GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8946/1
Permit Holder:	SRV AGWF Pty Ltd as trustee for AGWF Trust
Duration of Permit:	From 28 September 2020 to 28 September 2035

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. **Purpose for which clearing may be done**
   Clearing for the purpose of maintaining infrastructure (wind turbines) at the Albany and Grasmere wind farms.

2. **Land on which clearing is to be done**
   Lot 105 on Deposited Plan 60582, Sandpatch

3. **Area of clearing**
   The Permit Holder must not clear more than 12.81 hectares of native vegetation within the areas cross-hatched yellow on attached Plan 8946/1a and Plan 8946/1b.

4. **Period in which clearing is authorised**
   The Permit Holder shall not clear any native vegetation after 25 September 2030.

5. **Application**
   This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

PART II – MANAGEMENT CONDITIONS

6. **Avoid, minimise and reduce the impacts and extent of clearing**
   In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in 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.

7. Dieback and weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the 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 *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.

8. Staged clearing

The Permit Holder shall not clear native vegetation under condition 1 and 2 on this Permit unless infrastructure maintenance commences within two months of the clearing being undertaken.

9. Retain vegetative material and topsoil, revegetation and rehabilitation

The Permit Holder shall:

(a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an adjacent area that has already been cleared.

(b) within 12 months following clearing authorised under this Permit, *revegetate* and *rehabilitate* the areas that are no longer required for the purpose for which they were cleared under this Permit by:

  (i) ripping the ground on the contour to remove soil compaction; and

  (ii) laying the vegetative material and topsoil retained under condition 9(a) of this Permit.

(c) within 24 months of laying the vegetative material and topsoil in accordance with condition 9(b) of this Permit:

  (i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and

  (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 9(c)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area and ensuring only *local provenance* seeds and propagating material are used.

(d) Where additional planting or direct seeding of native vegetation is undertaken in accordance with condition 9(c)(ii) of this permit, the Permit Holder shall repeat condition 9(c)(i) and 9(c)(ii) within 24 months of undertaking the additional planting or direct seeding of native vegetation.

(e) Where a determination by an *environmental specialist* that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, as determined in condition 9(c)(i) and (ii) of this permit, that determination shall be submitted for the CEO's consideration. If the CEO does not agree with the determination made under condition 9(c)(ii), the CEO may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 9(c)(ii).

PART III – RECORD KEEPING AND REPORTING

10. Records to be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

(a) In relation to the clearing of native vegetation authorised under this Permit:

  (i) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;

  (ii) the date(s) that the area was cleared; and

  (iii) the size of the area cleared (in hectares).

(b) Actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 6 of this Permit.
(c) Actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 7 of this Permit.
(d) In relation to the *revegetation* and *rehabilitation* of areas in accordance with condition 9 of this Permit:
    (i) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
    (ii) a description of the *revegetation* and *rehabilitation* activities undertaken; and
    (iii) the size of the area *revegetated* and *rehabilitated* (in hectares).
    (iv) the species composition, structure and density of *revegetation* and *rehabilitation*, and
    (v) a copy of the *environmental specialist*'s report.

11. Reporting

(a) The Permit Holder must provide to the *CEO* on or before 30 June of each year, a written report:
    (i) of records required under condition 10 of this Permit; and
    (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.
(b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the *CEO* on or before 30 June of each year.
(c) Prior to 28 June 2030, the Permit Holder must provide to the *CEO* a written report of records required under condition 10 of this Permit where these records have not already been provided under condition 11(a) of this Permit.

Definitions

The following meanings are given to terms used in this Permit:

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

environmental specialist: means a person who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit, or who is approved by the *CEO* as a suitable environmental specialist;

fill means material used to increase the ground level, or fill a hollow;

local provenance means, for the purpose of this Permit, native vegetation seeds and propagating material from natural sources within 10 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared;

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;

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

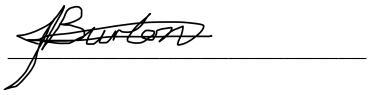
regeneration means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) contained either within the topsoil or seed-bearing *mulch*;

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area;

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area; and

weed/s means any plant –

(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
(b) published in a Department of Biodiversity, Conservation and Attractions Regional Weed Rankings Summary, regardless of ranking; or
(c) not indigenous to the area concerned.

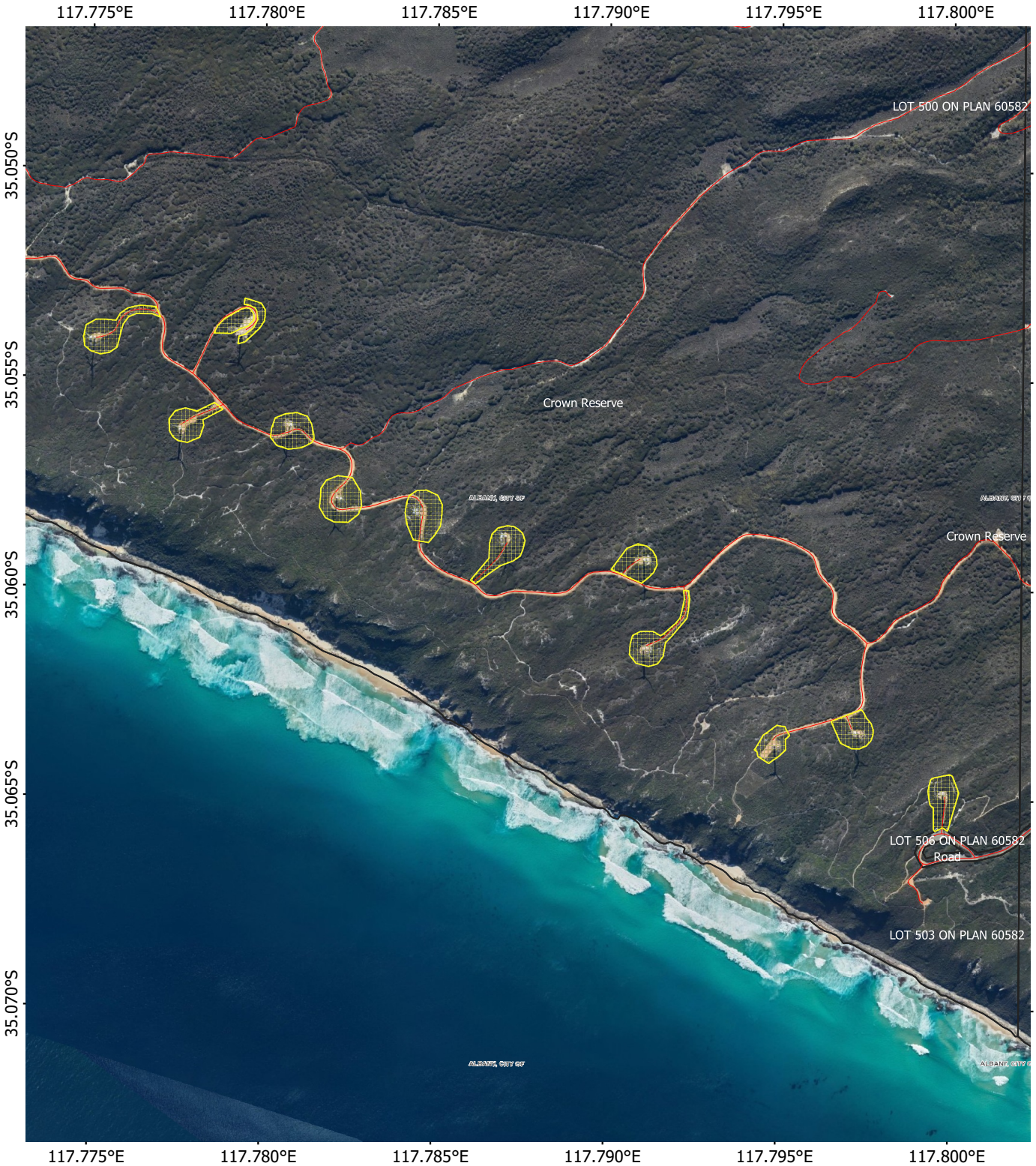


Jessica Burton
A/MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

31 August 2020

Plan 8946/1a



Legend

CPS layers

CPS areas approved to clear

base layers

Road Centrelines

Cadastre - LGATE 218

Local Government Authority (LGA) Boundaries (LGATE-233)

