>

C.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion					
Jarrah Forest*	4,506,660.25	2,399,838.15	53.25	1,673,614.25	37.14
Vegetation complex*					
Beard vegetation association 4	1,022,712.69	277,087.18	27.09	65961.48	6.45
Beard vegetation association 968	296,715.07	95,048.21	32.03	54784.58	18.46
Beard vegetation association 1073	18,806.54	6,123.16	32.56	2050.95	10.91
Vegetation complex in IBRA Bioregion*					
Beard vegetation association 4 (Jarrah Forest)	1,054,279.89	284,102.41	26.95	67764.67	6.43
Beard vegetation association 968 (Jarrah Forest)	140,823.45	68,154.69	48.40	35355.87	25.11
Beard vegetation association 1073 (Jarrah Forest)	4,448.86	964.61	21.68	106.78	2.4
Local area					
20-kilometre radius	174,577.81	26,614.29	15.24	-	-

*Government of Western Australia (2019)

C.3. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix H.1), the distribution and extent of existing records, and biological survey information (Mattiske, 2023; Mattiske, 2022a; Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021; Mattiske, 2016), impacts to the following conservation significant fauna required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records in local area (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Cacatua pastinator pastinator</i> (Muir's corella)	CD	Y	Y	16.5	5	Y
<i>Calyptorhynchus banksii naso</i> (Forest red-tailed black cockatoo)	VU	Y	Y	1.4	5	Y
<i>Dasyurus geoffroii</i> (Chuditch)	EN	N	Y	7.7	2	Y
<i>Falco peregrinus</i> (Peregrine falcon)	EN	Y	Y	14.7	1	Y
<i>Isoodon fusciventer</i> (Quenda)	EN	N	Y	7.4	4	Y
<i>Phascogale calura</i> (Red-tailed phascogale)	VU	N	Y	19.3	1	Y
<i>Zanda baudinii</i> (previously <i>Calyptorhynchus baudinii</i>) (Baudin's cockatoo)	OS	Y	Y	14.8	2	Y
<i>Zanda latirostris</i> (previously <i>Calyptorhynchus latirostris</i>) (Carnaby's cockatoo)	P4	Y	Y	0.25	32	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority, OS: Other specially protected fauna

Appendix D. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a)</u>: <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment</u>: The area proposed to be cleared consists of stands of paddock trees and roadside remnant vegetation in Degraded to Completely Degraded (Keighery, 1994) condition and is not likely to be floristically diverse. However, the area contains significant foraging habitat for Carnaby’s cockatoo and vegetation that is representative of extensively cleared vegetation complexes.</p>	May be at variance	Yes <i>Refer to Sections 3.2.1 and 3.2.2, above.</i>
<p><u>Principle (b)</u>: <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment</u>: The area proposed to be cleared contains significant foraging habitat for Carnaby’s cockatoo and suitable habitat for several conservation significant fauna species.</p>	At variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (c)</u>: <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment</u>: The area proposed to be cleared consists of stands of paddock trees and roadside remnant vegetation in Degraded to Completely Degraded (Keighery, 1994) condition and is unlikely to contain significant habitat for threatened flora.</p>	Not likely to be at variance	No
<p><u>Principle (d)</u>: <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment</u>: The area proposed to be cleared consists of stands of paddock trees and roadside remnant vegetation in Degraded to Completely Degraded (Keighery, 1994) condition and is unlikely to meet the patch size or condition thresholds to be considered part of any listed TEC under the BC Act or EPBC Act.</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e)</u>: <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment</u>: The extent of the mapped vegetation types and native vegetation in the local area is inconsistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is likely to be providing ecological linkage values in the local area.</p>	At variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (h)</u>: <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment</u>: Portions of the area proposed to be cleared are adjacent to Ngopitchup Nature Reserve and the proposed clearing may have an impact on the environmental values of this conservation area.</p>	May be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
Environmental value: land and water resources		
<p><u>Principle (f)</u>: <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p>	At variance	Yes

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Assessment:</u> Given several non-perennial tributaries are recorded within 50 metres of the application area, the proposed clearing area is considered to be growing in, or in association with, an environment associated with a watercourse.</p>		<p><i>Refer to Section 3.2.3, above.</i></p>
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u> The mapped soils are moderately susceptible to wind erosion and subsurface acidification. However, noting the Degraded to Completely Degraded (Keighery, 1994) condition of the vegetation and that the proposal relates to the clearing of 1.06 hectares within linear footprints across 16 separate areas varying in size from 0.001 hectares to 0.112 hectares, the proposed clearing is not considered likely to have an appreciable impact on land degradation.</p>	<p>Not likely to be at variance</p>	<p>No</p>
<p><u>Principle (i):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u> Given several non-perennial tributaries are recorded within 50 metres of the application area, the proposed clearing may result in short-term impacts to surface water quality.</p>	<p>Not likely to be at variance</p>	<p>Yes <i>Refer to Section 3.2.3, above.</i></p>
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u> The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding. Noting this, the extent of the proposed clearing across a linear footprint, and the degraded condition of the vegetation, the proposed clearing is unlikely to contribute to increased incidence or intensity of flooding.</p>	<p>Not likely to be at variance</p>	<p>No</p>