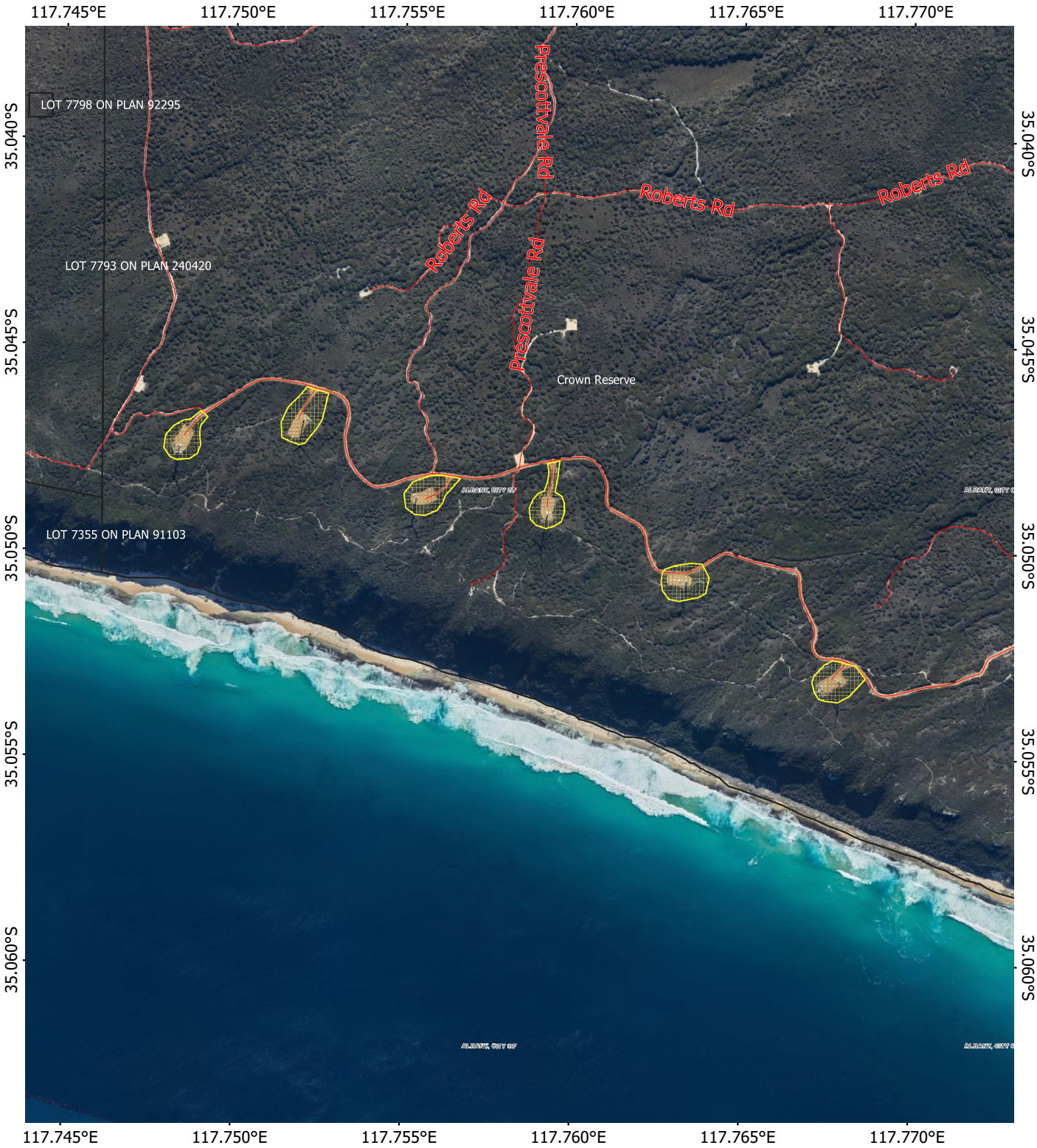
N

250 0 250 500 750 m

Officer delegated under section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Plan 8946/1b



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Local Government Authority (LGA) Boundaries (LGATE-233)

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250 0 250 500 750 m

Officer delegated under section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1. Application details and outcome

1.1 Permit application details

Permit number:	CPS 8946/1
Permit type:	Purpose permit
Applicant name:	SRV AGWF Pty Ltd as trustee for AGWF Trust
Application received:	18 June 2020
Proposed clearing:	12.81 hectares (ha) of native vegetation within a 16.36 ha application area.
Purpose of clearing:	Infrastructure maintenance (wind turbines)
Method of clearing:	Mechanical removal
Property:	Lot 105 on Deposited Plan 60582
Location (LGA area/s):	City of Albany
Localities (suburb/s):	Sandpatch

1.2 Description of clearing activities

The application area is comprised of 18 sites situated approximately 100-570 metres (m) apart in a linear alignment adjacent to existing turbines and access tracks, and is located within a broader remnant linking to other remnants in the local area[1]. The application form states that the total area of clearing proposed is 16.39 ha of native vegetation, for the purpose of ongoing maintenance of ageing turbines on an as-needs basis to support operation of the Albany and Grasmere wind farms. On digitising, the application footprint was amended to 16.36 ha; the extent is indicated in Figure 1 (see Section 1.5).

Supporting information provided by the applicant states that within the application area there is approximately 12.81 ha of native vegetation (including 1.72 ha of rehabilitation), with the balance being cleared (see Appendix C). The supporting information also states that maintenance is likely to include pruning of trees and regrowth around the access tracks to accommodate vehicle overhang..

1.3 Decision on application

Decision:	Grant
Decision date:	31 August 2020
Decision area:	12.81 ha of native vegetation within a 16.36 ha footprint (see Figure 1, Section 1.5)

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 application was advertised for 21 days. One public submission was received, raising concerns in relation to three threatened black cockatoo species. The submitter's comments, and the Department's consideration of these, are summarised in Appendix B.

In undertaking the assessment, the Delegated Officer had regard for the site characteristics (see Appendix C), relevant datasets (see Appendix G), information provided by the applicant (see Appendices A and F), the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), and any other matters considered relevant to the assessment (see Section 3).

The Delegated Officer considered the impacts of the proposed clearing are unlikely to have any long-term adverse impacts on the environmental values in the local area, and that weed and dieback management practices will mitigate any potential impacts to adjacent vegetation.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures, the Delegated Officer determined that the impacts of the proposed clearing could be minimised and managed to be environmentally acceptable. The Delegated Officer decided to grant a clearing permit subject to conditions to:

[1] For this application, the local area is defined as a 20-kilometre radius from the perimeter of the application area.

- avoid, minimise and reduce the impacts and extent of clearing
- take steps to minimise the risk of the introduction and spread of weeds and dieback
- no clearing unless maintenance commences within two months of the clearing being undertaken
- for each turbine where maintenance is necessary, stockpile cleared vegetation and topsoil and respread (revegetate/rehabilitate) after completing maintenance activities.

1.5 Site map

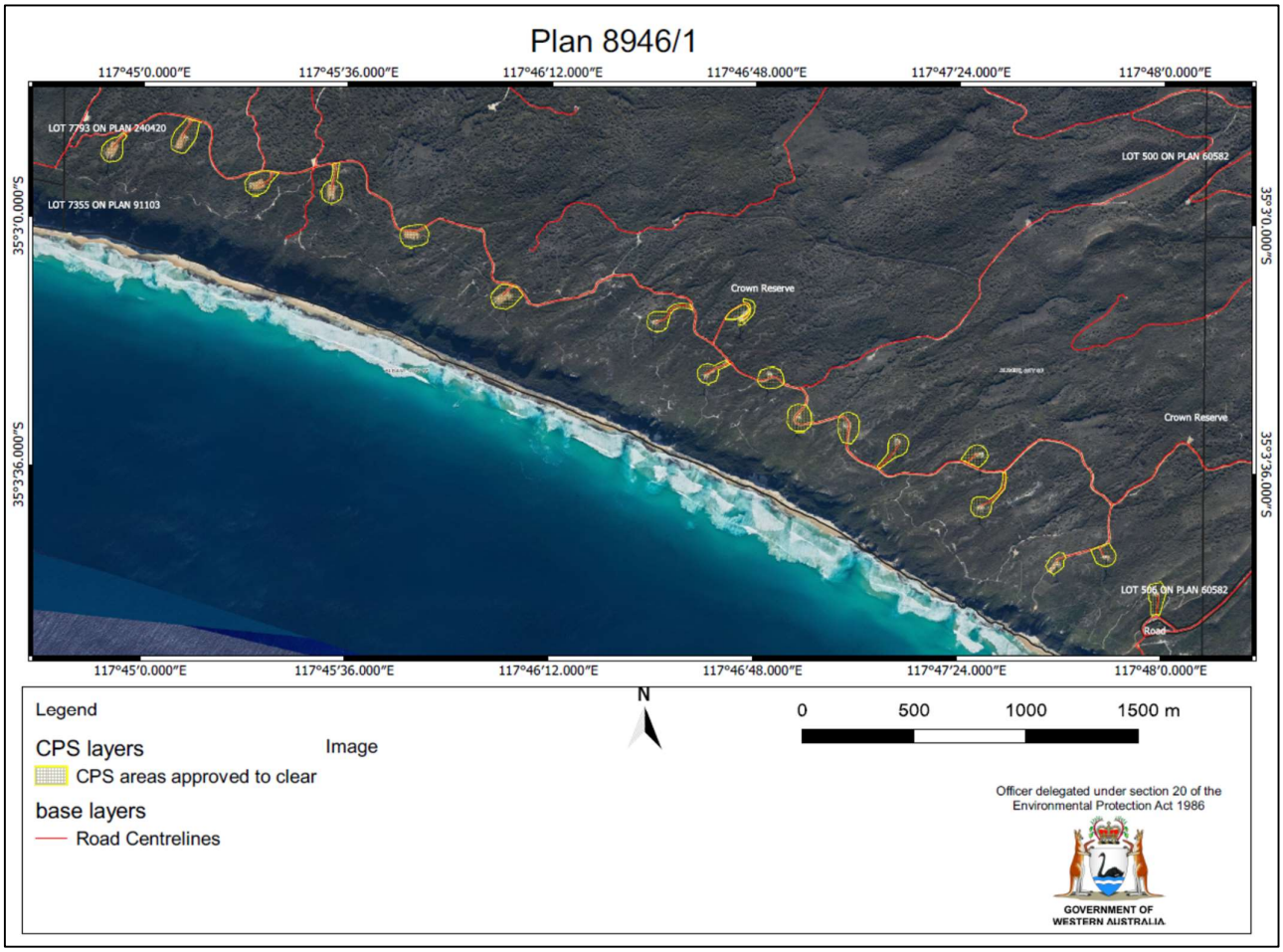

Figure 1: Map of area approved to clear. The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit.

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 1.3), 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 principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- Biodiversity Conservation Act 2016 (WA)
- Conservation and Land Management Act 1984 (WA)
- Environment Protection and Biodiversity Conservation Act 1999 (Cth)
- Rights in Water and Irrigation Act 1914.