Appendix E. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix F. Offset calculator value justification

F.1 Carnaby's cockatoo foraging habitat

WA Environmental Offsets Calculator Rationale for scores used in the offset calculator

Calculation	Score (Area)	Rationale
Conservation significance		
Description	Carnaby's cockatoo foraging habitat	The proposed clearing will impact on 1.06 hectares of significant foraging habitat for Carnaby's cockatoo.
Type of environmental value	Species (flora/fauna)	Carnaby's cockatoo is listed as a threatened fauna species under the Commonwealth EPBC Act and state BC Act.
Conservation significance of environmental value	Rare/threatened species - endangered	Carnaby's cockatoo is listed as Endangered under both the EPBC Act and BC Act.
Landscape-level value impacted	yes/no	The impact is to an area of foraging habitat in hectares.
Significant impact		
Description	Clearing of native vegetation that comprises significant foraging habitat for Carnaby's cockatoo.	Native vegetation that comprises significant foraging habitat for Carnaby's cockatoo is proposed to be cleared for the purpose of access roads, construction of wind turbines and cabling works associated with the Flat Rocks Wind Farm Stage 1 project.
Significant impact (hectares) / Type of feature	1.06	Based on the available information from the flora, vegetation, and fauna assessment reports (Mattiske, 2022a; Mattiske, 2016), black cockatoo habitat assessment (Mattiske, 2023), and the impact assessment memorandums for turbine footprints (Mattiske, 2021), cabling footprints (Mattiske, 2022b), and track establishment footprints (Mattiske, 2022c), the entire application area comprises foraging habitat for Carnaby's cockatoo in <i>Eucalyptus wandoo</i> (wandoo), <i>Corymbia calophylla</i> (marri) and <i>Eucalyptus marginata</i> (jarrah) trees. Therefore, 1.06 hectares of foraging habitat for Carnaby's cockatoo is proposed to be cleared.
Quality (scale) / Number	5.00	Based on the available information from the flora, vegetation, and fauna assessment reports (Mattiske, 2022a; Mattiske, 2016), black cockatoo habitat assessment (Mattiske, 2023), and the impact assessment memorandums for turbine footprints (Mattiske, 2021), cabling footprints (Mattiske, 2022b), and track establishment footprints (Mattiske, 2022c), the foraging habitat within the application area predominantly consists of isolated paddock trees or linear stands of wandoo, marri and jarrah along roadsides, fence lines or windbreaks, in in Completely Degraded to Degraded (Keighery, 1994) condition. No evidence of use by Carnaby's cockatoo was observed during the environmental assessments. However, the application is located within 12 kilometres of 23 mapped breeding sites and foraging habitat within the application area may support breeding populations. The application is also located within an extensively cleared part of the species' range and available foraging habitat in the local area is limited. The application is also likely to provide an ecological linkage for Carnaby's cockatoo moving through an extensively cleared landscape.
Rehabilitation credit		
N/A	N/A	No onsite rehabilitation or revegetation proposed (i.e., within the application area).