Relevant policies considered during the assessment were:

- WA Environmental Offsets Policy (2011)

The key guidance documents which inform this assessment are:

- A guide to the assessment of applications to clear native vegetation (DWER, December 2013)
- Procedure: Native vegetation clearing permits (DWER, October 2019)
- WA Environmental Offsets Guidelines (2014).

3. Detailed assessment of application

3.1 Avoidance and mitigation measures

The application form states that in-situ repairs and maintenance of turbines has been considered, but is not always feasible; in most cases, the turbine blades require lowering to the ground for servicing and urgent repairs, which requires adequate cleared area for safe lowering and working on the blades; no other alternatives exist.

Additional information provided by the applicant outlined:

- clearing of vegetation will be undertaken only when required to enable maintenance and repair of turbines
- retained vegetation will not be disturbed, and cleared material will be stockpiled in existing cleared areas
- the extent of clearing around a dysfunctional turbine will be the minimum required to undertake the works
- the total extent of the proposed clearing (12.81 ha) will not be undertaken simultaneously
- access tracks would only be widened in the event that they were not already wide enough to cater for heavy equipment, and
- stockpiled vegetation would be re-spread over cleared areas following works.

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2 Assessment of environmental impacts

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix C), and considered the extent to which the impacts of the proposed clearing present a risk to environmental values and whether these can be managed to be environmentally acceptable. The assessment against the clearing principles is contained in Appendix D.

This assessment identified that the impacts of the proposed clearing may pose a risk to fauna habitat and conservation-significant flora. 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 Fauna

Assessment

A number of mapped significant ecological linkages occur in the local area, and the application area is within 'Strategic Zone A' of a South Coast Macro Corridor.

The vegetation proposed to be cleared comprises a mosaic of vegetation communities, including peppermint (*Agonis flexuosa*) forest, mixed open heaths and sedgelands, ridge-fruited mallee (*Eucalyptus angulosa*) low mallee woodland with peppermint over heathland, and rehabilitated areas. Approximately 75 per cent of this vegetation is considered to be in pristine to very good condition.

A total of 49 threatened, 11 priority, two 'conservation dependent' and three 'other specially protected' fauna, and 27 fauna protected under an international agreement, have been recorded in the local area (excluding extinct species). In forming a view on the likelihood of these species occurring within the application area, the preferred habitat types and typical home ranges of these species and their recorded proximity to the application area were considered, along with the type and condition of the vegetation within the application area. The findings of four fauna surveys undertaken within the application area were also taken into consideration (see Appendix F).

Fourteen threatened, three priority, one 'conservation dependent' and two 'other specially protected' fauna (fur-seals, whales, sharks, turtles, fish, lamprey, water-rat, sea-lion, sea dragon and mussel) are exclusively associated with marine, estuarine or freshwater habitats that do not occur within the application area. Sixteen threatened, three priority and 27 migratory bird species are typically associated with marine, estuarine or freshwater habitats, and despite some records occurring in close proximity to the application area, suitable coastal or wetland habitat for these species is not present within the application area. Of the remaining 19 threatened, five priority, one 'conservation dependent' and one 'other specially protected' fauna recorded in the local area, the proposed clearing will impact on suitable habitat for the following:

- Western ground parrot (*Pezoporus flaviventris*; Critically Endangered): The western ground parrot is confined to near coastal regions of south-western Western Australia and is currently known to occur in only two locations: Fitzgerald River National Park and Cape Arid National Park-Nuytsland Nature Reserve. A third population was present in the Mount Manypeaks-Waychinicup area in the late 1990s and early 2000s, but was not recorded in surveys conducted in 2004, 2005 and 2006 (Department of Sustainability, Environment, Water, Population and Communities, 2013). The nearest record is about 8.2 km from the application area. The fauna surveys indicate that suitable habitat for this species occurs at turbine WTG01[2], however did not record the species within the application area.
- Western ringtail possum (*Pseudocheirus occidentalis*; Critically Endangered): Their current distribution is patchy and largely restricted to near coastal areas of peppermint woodland and peppermint/tuart (*Eucalyptus gomphocephala*) associations (Department of Biodiversity, Conservation and Attractions, 2017b). Long-term survival of the species requires linkages between suitable habitat patches and as such habitat critical to survival incorporates this. Vegetation communities critical to the species include (among other things) coastal heath, peppermint woodlands, and Myrtaceae heaths and shrublands (Department of Parks and Wildlife, 2017). The nearest record is approximately 0.35 km from the application area. The fauna surveys indicate that suitable habitat for this species occurs within the application area, however did not record the species within the application area.
- Woylie/brush-tailed bettong (*Bettongia penicillata* subsp. *ogilbyi*; Critically Endangered). The distribution of this species is concentrated in the south west of WA at Perup, Kingston, Dryandra woodland and Tutanning nature reserve, with translocated populations as far north as Shark Bay and as far east as New South Wales and the South Australian border. This species is currently known from a variety of habitats and historically the broader brush-tailed betting species occupied many more. The current habitat includes tall eucalypt forest and woodland, dense myrtaceous shrubland, kwongan (proteaceous) or mallee heath, which include thickets and provide refuges against predators (Yeatman and Groom, 2012). The nearest record is approximately 5.4 km from the application area. The fauna surveys indicate that suitable habitat for this species occurs at turbine WTG01, however did not record the species within the application area.
- Baudin's black cockatoo (*Calyptorhynchus baudinii*; Endangered), Carnaby's black cockatoo (*Calyptorhynchus latirostris*; Endangered) and forest red-tailed black cockatoo (*Calyptorhynchus banksii* subsp. *naso*; Vulnerable): Published literature sets out the habitat preferences of these species, which includes Proteaceous plants including *Banksia* and *Hakea* for foraging (Department of Environment and Conservation, 2008; Department of Parks and Wildlife, 2013; Department of Sustainability, Environment, Water, Population and Communities, 2012; Department of the Environment and Energy, 2017; Department of the Environment, Water, Heritage and the Arts, 2009; Environmental Protection Authority, 2019; Threatened Species Scientific Committee, 2018a). A number of black cockatoo roosting sites are mapped

[2] The turbines are sequentially numbered from WTG01 (south-east end) to WTG18 (north-west end).

within the local area, the nearest is located approximately 2 km from the application area. These species have been recorded approximately 5 m, 270 m and 3.8 kilometres (km) from the application area, respectively. The fauna surveys indicate that these species are likely to occur at turbines WTG02, WTG04-WTG10 and WTG12-WTG18 (approximately 11.11 ha of the vegetation proposed to be cleared). Photographs provided by the applicant indicate that the vegetation proposed to be cleared has values as foraging habitat for these species; this foraging habitat is considered to be of 'high quality' based on Commonwealth guidance, that is, the vegetation proposed to be cleared comprises shrubland, kwongan heathland and woodland dominated by Proteaceous plant species as well as Eucalyptus woodland and forest that contains foraging species (Department of the Environment and Energy, 2017). No breeding habitat for these species occurs within the application area.

- Main's assassin spider (*Zephyrarchaea mainae*; Vulnerable): This species is known from the greater Albany region, from the Walpole-Nornalup National Park (near Walpole) east to Bremer Bay and north to the Porongurup National Park, with a range centred on the Torndirrup Peninsula south of Albany (Rix and Harvey, 2012). The species has been collected from elevated leaf litter amongst the crowns of understorey plants including sedges (*Lepidosperma* sp.), curly grass (*Empodisma gracillimum*) and low shrubs in dense coastal or near-coastal groves of peppermint, with some isolated records from karri (*Eucalyptus diversicolor*) forest (Framenau et al., 2008; Rix and Harvey, 2012). The nearest record is approximately 0.04 km from the application area. The fauna surveys noted previous records of this species in close proximity to turbines WTG01-WTG05, however did not record the species within the application area. In addition, the fauna surveys found that the majority of the application area lacked the specific microhabitat required for this species (leaf litter layer within crowns of understory plants). The proposed clearing is unlikely to impact this species.
- Quokka (*Setonix brachyurus*; Vulnerable): This species occurs in a variety of habitats, and there is a variable understanding of habitat critical to survival across its range. In the southern forest, quokkas occupy a range of forest, woodlands and wetland ecotypes and their potential habitat is more continuous. A low density of near-surface fuel, a complex vegetation structure and a varied fire-age mosaic best predict the probability of occupancy of quokka in the southern forest (Department of Environment and Conservation, 2013). The nearest record is approximately 4.8 km from the application area. The fauna surveys indicate that suitable habitat for this species occurs at turbine WTG01, however did not record the species within the application area.
- Short-nosed snake (*Elapognathus minor*; Priority 2): This species is restricted to the south-western corner of WA, and is found in heath, swamps and wet schlerophyll forest (Australian Reptile Online Database, 2017). The nearest record is about 8.3 km from the application area. The fauna surveys indicate that suitable habitat for this species occurs at turbine WTG01, however did not record the species within the application area.
- Woollybush bee (*Hylaeus globuliferus*; Priority 3): This species of native bee is known to feed on the flowers of woollybush (*Adenanthos cygnorum*) in particular, but has also been collected from the flowers of red toothbrushes (*Grevillea cagiana*), *Banksia grossa* and slender banksia (*Banksia attenuata*) (Roadside Conservation Committee, 2005). The nearest record is about 8.7 km from the application area. The fauna surveys indicate that suitable habitat for this species occurs at turbine WTG01, however did not record the species within the application area.
- South-western brown bandicoot/quenda (*Isoodon fusciventer*; Priority 4): This species typically prefers dense understorey (Department of Biodiversity, Conservation and Attractions, 2017a; Department of Environment and Conservation, 2012a). The fauna surveys recorded use of the application area by this species (runnels, diggings) at a number of turbines.
- Western brush wallaby (*Notamacropus irma*; Priority 4): The Western Brush Wallaby's optimum habitat is open forest or woodland, particularly favouring open, seasonally-wet flats with low grasses and open scrubby thickets. It is also found in some areas of mallee and heath-land, and is uncommon in karri forest (Department of Environment and Conservation, 2012b). The nearest record is approximately 0.39 km from the application area. The fauna surveys indicate that suitable habitat for this species occurs within the application area, however did not record the species within the application area.
- Western whipbird (*Psophodes nigrogularis*): Assumed to be the western mallee subspecies (subsp. *oberon*; Priority 4), rather than the western heath subspecies (subsp. *nigrogularis*; Endangered) which is known from conservation reserves east of Albany between Two Peoples Bay-Mount Gardiner, Turner Road Reserve 7041 (west of Cape Riche) and the South Coast Highway (Department of the Environment, 2014). The western mallee subspecies is restricted to scattered sub-populations throughout the southern wheatbelt and central south coast region, with the largest sub-populations in Fitzgerald River and Stirling Ranges National Parks, occurring in open mallee eucalypt woodland with dense, tall shrub layer up to 1.5 m tall, dominated by such species as *Hakea, Lambertia*, *Dryandra* or *Banksia* (Department of Environment

and Conservation, 2009). Four records occur in the local area, the nearest is approximately 0.93 km form the application area.

- Peregrine Falcon (*Falco peregrinus*; Other Specially Protected). The Australian Museum website states that this species 'is found in most habitats, from rainforests to the arid zone, and at most altitudes, from the coast to alpine areas. It requires abundant prey and secure nest sites, and prefers coastal and inland cliffs or open woodlands near water, and may even be found nesting on high city buildings' (Australian Museum, 2020). The nearest record is approximately 2.5 km from the application area. The fauna surveys indicate that suitable habitat for this species occurs at turbines WTG01, WTG03 and WTG11, however did not record the species within the application area.

The application area is located within a broader contiguous remnant of more than 7,000 ha in area, and the proposed clearing will impact on approximately 0.17 per cent of this. This impact is considered to be temporary, as the applicant proposes to progressively clear and subsequently revegetate at each site as maintenance activities are completed.

Significant habitat refers to the resources (breeding, resting and feeding), connectivity or habitat area for a species or community that is critical for its survival. Noting the shape of the application area and its location within a broader remnant containing vegetation of similar composition and condition as that proposed to be cleared, and with regard for the extent of remnant vegetation in the local area, the application area is unlikely to be significant for the survival of indigenous fauna or be necessary for the maintenance of significant habitat.

From the above, the application area comprises suitable habitat for indigenous fauna, including species of conservation significance, however is unlikely to comprise significant habitat for these. Noting the fragmented linear shape of the application area and the extent of surrounding remnant vegetation containing similar habitat as the application area (7000 hectares), the proposed clearing is unlikely to sever the connectivity of, or permanently disrupt the function of, the significant ecological corridor.

Outcome: Based on the above assessment, the Delegated Officer has determined that the proposed clearing is considered acceptable subject to relevant conditions (see below).

Conditions: To address the above impacts, the following conditions will be added to the permit:

- Avoid and minimise clearing
- Weed and dieback management
- Revegetate and rehabilitate areas no longer required for the purpose of the clearing.

3.2.2 Flora and vegetation

Assessment

Twelve threatened and 73 priority flora have been recorded in the local area. In forming a view on the likelihood of these species occurring within the application area, the preferred habitat types of these species and their recorded proximity to the application area were considered, along with the vegetation/soil types and landforms within the application area. The findings (and timings) of three flora and vegetation surveys undertaken within the application area were also taken into consideration (see Appendix F).

Four threatened and 49 priority flora have been recorded from a different soil type to those mapped within the application area, and from habitats that do not occur within the application area. Four threatened and eight priority flora have been recorded from a soil type mapped within the application area, however are associated with landscape positions (swamps, creeklines, hillslopes, granite) that do not occur within the application area.

Three threatened and nine priority flora have been recorded from a different soil type to those mapped within the application area, however the flora surveys indicate that suitable habitat may be present within the application area; of these, six have flowering periods outside the survey timings and may not be identifiable outside of their flowering periods. A further one threatened and seven priority flora have been recorded from a soil type mapped within the application area, and the flora surveys indicate that suitable habitat for these species occurs within the application area (two have been recorded within the application area). These 14 species are considered below.

- *Calectasia cyanea* (Critically Endangered): The Florabase website (Western Australian Herbarium, 1998-) describes this species as a rhizomatous, clump forming, woody perennial, herb, 0.1-0.6 m high, to 0.3 m wide; flowers blue/purple in June to October; growing in white, grey or yellow sand, gravel. The nearest record is approximately 0.026 km from the application area (adjacent to turbine WTG01[3]). The flora surveys indicate that potential suitable habitat for this species occurs at turbines WTG03 and WTG11, and

[3] The turbines are sequentially numbered from WTG01 (south-east end) to WTG18 (north-west end).

that a known population approximately 1 km from turbine WTG02 was found to be flowering in November. The flora surveys did not identify this species within the application area. Noting that this species is a perennial herb with unique characteristics, it is likely to have been identified during the survey (including in the absence of flowers) if it was present within the application area.

- *Drakaea micrantha* (Vulnerable): The Florabase website describes this species as a tuberous, perennial, herb, 0.15-0.3 m high; flowers red and yellow in September to October; growing in white-grey sand. The Florabase website indicates that this species is known from 49 recorded populations (some records may overlap) ranging from the City of Canning to the City of Busselton and the City of Albany. The flora surveys indicate that potential suitable habitat for this species occurs at turbines WTG01, WTG03 and WTG11. The flora surveys did not identify this species within the application area, however were undertaken outside of the flowering period of this species. As set out in Appendix A, the applicant submitted that published information indicates this species is species is usually found in cleared firebreaks or open sandy patches that have been disturbed, and in *Banksia* spp., jarrah (*Eucalyptus marginata*) and common sheoak (*Allocasuarina fraseriana*) woodland or forest, being vegetation types that do not occur within the application area. On this basis, it is considered that the application area is unlikely to comprise suitable habitat for this species, and that no further surveys for it are required.
- *Caladenia evanescens* (Priority 1): The Florabase website describes this species as a tuberous, perennial, herb, 0.15-0.2 m high; flowers green-cream-yellow in November; growing in sand, associated with consolidated sand dunes. The nearest record is approximately 9.2 km from the application area. The flora surveys indicate that potential suitable habitat for this species occurs at turbine WTG01. The flora surveys did not identify this species within the application area, however were undertaken outside of the flowering period of this species. As set out in Appendix A, the applicant submitted that surveys at the other turbines in November recorded one *Caladenia* sp. with sufficient material collected to exclude it as a conservation-significant species. Noting that the vegetation composition and soil type at turbine WTG01 is similar to that at other nearby turbines, it is considered that the application area is unlikely to comprise suitable habitat for this species, and that no further surveys for it are required.
- *Conospermum quadripetalum* (Priority 2): The Florabase website describes this species as a diffuse, straggly shrub, 0.3-1 m high; flowers blue/white in September to November; growing in sandy clay, grey sand, associated with flats behind coastal hills. This species is associated with open peppermint woodland over heath, open scrub, often in association with *Dampiera linearis* (Eco Logical Australia, 2020). The nearest record is approximately 6.2 km from the application area. The flora surveys indicate that potential suitable habitat for this species occurs at all turbines. The flora surveys did not identify this species within the application area. Noting that this species is a perennial shrub with distinctive characteristics, it is likely to have been identified during the surveys (including in the absence of flowers) if it was present within the application area.
- *Conospermum spectabile* (Priority 2): The Florabase website describes this species as an erect, compact shrub, 0.5-0.8 m high; flowers white and blue in October to November; growing in sandy soils. This species also grows in pink sand on sandstone, white lateritic clayey sand, sandy clay loam, and has been recorded in *Eucalyptus marginata* woodlands, mallee/heath and shrublands (Eco Logical Australia, 2020). The nearest record is approximately 8.9 km from the application area. The flora surveys indicate that potential suitable habitat for this species occurs at turbine WTG01. The flora surveys did not identify this species within the application area. Noting that this species is a perennial shrub with unique characteristics, it is likely to have been identified during the survey (including in the absence of flowers) if it was present within the application area.
- *Thelymitra variegata* (Priority 2): The Florabase website describes this species as a tuberous, perennial, herb, 0.1-0.35 m high; flowers orange and red and purple and pink in June to September; growing in sandy clay, sand, laterite. This species is usually associated with *Eucalyptus marginata* or *Allocasuarina* sp. (Eco Logical Australia, 2020). The nearest record is approximately 8.2 km from the application area. The flora surveys indicate that potential suitable habitat for this species occurs at all turbines except WTG01. The flora surveys did not identify this species within the application area, however were undertaken outside of the flowering period of this species. As set out in Appendix A, the applicant submitted that surveys in November recorded one *Thelymitra* sp. with sufficient material collected to exclude it as a conservation-significant species. The applicant also submitted that the species is not locally restricted, and occurs between Albany, Busselton and Perth. On this basis, it is considered that this species is unlikely to be present within the application area, and that no further surveys for it are required.
- *Austrostipa mundula* (Priority 3): The Florabase website indicates that this species is known from 14 recorded populations (some records may overlap) from the Perth Metropolitan Region, Shire of Augusta-Margaret River, City of Albany, Shire of Jerramungup, Shire of Esperance and Shire of Dundas. This species grows in sandy to clay loams and limestone associated with grassland, heathland, shrubland and mallee (Eco Logical Australia, 2020). The nearest record is approximately 6.2 km from the application area.

The flora surveys indicate that potential suitable habitat for this species occurs at all turbines. The flora surveys did not identify this species within the application area.Noting that this species is a perennial grass with unique characteristics, it is likely to have been identified during the survey (including in the absence of flowers) if it was present within the application area.