Calculation	Score (Area)	Rationale
Offset		
Description	Acquisition and conservation of native vegetation that comprises significant foraging habitat for Carnaby's cockatoo	A single offset involving the acquisition and conservation in perpetuity of an offset site within Lot 8219 on Deposited Plan 149407, Mobrur, in the Shire of Kojonup that contains significant foraging habitat for Carnaby's cockatoo in the region.
Proposed offset (area in hectares)	6.70	The acquisition and conservation in perpetuity of 6.70 hectares of native vegetation that comprises significant foraging habitat for Carnaby's cockatoo is required to offset the residual impacts to this value.
Current quality of offset site / Start number (of type of feature)	8.00	A site visit report provided by DBCA indicates that the foraging habitat for Carnaby's cockatoo within Lot 8219 on Deposited Plan 149407, Mobrur, consists of jarrah and wandoo woodland in Degraded to Excellent (Keighery, 1994) condition, with occasional marri and <i>Banksia sessilis</i> which may also provide for foraging by Carnaby's cockatoo. The offset site was also observed to contain a number of trees with potential hollows that may be used for breeding by black cockatoo species. Lot 8219 on Deposited Plan 149407, Mobrur, is located within 12 kilometres of three mapped breeding sites and is located within an extensively cleared part of the species' range where available foraging habitat is limited.
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	8.00	The offset site is currently a rural-zoned freehold land that is not subject to any existing planning approvals. The site visit report provided by DBCA indicates that very few weeds were recorded and that most weed species are concentrated around the fringes and parkland cleared areas due to lack of fencing at present. It is not expected that the quality of foraging habitat for Carnaby's cockatoo within Lot 8219 on Deposited Plan 149407, Mobrur, will significantly change over a one year period, in the absence of the offset.
Future quality WITH offset (scale) / Future number WITH offset	8.00	Lot 8219 on Deposited Plan 149407, Mobrur, will be ceded to DBCA for conservation in perpetuity and it is assumed that the vegetation within the offset site will be managed to maintain its current quality.
Time until ecological benefit (years)	1.00	The applicant has committed to finalising the process for ceding the offset site to DBCA within six months of the grant of a clearing permit. Therefore, the minimum of one year for this field is applied.
Confidence in offset result (%)	0.9	There is a high level of confidence that the offset will be achieved, and that conservation of the offset site (in perpetuity) would successfully mitigate the future risk of loss of the site.
Duration of offset implementation (maximum 20 years)	20.00	The offset site will be ceded to DBCA and conserved in perpetuity. Therefore, the maximum of 20 years for this field is applied.
Time until offset site secured (years)	1.00	The applicant has committed to finalising the process for ceding the offset site to DBCA within six months of the grant of a clearing permit. Therefore, the minimum of one year for this field is applied.
Risk of future loss WITHOUT offset (%)	15.0%	Lot 8219 on Deposited Plan 149407, Mobrur, is currently rural-zoned freehold land that is not subject to any existing planning approvals and the owner is in consultation with DBCA regarding the sale of the property for conservation, so there is a reasonably low risk that the offset site could be developed in future without the implementation of the offset.

Calculation	Score (Area)	Rationale
Risk of future loss WITH offset (%)	5.0%	The future conservation (in perpetuity) of Lot 8219 on Deposited Plan 149407, Mobrup, by ceding to DBCA would result in increased security and reduce the risk of loss.
Offset ratio (Conservation area only)	N/A	
Landscape level values of offset?	N/A	

F.2 Significant remnant vegetation

WA Environmental Offsets Calculator Rationale for scores used in the offset calculator

Calculation	Score (Area)	Rationale
Conservation significance		
Description	Significant remnant vegetation within an area that has been extensively cleared	The proposed clearing will impact on 1.06 hectares of native vegetation that is significant as a remnant within an area that has been extensively cleared.
Type of environmental value	Vegetation/habitat	Significant remnant vegetation including mapped Beard vegetation associations.
Conservation significance of environmental value	Terrestrial native vegetation complex - <30% extent remaining in the bioregion	The vegetation within the application area occurs within a local area (20 kilometre radius) that retains approximately 15.24 per cent of its original vegetation extent. The application area also contains two extensively cleared Beard vegetation associations: 4 (retaining 26.95 per cent of its original vegetation extent in the Jarrah Forest) and 1073 (retaining 21.68 per cent of its original vegetation extent in the Jarrah Forest and 27.09 per cent extent state-wide).
Landscape-level value impacted	yes/no	The impact is to an area of significant remnant vegetation in hectares.
Significant impact		
Description	Clearing of native vegetation that is significant as a remnant within an area that has been extensively cleared	Native vegetation that comprises native vegetation that is significant as a remnant within an area that has been extensively cleared is proposed to be cleared for the purpose of access roads, construction of wind turbines and cabling works associated with the Flat Rocks Wind Farm Stage 1 project.
Significant impact (hectares) / Type of feature	1.06	Given the local area retains 15.24 per cent of its original vegetation extent, the entire application area is considered to be significantly contributing to the ecological function of native vegetation in the local area. Approximately 87 per cent of the application area (0.92 hectares) is also mapped within extensively cleared Beard vegetation associations 4 and 1073.
Quality (scale) / Number	4.00	Based on the available information from the flora, vegetation, and fauna assessment reports (Mattiske, 2022a; Mattiske, 2016), black cockatoo habitat assessment (Mattiske, 2023), and the impact assessment memorandums for turbine footprints (Mattiske, 2021), cabling footprints (Mattiske, 2022b), and track establishment footprints (Mattiske, 2022c), the vegetation within the application area predominantly consists of isolated paddock trees or linear stands of wandoo, marri and jarrah over sparse Acacia and Allocasuarina shrubland along roadsides, fence lines or windbreaks, in Completely Degraded to Degraded (Keighery, 1994) condition.