- *Synaphea preissii* (Priority 3): The Florabase website describes this species as an erect, low shrub, 0.15-0.4 m high; flowers yellow in July to November; growing in sand, gravelly loam. This species is also known to flower in February to March (Eco Logical Australia, 2020). The nearest record is approximately 13.4 km from the application area. The flora surveys indicate that potential suitable habitat for this species occurs at turbines WTG01, WTG03 and WTG11. The flora surveys did not identify this species within the application area. Noting that this species is a perennial shrub with unique characteristics, it is likely to have been identified during the survey (including in the absence of flowers) if it was present within the application area.
- *Adenanthos* x *cunninghamii* (Priority 4): The Florabase website describes this species as an erect open shrub, 1-3 m high; flowers red/pink-red in March or September to October; growing in grey sand, associated with coastal dunes and sandplains. The flora surveys indicate that this species has been recorded within the application area at turbine WTG07, and that potential suitable habitat for this species occurs at turbines WTG01, WTG03 and WTG11. The flora surveys recorded two plants at turbine WTG07 within the application area, and a further two plants outside the application area which will not be impacted by the proposed clearing. Noting that the population at this location would not be removed in its entirety, and that the species has a 'Priority 4' conservation status[4], it is considered that impacts to this species overall as a result of the proposed clearing are unlikely to be significant. Noting that this species is a perennial shrub with unique characteristics, it is likely to have been identified during the survey (including in the absence of flowers) if it was present elsewhere within the application area.
- *Corybas limpidus* (Priority 4): The Florabase website describes this species as a tuberous, perennial, dwarf herb, 0.01 m high; flowers red and green in August to September; growing in sand associated with coastal dunes. The nearest record is approximately 9.4 km from the application area. The flora surveys indicate that potential suitable habitat for this species occurs at all turbines. The flora surveys did not identify this species within the application area, however were undertaken outside of the flowering period of this species. The report for the survey at turbines WTG02, WTG04-WTG10 and WTG12-WTG18 states this to be a limitation of the survey, insofar as there was insufficient material for identifying or excluding this species. As set out in Appendix A, the applicant submitted that the species is not locally restricted, and occurs between Hopetoun and Walpole. Noting that the species has a 'Priority 4' conservation status, it is considered that if it is present any impacts as a result of the proposed clearing are unlikely to be significant, and that no further surveys for it are required.
- *Gahnia sclerioides* (Priority 4): The Florabase website describes this species as a lax, slender rhizomatous, perennial, grass-like or herb (sedge), 0.3-0.9 m high; growing in loam, sandy soils, associated with moist shaded situations. This species is associated middle slope of coastal hills, its flowering period is unknown (Eco Logical Australia, 2020). The nearest record is approximately 6.3 km from the application area. The flora surveys indicate that potential suitable habitat for this species occurs at all turbines except WTG01. The flora surveys did not identify this species within the application area. Noting the preferred habitat of this species, it is considered that this species is unlikely to occur within the application area.
- *Eucalyptus* x *missilis* (Priority 4): The Florabase website describes this species as a mallee to 3 m high, bark smooth; flowers yellow/cream-white in January to April; growing in sand over limestone or granite, associated with coastal sites. The nearest record is approximately 12.3 km from the application area. The flora surveys indicate that potential suitable habitat for this species occurs at turbines WTG01, WTG03 and WTG11. The flora surveys did not identify this species within the application area. Noting that this species is a mallee with unique characteristics, it is likely to have been identified during the survey (including in the absence of flowers) if it was present within the application area.
- *Thomasia quercifolia* (Priority 4): The Florabase website describes this species as a shrub, ca 1 m high; flowers pink or purple in April, August, October, November or December. This species is associated with coastal heath on secondary limestone (Eco Logical Australia, 2020). The flora surveys indicate that this species has been recorded within the application area at turbines WTG03, WTG06 and WTG08, and that potential suitable habitat occurs at turbine WTG11 (although the species was not recorded). The flora surveys recorded nine plants at turbine WTG03 with a further 36 plants within 10 m of the application area, and an estimated 500-1,000 plants at each of turbines WTG06 and WTG08 with these populations extending outside the application area. Noting that the populations at these locations would not be removed in their entirety, and that the species has a 'Priority 4' conservation status, it is considered that

[4] Definitions for conservation codes for WA plants and animals can be found at: https://www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities.

impacts to this species overall as a result of the proposed clearing are unlikely to be significant. Noting that this species is a perennial shrub with unique characteristics, it is likely to have been identified during the survey (including in the absence of flowers) if it was present elsewhere within the application area.

- *Thomasia solanacea* (Priority 4): The Florabase website describes this species as an erect shrub, 0.5-3 m high; flowers blue-purple-pink in September to December; growing in alluvium, sand over limestone, rocky loam, associated with coastal areas. This species is also associated with coastal shrublands, peppermint woodlands (Eco Logical Australia, 2020). The nearest record is approximately 5.3 km from the application area. The flora surveys indicate that potential suitable habitat for this species occurs at turbines WTG01, WTG03 and WTG11. The flora surveys did not identify this species within the application area. Noting that this species is a perennial shrub with unique characteristics, it is likely to have been identified during the survey (including in the absence of flowers) if it was present within the application area.

From the above, the proposed clearing will impact on populations of two priority flora recorded within the application area, and may impact on a further one priority flora for which suitable habitat is present within the application area.

For the two priority flora directly impacted by the proposed clearing, the impacts have been considered in the context of the known range and number of records of the affected species, and the extent of the impacted populations that will remain following clearing. It is noted that large portions of the impacted populations will remain if the proposed clearing is undertaken, and it is considered that the impacts in this regard are not significant.

Outcome: Based on the above assessment, the Delegated Officer has determined that the proposed clearing is considered acceptable subject to relevant conditions to prevent impacts to adjacent vegetation containing populations of conservation significant flora (see below).

Conditions: To address the above impacts, the following conditions will be added to the permit:

- Avoid and minimise clearing
- Weed and dieback management
- Revegetate and rehabilitate areas no longer required for the purpose of the clearing.

3.2.3 Land and water resources

Assessment

The main land degradation risks associated with the soil types mapped across the application area are from wind erosion (greater than 70 per cent high to extreme risk), phosphorus export (50-70 and greater than 70 high to extreme risk), water erosion (30-50 and 50-70 per cent high to extreme risk), and salinity (30-50 per cent moderate to high risk).

Noting the purpose of the proposed clearing, it is considered that the primary land degradation risk is from wind erosion. With regard for the fragmented linear shape of the application area and the extent of surrounding remnant vegetation, and noting that the applicant proposes to clear only as required and to re-spread cleared vegetation following maintenance activities, impacts in this regard are likely to be minimal and short-term.

Outcome: Based on the above assessment, the Delegated Officer has determined that the proposed clearing is considered acceptable in relation to this environmental value subject to relevant conditions.

Conditions: To address the above impacts, the following conditions will be added to the permit:

- Revegetate and rehabilitate areas no longer required for the purpose of the clearing.

3.3 Relevant planning instruments and other matters

Lot 105 on Deposited Plan 60582 is Crown reserve 13773 vested with the City of Albany, and is zoned 'Parks and Recreation' under the local planning scheme. The applicant advised that the application area is located within Lease 136136 for the Albany Wind Farm (turbines WTG01-WTG12[5]) and Lease 481515 for the Grasmere Wind Farm (turbines WTG13-WTG18).

Background:

- The Albany Wind Farm was constructed in 2001/02, prior to the commencement of the clearing provisions under Part V of the EP Act in 2004.

[5] The turbines are sequentially numbered from WTG01 (south-east end) to WTG18 (north-west end).

- It is understood that the Grasmere Wind Farm was referred to the Environmental Protection Authority (EPA) under Part IV of the EP Act, and that the EPA determined not to assess the proposal and gave public advice.
- The Grasmere Wind Farm was referred to the former Department of the Environment, Water, Heritage and the Arts (DEWHA) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (2008/4368[6]). In September 2008, DEWHA determined that the proposed action was not a 'Controlled Action' and did not require assessment under its legislation.
- Clearing Permit CPS 2625/2[7]: granted to Electricity Generation Corporation trading as Verve Energy in October 2008 to clear 1 ha of native vegetation within a 123.5 ha application area for geotechnical surveys relating to the Grasmere Wind Farm. This permit (now expired) was subject to conditions including avoid, minimise etc clearing, and inspection of areas proposed to be cleared for conservation-significant flora and avoid any identified.
- Clearing Permit CPS 2773/6[8]: granted to Electricity Generation Corporation trading as Verve Energy in January 2009 to clear 12.85 ha of native vegetation within a larger application area for purposes relating to the construction of the Grasmere Wind Farm. This permit (now expired) was subject to conditions including avoid, minimise etc clearing, and inspection of areas proposed to be cleared for priority flora and avoid any identified. The original permit was to clear 7.4 ha, however this was increased and additional land parcels through subsequent amendments.
- Clearing Permit CPS 8282/1[9]: granted to SRV AGWF Pty Ltd as trustee for AGWF Trust in December 2018 to clear 0.74 ha of native vegetation within a 1.21 ha application area at turbines WTG03 and WTG11 for the purpose of facilitating repairs of wind turbines as a result of lightning strikes. This permit is subject to conditions including avoid, minimise and reduce the impacts and extent of clearing, and dieback and weed control. The extent of clearing under this permit is less than that proposed at turbines WTG03 and WTG11 under the current application (see Appendix C). The applicant advised that this permit will likely be surrendered in the event that a clearing permit is granted for the current application.