Calculation	Score (Area)	Rationale
		Beard vegetation association 4 is described as medium woodland of marri and wandoo and association 1073 is described as medium woodland of wandoo and mallet. Therefore, the application area is likely to be broadly representative of these extensively cleared vegetation associations. Further, approximately 0.59 hectares within the application area comprises part of linear corridors of native vegetation that are likely to be adding to ecological linkage values in the extensively cleared landscape. The application area also provides significant foraging habitat for Carnaby's cockatoo.
Rehabilitation credit		
N/A	N/A	No onsite rehabilitation or revegetation proposed (i.e., within the application area).
Offset		
Description	Acquisition and conservation of native vegetation that is significant as a remnant within an area that has been extensively cleared	A single offset involving the acquisition and conservation in perpetuity of an offset site within Lot 8219 on Deposited Plan 149407, Moberup, in the Shire of Kojonup that contains native vegetation that is significant as a remnant in an area that has been extensively cleared and represents extensively cleared vegetation complexes representative of in the region (i.e., jarrah and wandoo woodland representative of Beard vegetations association 4).
Proposed offset (area in hectares)	5.31	The acquisition and conservation in perpetuity of 5.31 hectares of native vegetation that is significant as a remnant in an area that has been extensively cleared is required to offset the residual impacts to this value.
Current quality of offset site / Start number (of type of feature)	8.00	A site visit report provided by DBCA indicates that the significant remnant vegetation within Lot 8219 on Deposited Plan 149407, Moberup, consists of jarrah and wandoo woodland in Degraded to Excellent (Keighery, 1994) condition. The vegetation within Lot 8219 on Deposited Plan 149407, Moberup, provides significant foraging habitat for Carnaby's cockatoo and potential breeding habitat for black cockatoo species, as well as suitable habitat for a number of conservation significant flora. The vegetation occurs within an area that has been extensively cleared and is likely to be significantly contributing to ecological linkage values and the ecological function of native vegetation in the local area.
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	8.00	The offset site is currently a rural-zoned freehold land that is not subject to any existing planning approvals. The site visit report provided by DBCA indicates that very few weeds were recorded and that most weed species are concentrated around the fringes and parkland cleared areas due to lack of fencing at present. It is not expected that the quality of significant remnant vegetation within Lot 8219 on Deposited Plan 149407, Moberup, will significantly change over a one year period, in the absence of the offset.
Future quality WITH offset (scale) / Future number WITH offset	8.00	Lot 8219 on Deposited Plan 149407, Moberup, will be ceded to DBCA for conservation in perpetuity and it is assumed that the vegetation within the offset site will be managed to maintain its current quality.
Time until ecological benefit (years)	1.00	The applicant has committed to finalising the process for ceding the offset site to DBCA within six months of the grant of a clearing permit. Therefore, the minimum of one year for this field is applied.

Calculation	Score (Area)	Rationale
Confidence in offset result (%)	0.9	There is a high level of confidence that the offset will be achieved and that conservation of the offset site (in perpetuity) would successfully mitigate the future risk of loss of the site.
Duration of offset implementation (maximum 20 years)	20.00	The offset site will be ceded to DBCA and conserved in perpetuity. Therefore, the maximum of 20 years for this field is applied.
Time until offset site secured (years)	1.00	The applicant has committed to finalising the process for ceding the offset site to DBCA within six months of the grant of a clearing permit. Therefore, the minimum of one year for this field is applied.
Risk of future loss WITHOUT offset (%)	15.0%	Lot 8219 on Deposited Plan 149407, Mobrup, is currently rural-zoned freehold land that is not subject to any existing planning approvals and the owner is in consultation with DBCA regarding the sale of the property for conservation, so there is a reasonably low risk that the offset site could be developed in future without the implementation of the offset.
Risk of future loss WITH offset (%)	5.0%	The future conservation (in perpetuity) of Lot 8219 on Deposited Plan 149407, Mobrup, by ceding to DBCA would result in increased security and reduce the risk of loss.
Offset ratio (Conservation area only)	N/A	
Landscape level values of offset?	N/A	

Appendix G. Biological survey information excerpts

Black Cockatoo Habitat Assessment (Mattiske, 2023)

The applicant commissioned the black cockatoo habitat assessment to identify all black cockatoo habitat trees and describe the extent and quality of foraging habitat for black cockatoo species within the application area for CPS 9845/1, following a request for further information issued by DWER. The black cockatoo habitat assessment included:

- Measuring the DBH of trees within the study area and recording any known, suitable, or potential nesting trees, which were considered to be jarrah and marri trees with a DBH greater than 50 centimetres and wandoo with a DBH greater than 30 centimetres,
- Examining each known, suitable, or potential nesting tree for the presence of existing hollows and potential evidence of use from the ground,
- Searching the study area for the presence of vegetation types or plant species known to constitute black cockatoo foraging habitat, and
- Searching the study area for any evidence of foraging (Mattiske, 2023).

The methodology of the black cockatoo habitat assessment were in accordance with the *EPA Technical Guidance – Vertebrate Fauna Surveys for Environmental Impact Assessment* (EPA, 2020) and *Referral guideline for 3 WA threatened black cockatoo species: Carnaby's Cockatoo, Baudin's Cockatoo and the Forest Red-tailed Black cockatoo* (Commonwealth of Australia, 2022).

Flora, Vegetation and Fauna Assessment of the Flat Rocks Wind Farm Survey Area (Mattiske, 2022a; Mattiske, 2016)

The applicant commissioned the *'Flora, Vegetation and Fauna Assessment of the Flat Rocks Wind Farm Survey Area'* to identify the flora, vegetation, and fauna values of the proposed Flat Rocks Wind Farm site (Mattiske, 2022a; Mattiske, 2016). The assessment was originally commissioned in 2010 and was again commissioned in April 2016 and December 2021 to review the flora, vegetation, and fauna values of the site and update the findings of the 2010 assessment (Mattiske, 2022a; Mattiske, 2016). The *'Flora, Vegetation and Fauna Assessment of the Flat Rocks Wind Farm Survey Area'* comprised a desktop assessment and field survey (Mattiske, 2022a; Mattiske, 2016).

It is acknowledged that the *'Flora, Vegetation and Fauna Assessment of the Flat Rocks Wind Farm Survey Area'* (Mattiske, 2022a; Mattiske, 2016) only covered part of the application area for CPS 9845/1. However, the flora, vegetation, and fauna values of the entire application area have been assessed through the black cockatoo habitat assessment (described above) and the impact footprint assessments (described below).

Desktop Assessment

The desktop assessment for the *'Flora, Vegetation and Fauna Assessment of the Flat Rocks Wind Farm Survey Area'* was undertaken by experienced biologists and involved the following:

- A review of relevant and available flora, vegetation, and fauna data sources in the vicinity of the survey area, including, and
- A likelihood of occurrence assessment for conservation significant flora, fauna and ecological communities identified in the vicinity of the survey area, including consideration of the distance of existing records to the survey area and the potential for appropriate habitats to occur within the survey area (Mattiske, 2022a; Mattiske, 2016).

Field Survey

The field surveys were in accordance with the *EPA Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016) for a reconnaissance flora survey and with the *EPA Technical Guidance – Vertebrate Fauna Surveys for Environmental Impact Assessment* (EPA, 2020) for a basic fauna survey and involved the following:

- Reconnaissance field surveys undertaken by experienced biologists on three days including 29 September 2010, 1 October 2010, and 8 December 2021,
- Systematic sampling at 21 sites across the survey area using quadrats (all 21 sites sampled in 2010 and 18 of these sampled again in 2021), including recording of:
 - GPS location,
 - Topography,
 - Percentage litter cover,
 - Soil type and colour,
 - Percentage of bare ground,
 - Outcropping rocks and their type,

- Gravel type and size,
- Estimated time since fire,
- Percentage cover and average height of each vegetation stratum, and
- Average height and percent cover (both live and dead material) for vascular plant species.
- Additional opportunistic collections where previously unrecorded plants were observed outside of the sampling sites, where plant specimens collected during the field surveys were dried and fumigated in accordance with the requirements of the Western Australian Herbarium and identified through comparisons with pressed specimens housed at the Western Australian Herbarium,
- Vegetation type and condition mapping for the survey area, using data collected from quadrats and opportunistic sampling, and
- Observations on the condition of the fauna habitats and remnants and consultation with local fauna specialists (Mattiske, 2022a; Mattiske, 2016).