No registered Aboriginal sites of significance have been mapped within the application area. The nearest Aboriginal Heritage Places are Registered Site 'Mutton Bird Island' located approximately 3.2 km from the application area, and Other Heritage Place 'Marbellup Brook' located approximately 4 km from the application area. Given the separation distance, the proposed clearing is unlikely to impact on this site. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal sites of significance are damaged through the clearing process.

The City of Albany was invited to provide comment on the application as a direct interest party. The City of Albany advised that it has provided written permission for the application [to the applicant], that it understands clearing will only be undertaken if necessary for maintenance of the turbines, and that it has discussed minimising impacts on the environment during and after works with the applicant.

[6] Available at: http://epbcnotices.environment.gov.au/referralslist/
[7] Available at: ftp://ftp.dwer.wa.gov.au/permit/2625/
[8] Available at: ftp://ftp.dwer.wa.gov.au/permit/2773/
[9] Available at: ftp://ftp.dwer.wa.gov.au/permit/8282/

Appendix A – Additional information provided by applicant

During assessment of the application, with regard for three flora and vegetation surveys[10] (see Appendix F), DWER identified gaps in the information regarding four conservation-significant flora (see Section 3.2.2):

- *Drakaea micrantha* (Vulnerable): flowers in September to October; the survey undertaken at turbine WTG01 in January and the survey undertaken at turbines WTG03 and WTG11 in November identified the presence of potential suitable habitat at these sites
- *Caladenia evanescens* (Priority 1): flowers in November; the survey undertaken at turbine WTG01 in January identified potential suitable habitat at this site
- *Thelymitra variegata* (Priority 2): flowers in June to September; the survey undertaken at turbines WTG03 and WTG11 in November and the survey undertaken at turbines WTG02, WTG04-WTG10 and WTG12-WTG18 in November identified potential suitable habitat at these sites
- *Corybas limpidus* (Priority 4): flowers in August to September; the three surveys undertaken in January and November identified potential suitable habitat at all sites, and noted that this species could not be ruled out.

The applicant was invited to provide further information in relation to the likelihood of these species. The applicant's response, and DWER's consideration of this, are summarised below.

Summary of comments	Consideration of comment
Drakaea micrantha: The surveys at turbines WTG01, WTG03 and WTG11 indicate the potential for this species to occur based on soil type (white-grey sand) and did not consider vegetation associations. Approved conservation advice[11] indicates that this species is usually found in cleared firebreaks or open sandy patches that have been disturbed, and in *Banksia* spp., jarrah (*Eucalyptus marginata*) and common sheoak (*Allocasuarina fraseriana*) woodland or forest. These vegetation types have not been mapped at any of the turbines. The vegetation mapped at turbines WTG01, WTG03 and WTG11 includes either Coastal Limestone Heath, Peppermint Low Forest/Coastal Heath mosaic, Peppermint Low Forest and Peppermint Low Forest with stands of bullich (*Eucalyptus megacarpa*). Vegetation mapped at turbines WTG02, WTG04-WTG10 and WTG12-WTG18 includes Peppermint Low Forest, Coastal Heath and Coastal Limestone Heath and mosaics of these. When considering both soil type and vegetation associations, it is concluded that suitable habitat for *Drakaea micrantha* is not present within the project area and as a result, the likelihood of its occurrence is considered to be low. No further survey effort is required.	With regard for the applicant's further information, and the vegetation types mapped within the application area, the Delegated Officer was satisfied that the application area is unlikely to comprise suitable habitat for these species and that there is sufficient basis for not requiring additional surveys for them. See Section 3.2.2 for further detail.
Caladenia evanescens: The survey at turbines WTG02, WTG04-WTG10 and WTG12-WTG18 was conducted in November which coincides with the flowering period of this species. This survey identified one *Caladenia* sp. with sufficient material collected to exclude it as a priority or threatened species (that was identified to have the potential to occur). No further survey effort is required.	
Thelymitra variegata: While the ideal survey period for this species is September, one specimen was recorded during with sufficient material collected to exclude it as a priority or threatened species (that were identified to have the potential to occur). This species is not considered to be locally restricted with known populations occurring in the Albany, Dunsborough, Bunbury and Perth metropolitan areas. No further survey effort is required.	
Corybas limpidus: This species was identified as a limitation in the survey at turbines WTG02, WTG04-WTG10 and WTG12-WTG18. One *Corybas* sp. was recorded, and this had no flowering material and it was not possible to exclude threatened or priority species. This species is not considered to be locally restricted, with 22 known populations recorded along the southern coastline over a range of approximately 420 km (from Hopetoun in the east to Walpole in the west). No further survey effort is required.	

[10] Supporting information provided by the applicant included flora and vegetation surveys undertaken at turbine WTG01 in January (Bio Diverse Solutions, 2019), at turbines WTG03 and WTG11 in November (Bio Diverse Solutions, 2018), and at turbines WTG02, WTG04-WTG10 and WTG12-WTG18 in November (Eco Logical Australia, 2020).

[11] As set out in: Department of the Environment, Water, Heritage and the Arts (2008). *Approved Conservation Advice for Drakaea micrantha (Dwarf Hammer-orchid)*. Canberra: Department of the Environment, Water, Heritage and the Arts.

Appendix B – Details of public submissions

One public submission was received, raising concerns in relation to three threatened black cockatoo species. The submitter's comments, and the Department's consideration of these, are summarised below.

Summary of comments	Consideration of comment
Foraging habitat for black cockatoos is already insufficient, which is driving ongoing decline in these species. Therefore, any remaining foraging habitat will be important. The cumulative impacts of habitat loss on black cockatoos needs to be considered, particularly the effects of numerous instances of clearing smaller patches that do not meet the threshold for referral as controlled actions[12]. It is unclear whether the applicant plans to refer the proposed clearing under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth). The referral guidelines for these species state that removal of more than hectare of foraging habitat should be referred, given the likelihood that such clearing represents a significant impact for these 'matters of national environmental significance'. Clearing of quality foraging habitat should not occur unless there are mitigation measures in place to ensure no net impact to black cockatoo habitat. It is important to ensure that mitigation measures adequately compensate for actual habitat loss. To ensure no significant impacts on black cockatoos from the proposed clearing, the foraging habitat should be replaced through revegetation.	As set out under sections 1.4 and 3.2, the Department's assessment has had regard for the characteristics of the application area, relevant datasets including records of threatened fauna in the local area, supporting information provided by the applicant, and any other information considered to be relevant. The application area is comprised of 18 sites situated approximately 100-570 metres (m) apart in a linear alignment adjacent to existing turbines and access tracks, and is located within a broader remnant linking to other remnants in the local area. It is acknowledged that the proposed clearing will lead to the loss of black cockatoo foraging habitat. Surveys within the application area[13] noted that black cockatoos are likely to occur at turbines WTG02, WTG04-WTG10 and WTG12-WTG18 (approximately 11.11 ha of the vegetation proposed to be cleared), and that suitable habitat is unlikely to be present at turbines WTG01, WTG03 and WTG11. For the reasons set out in section 3.2.1, it is considered that the vegetation proposed to be cleared is unlikely to comprise significant habitat for these species, and that the proposed clearing is 'not likely to be at variance' with clearing principle (b). Cumulative impacts have been considered in the assessment against clearing principle (e), which focusses on the importance of the native vegetation proposed to be cleared in regional and local contexts. For the reasons set out in Appendix D, it is considered that the application area is not significant as a remnant of native vegetation in an area that has been extensively cleared, and that the proposed clearing is 'not likely to be at variance' with clearing principle (e). From the assessment findings, and with regard for the *WA Environmental Offsets Policy* and *Guidelines*[14], it is concluded that the proposed clearing will not result in any significant residual impacts that would require counterbalancing by an offset. In this case the impacts of the proposed clearing are considered to be temporary. The applicant proposes to progressively clear and subsequently re-spread cleared vegetation at each site as maintenance activities are completed. The Department has advised the applicant that they may have notification responsibilities under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* in relation to black cockatoos. The responsibility for determining if notification is required is with the applicant.

[12] Under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.
[13] Bio Diverse Solutions (2018; 2019), Invertebrate Solutions (2020a).
[14] Available at: https://www.der.wa.gov.au/your-environment/offsets

Appendix C – Site characteristics

The information below are the findings of a desktop assessment based on the best information available to the Department of Water and Environment Regulation (DWER) at the time of this assessment, and described the key characteristics of the application area. This information was used to inform the assessment of the clearing against the clearing principles (see Appendix D).