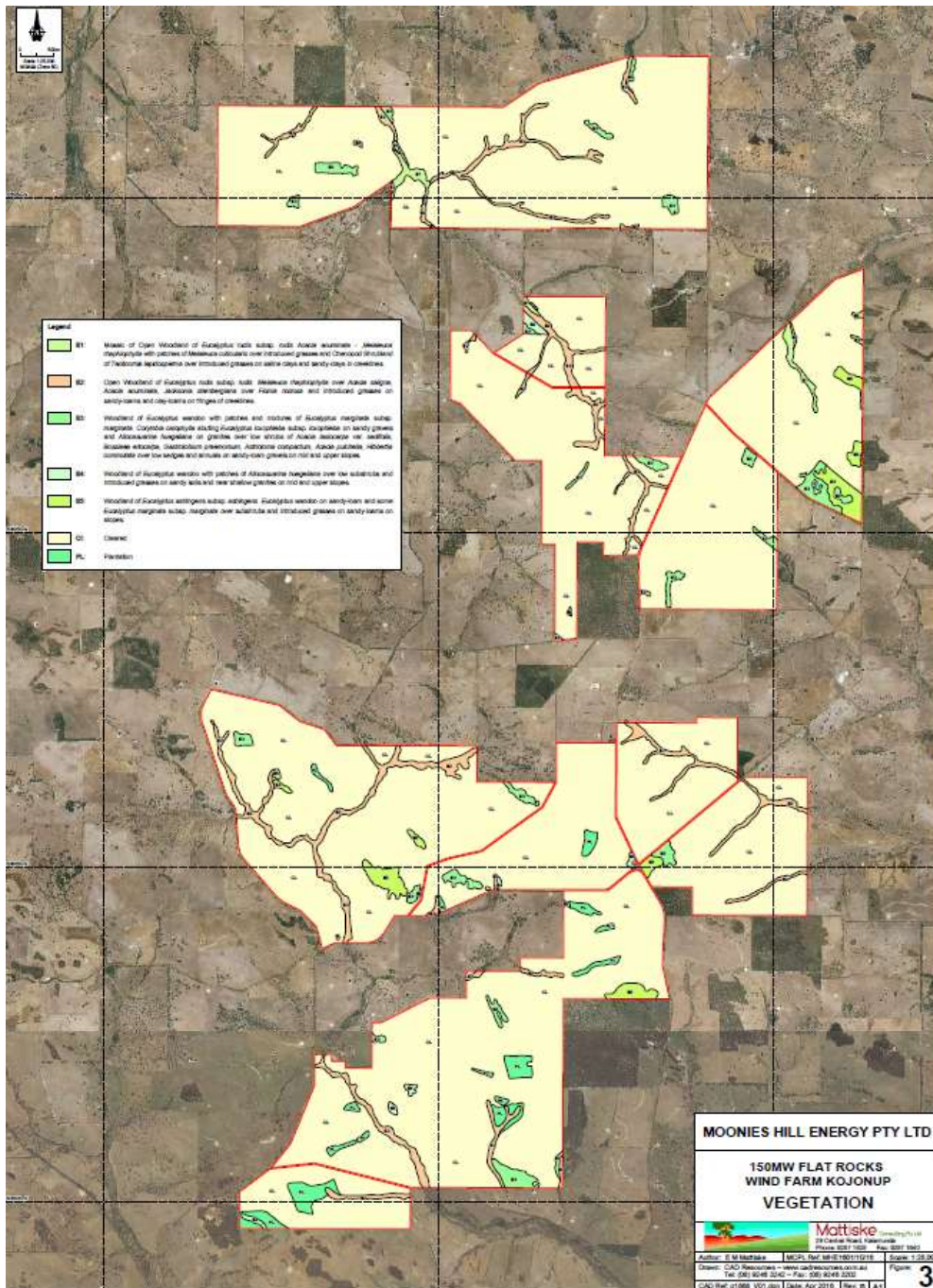


Figure 12. Vegetation type mapping for the 'Flora, Vegetation and Fauna Assessment of the Flat Rocks Wind Farm Survey Area' (Mattiske, 2022a; Mattiske, 2016).

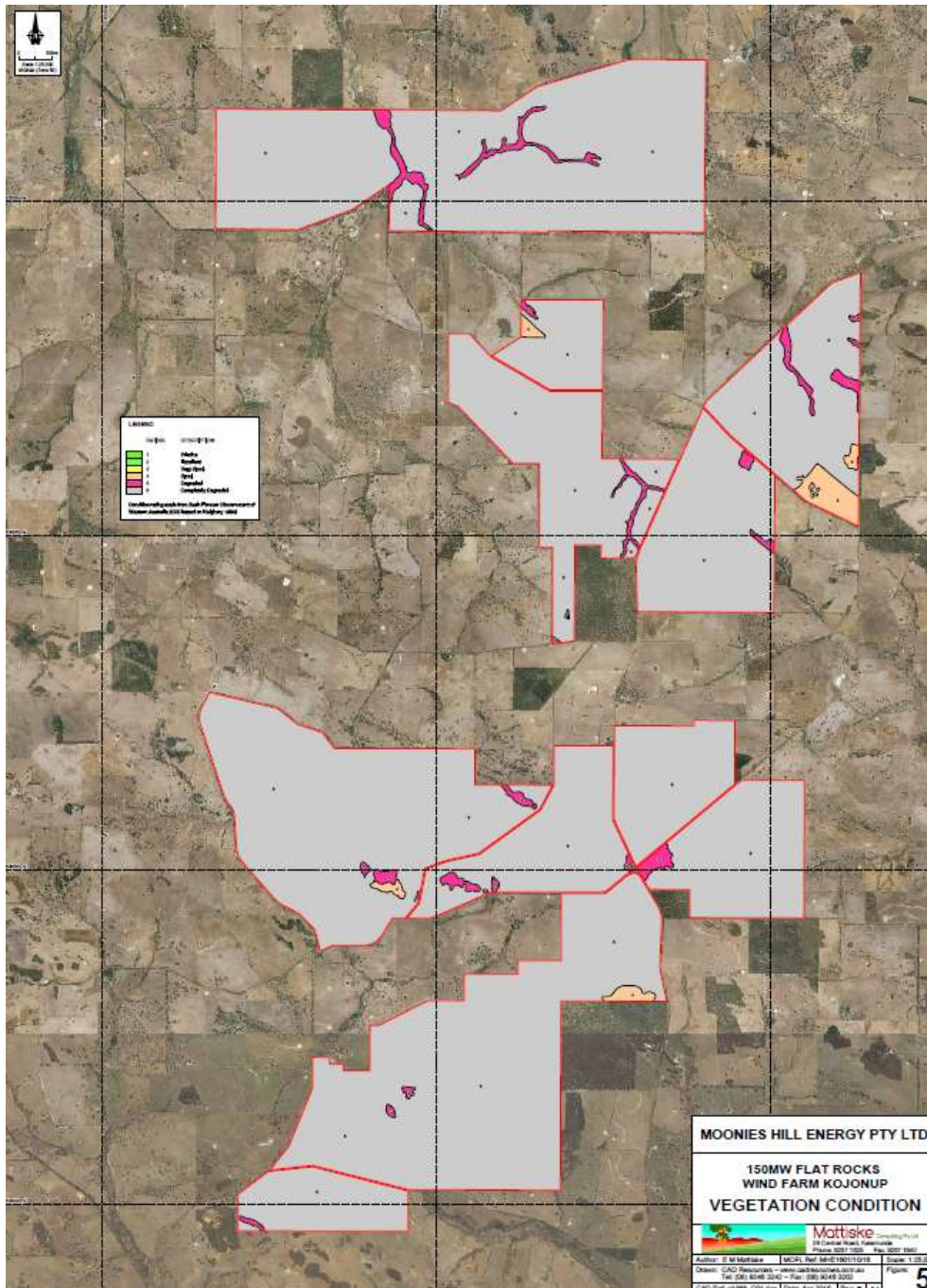


Figure 13. Vegetation condition mapping for the 'Flora, Vegetation and Fauna Assessment of the Flat Rocks Wind Farm Survey Area' (Mattiske, 2022a; Mattiske, 2016).

Impact Footprint Assessments, Flat Rocks Wind Farm (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021)

The applicant commissioned the 'Impact Footprint Assessment of Turbine Footprints on Flat Rocks Wind Farm' (Mattiske, 2021), the 'Impact Footprint Assessment of Cabling on Flat Rocks Wind Farm' (Mattiske, 2022b), and the 'Impact Footprint Assessment of Track Establishment on Flat Rocks Wind Farm' (Mattiske, 2022c), collectively referred to as the impact footprint assessments, to identify the flora, vegetation, and fauna values of impact areas under CPS 9845/1 that were not covered by previous survey efforts.

The impact footprint assessments were undertaken by an experienced botanist in accordance with the *EPA Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016) for a reconnaissance flora survey and included:

- A reconnaissance field assessment of flora and vegetation at the 18 proposed turbine footprint areas on 9 December 2021,
- A reconnaissance field assessment of flora and vegetation along the proposed cabling alignment on 30 March 2022,

- A reconnaissance field assessment of flora and vegetation along the proposed alignment of access tracks on 25 June 2022,
- Each reconnaissance field assessment comprised:
 - Targeted searches for native flora and conservation significant species, including recording of vegetation type and condition at each location and collection of plant specimens where relevant,
 - Recording of GPS points and photographs of the vegetation at each location,
 - Observations on the condition of the fauna habitats present and opportunistic fauna recordings, as required (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021).