Site characteristics

<table>
<tr><th>Site characteristic</th><th>Details</th></tr>
<tr><td>Local context</td><td>The application area is approximately 16.36 hectares (ha) in area. Supporting information provided by the applicant states that within this footprint, approximately 12.81 hectares (ha) is present, of which 1.72 ha is rehabilitated vegetation, and the balance is existing cleared areas.
Supporting information provided by the applicant sets out the extent of native vegetation proposed to be cleared at each turbine (Eco Logical Australia, 2020a):
<table>
<tr><th>Turbine</th><th>Footprint</th><th>Vegetation in footprint</th><th>Turbine</th><th>Footprint</th><th>Vegetation in footprint</th></tr>
<tr><td>WTG01[15]</td><td>0.81 ha</td><td>0.70 ha</td><td>WTG10</td><td>0.79 ha</td><td>0.59 ha</td></tr>
<tr><td>WTG02</td><td>0.76 ha</td><td>0.66 ha</td><td>WTG11</td><td>0.67 ha</td><td>0.67 ha</td></tr>
<tr><td>WTG03</td><td>0.54 ha</td><td>0.33 ha</td><td>WTG12</td><td>0.97 ha</td><td>0.82 ha</td></tr>
<tr><td>WTG04</td><td>0.93 ha</td><td>0.75 ha</td><td>WTG13</td><td>1.09 ha</td><td>0.79 ha</td></tr>
<tr><td>WTG05</td><td>0.76 ha</td><td>0.61 ha</td><td>WTG14</td><td>1.02 ha</td><td>0.76 ha</td></tr>
<tr><td>WTG06</td><td>0.94 ha</td><td>0.81 ha</td><td>WTG15</td><td>0.95 ha</td><td>0.66 ha</td></tr>
<tr><td>WTG07</td><td>1.05 ha</td><td>0.86 ha</td><td>WTG16</td><td>1.02 ha</td><td>0.71 ha</td></tr>
<tr><td>WTG08</td><td>1.06 ha</td><td>0.85 ha</td><td>WTG17</td><td>1.24 ha</td><td>0.92 ha</td></tr>
<tr><td>WTG09</td><td>0.86 ha</td><td>0.69 ha</td><td>WTG18</td><td>0.90 ha</td><td>0.63 ha</td></tr>
</table>
The local area considered in the assessment of this application is defined as a 20-kilometre (km) radius from the perimeter of the application area, and retains approximately 35.48 per cent of native vegetation cover (excluding open water).</td></tr>
<tr><td>Vegetation description</td><td>The application area is mapped as:
Vegetation Association 49, described as: Shrublands; mixed heath.
The supporting information describes three Albany Regional Vegetation Survey[16] (ARVS) vegetation communities occurring as a mosaic across the application area, and a further two vegetation types within the application area (Eco Logical Australia, 2020a):
Peppermint Low Forest (ARVS 2), described as: a dense canopy of peppermint (Agonis flexuosa), varying from a closed heath on exposed slopes to a low closed forest in swales with shrub species often sub or co-dominant in exposed areas
Coastal Heath (ARVS 3), described as: mixed open heath above a low open heath and a mixed sedgeland with Cyathochaeta equitans prominent and slumps of peppermint
Coastal Limestone Heath (ARVS 5), described as: heterogenous group that is restricted to yellow-grey and light grey alkaline sands and limestone soils of the coastal fringe
Ridge-fruited mallee (Eucalyptus angulosa) low mallee woodland, described as: ridge-fruited mallee low mallee woodland and peppermint woodland over Melaleuca diosmifolia, Hibbertia furfuracea and coastal daisybush (Olearia axillaris) tall sparse heathland over Lepidosperma squamatum, coastal sword-sedge (Lepidosperma gladiatum) and Desmocladus flexuosus low sparse sedgeland (representing areas that have been historically cleared and vegetation has re-established)</td></tr>
</table>

[15] The turbines are sequentially numbered from WTG01 (south-east end) to WTG18 (north-west end).
[16] Sandiford and Barrett (2010)

<table>
<tr><th>Site characteristic</th><th>Details</th></tr>
<tr><td></td><td>
Rehabilitation, described as: rehabilitated areas since construction of Albany Wind Farm (turbines WTG01-WTG12) in 2001/02, with inadequate flora structure and composition to define due to historical clearing of the area.
The supporting information sets out the extent of proposed clearing within each of these vegetation communities/types (Eco Logical Australia, 2020a):
<table>
<tr><td>Mosaic: Peppermint Low Forest (ARVS 2), Coastal Heath (ARVS 3) and Coastal Limestone Heath (ARVS 5)</td><td>0.52 ha</td></tr>
<tr><td>Mosaic: Peppermint Low Forest (ARVS 2) and Coastal Heath (ARVS 3)</td><td>7.4 ha</td></tr>
<tr><td>Mosaic: Peppermint Low Forest (ARVS 2) and Coastal Limestone Heath (ARVS 5)</td><td>0.85 ha</td></tr>
<tr><td>Mosaic: Coastal Heath (ARVS 3) and Coastal Limestone Heath (ARVS 5)</td><td>0.33 ha</td></tr>
<tr><td>Peppermint Low Forest (ARVS 2)</td><td>0.70 ha</td></tr>
<tr><td>Coastal Limestone Heath (ARVS 5)</td><td>0.25 ha</td></tr>
<tr><td>Ridge-fruited mallee low mallee woodland</td><td>0.97 ha</td></tr>
<tr><td>Rehabilitation</td><td>1.72 ha</td></tr>
</table>
</td></tr>
<tr><td>Vegetation condition</td><td>
The supporting information describes vegetation within the application area as ranging from pristine to completely degraded condition on the scale described by Keighery (1994) (see Appendix E) (Eco Logical Australia, 2020a):
<table>
<tr><th rowspan="2">Vegetation condition</th><th colspan="2">Extent within application area</th></tr>
<tr><th>Hectares</th><th>Per cent</th></tr>
<tr><td>Pristine</td><td>4.92 ha</td><td>30.07 per cent</td></tr>
<tr><td>Excellent</td><td>6.08 ha</td><td>37.16 per cent</td></tr>
<tr><td>Very Good</td><td>1.31 ha</td><td>8.01 per cent</td></tr>
<tr><td>Good</td><td>0.35 ha</td><td>2.14 per cent</td></tr>
<tr><td>Degraded</td><td>0.13 ha</td><td>0.79 per cent</td></tr>
<tr><td>Completely Degraded (cleared)</td><td>3.57 ha</td><td>21.82 per cent</td></tr>
</table>
</td></tr>
<tr><td>Soil description</td><td>
The application area is mapped as:

Meerup podzols over calcareous sand Phase (242MeMRp), described as: podzols over calcareous sand; Banksia-bullich (Eucalyptus megacarpa)-yate (Eucalyptus cornuta) woodland (mapped across approximately 10.46 hectares (ha) / 63.94 per cent of the application area – turbines WTG01-WTG07 and a small portion of WTG08))
Meerup leached calcareous sand Phase (242MeMRc), described as: calcareous sand with shallow leaching; peppermint woodland (mapped across approximately 5.9 ha / 36.06 per cent of the application area – turbines WTG09-WTG18 and the larger part of WTG08).

</td></tr>
<tr><td>Land degradation risk</td><td>
Mapped land degradation risk factors (as percentage of map unit)
<table>
<tr><th>Risk categories</th><th>242MeMRp</th><th>242MeMRc</th></tr>
<tr><td>Wind erosion</td><td>>70% has a high to extreme risk</td><td>>70% has a high to extreme risk</td></tr>
<tr><td>Water erosion</td><td>30-50% has a high to extreme risk</td><td>50-70% has a high to extreme risk</td></tr>
<tr><td>Salinity</td><td>30-50% has a moderate to high risk</td><td>30-50% has a moderate to high risk</td></tr>
<tr><td>Subsurface acidification</td><td>3-10% has a high risk</td><td>10-30% has a high risk</td></tr>
<tr><td>Flood risk</td><td><3% has a moderate to high risk</td><td><3% has a moderate to high risk</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Site characteristic</th><th>Details</th></tr>
<tr><td></td><td>
<table>
<tr><td>Waterlogging</td><td><3% has a moderate to very high risk</td><td><3% has a moderate to very high risk</td></tr>
<tr><td>Phosphorus export</td><td>50-70% has a high to extreme risk</td><td>>70% has a high to extreme risk</td></tr>
</table>
</td></tr>
<tr><td>Waterbodies</td><td>
The application area is located within the broader Malimup consanguineous wetland suite.
A man-made drain is located approximately 2.1 km north-west of the application area.
A further 51 mapped lakes, wetlands, rivers and other water bodies occur within the local area; those within five km of the application area are outlined below.
<table>
<tr><th>Type of inland water</th><th>Description</th><th>Proximity (m)</th></tr>
<tr><td>Rivers</td><td>Coastal Waterline</td><td>303</td></tr>
<tr><td>WA Coastline Water Mark</td><td>-</td><td>317</td></tr>
<tr><td>Geodata, Lakes</td><td>lake</td><td>2186</td></tr>
<tr><td>Hydrography, Lakes (medium scale 250k GA)</td><td>lake</td><td>2186</td></tr>
<tr><td>South Coast Significant Wetlands</td><td>POWELL LAKE; Moates Lake Suite</td><td>2456</td></tr>
<tr><td>Rivers</td><td>Lake Powell : Minor River</td><td>2517</td></tr>
<tr><td>Rivers</td><td>Significant Stream</td><td>2729</td></tr>
<tr><td>Rivers</td><td>Seven Mile Creek : Minor River</td><td>2911</td></tr>
<tr><td>Rivers</td><td>Grassmere Creek : Significant Stream</td><td>3251</td></tr>
<tr><td>Rivers</td><td>Minor River</td><td>3403</td></tr>
<tr><td>Rivers</td><td>Major Tributary</td><td>3697</td></tr>
<tr><td>Rivers</td><td>Five Mile Creek : Significant Stream</td><td>4216</td></tr>
<tr><td>Rivers</td><td>Major River</td><td>4223</td></tr>
<tr><td>Rivers</td><td>Unndiup Creek : Estuarine</td><td>4226</td></tr>
<tr><td>Rivers</td><td>Marbelup Brook : Major River</td><td>4411</td></tr>
<tr><td>Rivers</td><td>Estuarine</td><td>4434</td></tr>
<tr><td>Rivers</td><td>Robinson Road Drain : Significant Stream</td><td>4583</td></tr>
<tr><td>Rivers</td><td>Princess Royal Harbour : Estuarine</td><td>4709</td></tr>
</table>
</td></tr>
<tr><td>Conservation areas</td><td>
There are 88 records of conservation areas within the local area, comprising of lands managed by the Department of Biodiversity, Conservation and Attractions (DBCA), ‘Agreements to Reserve’ under the Soil and Land Conservation Act 19845, and privately-managed conservation areas. Those within five km of the application area are outlined below.
<table>
<tr><th>Theme</th><th>Description</th><th>Proximity (m)</th></tr>
<tr><td>DER/DPaW Managed Lands</td><td>Torndirrup National Park; Conservation Commission Of WA</td><td>1891</td></tr>
<tr><td>Agreement to Reserve (ATRs)</td><td></td><td>1894</td></tr>
<tr><td>DER/DPaW Managed Lands</td><td>Lake Powell Nature Reserve; Conservation Commission Of WA</td><td>2312</td></tr>
<tr><td>DEC Land for Wildlife Sites</td><td>260</td><td>2884</td></tr>
<tr><td>DEC Land for Wildlife Sites</td><td>714</td><td>3539</td></tr>
<tr><td>DEC Land for Wildlife Sites</td><td>2179</td><td>3661</td></tr>
</table>
</td></tr>
</table>