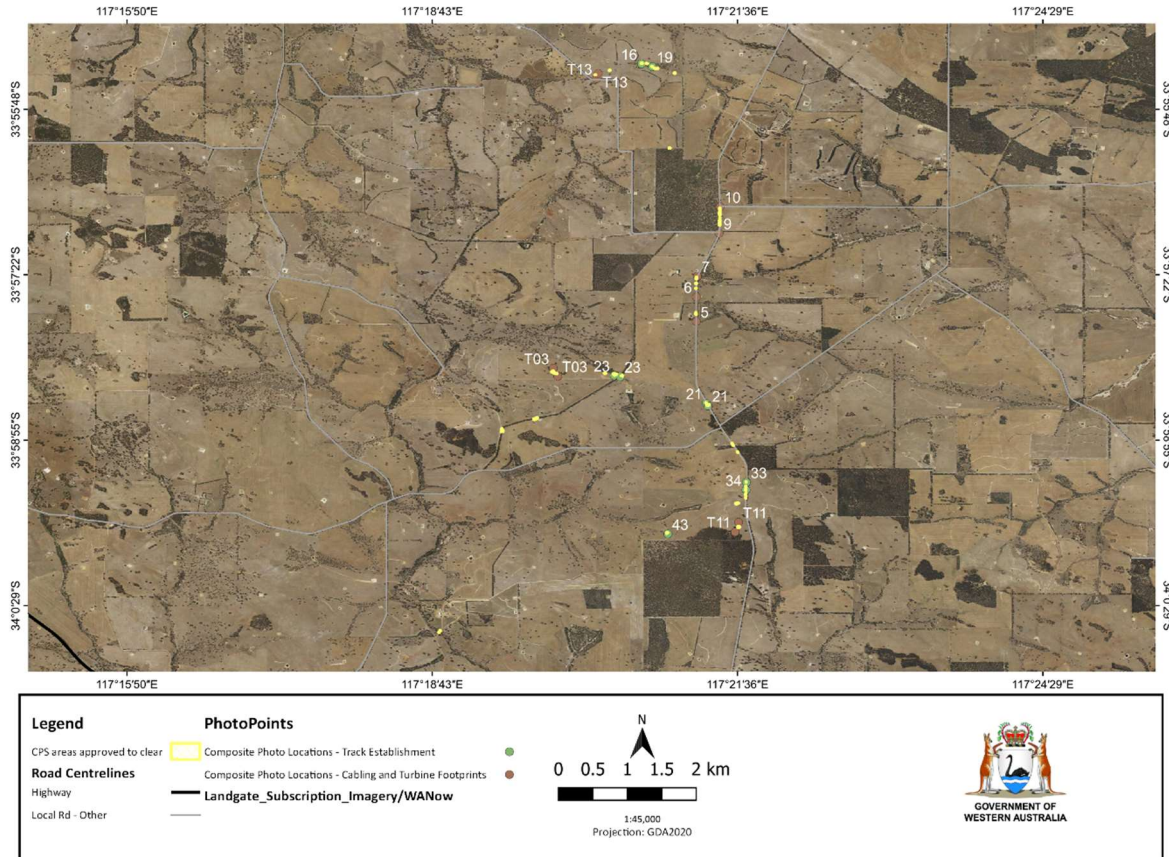


Figure 14. Photo points for photographs taken during the impact footprint assessments, corresponding to the figures below (Mattiske, 2022b; Mattiske, 2022c; Mattiske, 2021).



Figure 15. Photograph of vegetation proposed to be cleared for turbine footprint area at photo point T03, facing north from southern boundary (Mattiske, 2021).



Figure 16. Photograph of vegetation proposed to be cleared for turbine footprint area at photo point T03, facing south from northern boundary (Mattiske, 2021).



Figure 17. Photograph of vegetation proposed to be cleared within turbine footprint area at photo point T03, (Mattske, 2021).



Figure 18. Photograph of vegetation proposed to be cleared within turbine footprint area at photo point T03, (Mattske, 2021).



Figure 19. Photograph of vegetation proposed to be cleared for turbine footprint area at photo point T11, facing north from southern boundary (Mattske, 2021).



Figure 20. Photograph of vegetation proposed to be cleared for turbine footprint area at photo point T11, facing south from northern boundary (Mattske, 2021).



Figure 21. Photograph of vegetation proposed to be cleared for turbine footprint area at photo point T13, facing north from southern boundary (Mattske, 2021).



Figure 22. Photograph of vegetation proposed to be cleared for cabling alignment at photo point 10, facing south from northern boundary (Mattske, 2022b).



Figure 23. Photograph of vegetation proposed to be cleared for cabling alignment at photo point 7, facing south from northern boundary (Mattiske, 2022b).



Figure 24. Photograph of vegetation proposed to be cleared for cabling alignment at photo point 7, facing south (Mattiske, 2022b).



Figure 25. Photograph of vegetation proposed to be cleared for cabling alignment at photo point 6, facing north (Mattiske, 2022b).



Figure 26. Photograph of vegetation proposed to be cleared for cabling alignment at photo point 5, facing north (Mattiske, 2022b).



Figure 27. Photograph of tree proposed to be cleared for track establishment at photo point 16 (Mattiske, 2022c).



Figure 28. Photograph of vegetation proposed to be cleared for track establishment at photo point 19 (Mattiske, 2022c).



Figure 29. Photograph of vegetation proposed to be cleared for track establishment at photo point 21 (Mattiske, 2022c).



Figure 30. Photograph of vegetation proposed to be cleared for track establishment at southern photo point 23 (Mattiske, 2022c).



Figure 31. Photograph of vegetation proposed to be cleared for track establishment at northern photo point 23 (Mattiske, 2022c).



Figure 32. Photograph of vegetation proposed to be cleared for track establishment at photo point 33 (Mattiske, 2022c).



Figure 33. Photograph of vegetation proposed to be cleared for track establishment at photo point 34 (Mattiske, 2022c).



Figure 34. Photograph of vegetation proposed to be cleared for track establishment at photo point 43 (Mattiske, 2022c).

Appendix H. Sources of information

H.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Bush Forever Areas 2000 (DPLH-019)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- CAWSA Part 2A Clearing Control Catchments (DWER-004)
- Consanguineous Wetlands Suites (DBCA-020)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- DBCA Statewide Vegetation Statistics
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments - Catchments (DWER-028)
- Hydrographic Catchments - Divisions (DWER-029)
- Hydrography, Linear (Hierarchy) (DWER-031)
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics (DPIRD-006)
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Systems (DPIRD-064)
- Wheatbelt Wetlands Stage 1 (DBCA-021)

Restricted GIS Databases used:

- Conservation Covenants Western Australia (DPIRD-023)
- Contaminated Sites Database - Restricted (DWER-073)
- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

H.2. References

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