Site characteristic	Details		
	DEC Land for Wildlife Sites	390	3746
	DEC Land for Wildlife Sites	2239	3896
	DEC Land for Wildlife Sites	1014	4003
	DEC Land for Wildlife Sites	2166	4350
	Agreement to Reserve (ATRs)		4554
	DER/DPaW Managed Lands	Shelter Island Nature Reserve; Conservation Commission Of WA	4859
Climate and landform	Rainfall: 1,000 millimetres (mm) and 900 mm per annum Evapotranspiration: 900 mm per annum Geology: Alluvial, shoreline, and aeolian deposits Acid Sulfate Soil Risk: No Groundwater Salinity (Total Dissolved Solids): 500-1,000 milligrams per litre The application area is on the high part of a coastal cliff. Topography is approximately 90-150 m above sea level (Department of Primary Industries and Regional Development, 2017).		
Hydrology and hydrogeology	The application area is within the 'Albany Sandplain' Hydrological Zone. The application area is at the top of three Hydrographic Catchments, being 'Denmark Coast' (north-western portion), 'Princess Royal Harbour' (central and north-eastern portion) and 'Coastal (central and south-eastern portion). The application area is also within the mapped 'Albany' Groundwater Area under the *Rights in Water and Irrigation Act 1914*, and a Priority 1 Public Drinking Water Source Area.		

Flora, fauna and ecosystem analysis

Ecological Linkages: Within 'Strategic Zone A' of a South Coast Macro Corridor.[17]

The following conservation-significant species and ecological communities have been recorded from the local area. With consideration for the site characteristics set out above, relevant datasets (see Appendix G), and supporting information provided by the applicant (see Appendix F), the likelihood of their occurrences within the application area has been assessed.

Species / Ecological Community	Distance to nearest record (km)	Suitable soil type?	Suitable vegetation type?	Suitable habitat features?	Surveys adequate to identify?
Fauna Note: The application area is approximately 0.3 km from the ocean. A total of 49 threatened, 11 priority, two 'conservation dependent' and three 'other specially protected' fauna, and 27 fauna protected under an international agreement, have been recorded in the local area. Of these, 14 threatened, three priority, one 'conservation dependent' and two 'other specially protected' fauna (fur-seals, whales, sharks, turtles, fish, lamprey, water-rat, sea-lion, sea dragon and mussel) are wholly associated with marine, estuarine or freshwater habitats that do not occur within the application area, and have been excluded from the list below.					
South-western brown bandicoot/quenda (*Isoodon fusciventer*; Priority 4)	Within WTG01, WTG03, WTG11		Y	Y All turbines	Y
Baudin's black cockatoo (*Calyptorhynchus baudinii*; Endangered)	Approximately 0.005 km		Y	Y WTG02, WTG04-WTG10, WTG12-WTG18	Y

[17] As described in: Wilkins, P., Gilfillan, S., Watson, J. and Sanders, A. (ed). (2006) *The Western Australian South Coast Macro Corridor Network – a bioregional strategy for nature conservation*. Department of Conservation and Land Management (CALM) and South Coast Regional Initiative Planning Team (SCRIPT), Albany, Western Australia.

Species / Ecological Community	Distance to nearest record (km)	Suitable soil type?	Suitable vegetation type?	Suitable habitat features?	Surveys adequate to identify?
Main's assassin spider (*Zephyrarchaea mainae*; Vulnerable)	Approximately 0.04 km Between WTG02-WTG04		Y	Y WTG01, WTG03, WTG11	Y
Black-browed albatross (*Thalassarche melanophris*; Endangered)	Approximately 0.084 km			N	Y
Crested tern (*Thalasseus bergii*; International Agreement)	Approximately 0.086 km			N	Y
Atlantic yellow-nosed albatross (*Thalassarche chlororhynchos*; Vulnerable)	Approximately 0.26 km			N	Y
Carnaby's black cockatoo (*Calyptorhynchus latirostris*; Endangered)	Approximately 0.27 km		Y	Y WTG02, WTG04-WTG10, WTG12-WTG18	Y
Western ringtail possum (*Pseudocheirus occidentalis*; Critically Endangered)	Approximately 0.35 km		Y	Y All turbines	Y
Western brush wallaby (*Notamacropus irma;* Priority 4)	Approximately 0.39 km		Y	Y All turbines	Y
Western whipbird (*Psophodes nigrogularis*; assumed to be western mallee subsp. *oberon*; Priority 4)	Approximately 0.93 km		Y	Y	Y
Caspian tern (*Hydroprogne caspia*; International Agreement)	Approximately 2.1 km			N	Y
Curlew sandpiper (*Calidris ruficollis*; International Agreement)	Approximately 2.2 km			N	Y
Common greenshank (*Tringa nebularia*; International Agreement)	Approximately 2.2 km			N	Y
Peregrine Falcon (*Falco peregrinus*; Other Specially Protected)	Approximately 2.5 km			Y WTG01, WTG03, WTG11	Y
Wood sandpiper (*Tringa glareola*; International Agreement)	Approximately 2.7 km			N	Y
Australasian bittern (*Botaurus poiciloptilus*; Endangered)	Approximately 2.8 km			N	Y
Blue-billed duck (*Oxyura australis*; Priority 4)	Approximately 2.8 km			N	Y
Curlew sandpiper (*Calidris ferruginea*; Critically Endangered)	Approximately 2.9 km			N	Y

Species / Ecological Community	Distance to nearest record (km)	Suitable soil type?	Suitable vegetation type?	Suitable habitat features?	Surveys adequate to identify?
Fork-tailed swift/Pacific swift (*Apus pacificus*; International Agreement)	Approximately 2.9 km			N	Y
Glossy ibis (*Plegadis falcinellus*; International Agreement)	Approximately 2.9 km			N	Y
Hooded dotterel/hooded plover (*Thinornis rubricollis*; Priority 4)	Approximately 3.4 km			N	Y
Forest red-tailed black cockatoo (*Calyptorhynchus banksii* subsp. *naso*; Vulnerable)	Approximately 3.8 km			Y WTG02, WTG04-WTG10, WTG12-WTG18	Y
Osprey (*Pandion cristatus*; International Agreement)	Approximately 3.9 km			N	Y
Grey plover (*Pluvialis squatarola*; International Agreement)	Approximately 3.9 km			N	Y
Red knot (*Calidris canutus*; Endangered)	Approximately 4 km			N	Y
Great knot (*Calidris tenuirostris*; Critically Endangered)	Approximately 4 km			N	Y
Bar-tailed godwit (*Limosa lapponica*; International Agreement)	Approximately 4 km			N	Y
Common sandpiper (*Actitis hypoleucos*; International Agreement)	Approximately 4.4 km			N	Y
Ruddy turnstone (*Arenaria interpres*; International Agreement)	Approximately 4.6 km			N	Y
Greater sand plover/large sand plover (*Charadrius leschenaultii*; Vulnerable)	Approximately 4.6 km			N	Y
Whimbrel (*Numenius phaeopus*; International Agreement)	Approximately 4.6 km			N	Y
Pacific golden plover (*Pluvialis fulva*; International Agreement)	Approximately 4.6 km			N	Y
Quokka (*Setonix brachyurus*; Vulnerable)	Approximately 4.8 km			Y WTG01	Y
Sharp-tailed sandpiper (*Calidris acuminata*; International Agreement)	Approximately 4.8 km			N	Y
Fleshy-footed shearwater (*Ardenna carneipes*; Vulnerable)	Approximately 5.2 km			N	Y

Species / Ecological Community	Distance to nearest record (km)	Suitable soil type?	Suitable vegetation type?	Suitable habitat features?	Surveys adequate to identify?
Woylie/brush-tailed bettong (*Bettongia penicillata* subsp. *ogilbyi*; Critically Endangered)	Approximately 5.4 km			Y WTG01	Y
Southern giant petrel (*Macronectes giganteus*; International Agreement)	Approximately 5.4 km			N	Y
Marsh sandpiper/little greenshank (*Tringa stagnatilis*; International Agreement)	Approximately 5.8 km			N	Y
Sanderling (*Calidris alba*; International Agreement)	Approximately 5.9 km			N	Y
Lesser sand plover (*Charadrius mongolus*; Endangered)	Approximately 6 km			N	Y
Black-tailed godwit (*Limosa limosa*; International Agreement)	Approximately 6 km			N	Y
Terek sandpiper (*Xenus cinereus*; International Agreement)	Approximately 6 km			N	Y
Cape barren goose (*Cereopsis novaehollandiae* subsp. *grisea*;Vulnerable)	Approximately 6.1 km			N	Y
Eastern curlew (*Numenius madagascariensis*; Critically Endangered)	Approximately 6.1 km			N	Y
Grey-tailed tattler (*Tringa brevipes*; International Agreement)	Approximately 6.1 km			N	Y
Bilby/Dalgyte (*Macrotis lagotis*; Vulnerable)	Approximately 6.4 km			N	Y
Chuditch/western quoll (*Dasyurus geoffroii*; Vulnerable)	Approximately 7.6 km			N	Y
Western ground parrot (*Pezoporus flaviventris*; Critically Endangered)	Approximately 8.2 km			Y WTG01	Y
Short-nosed snake (*Elapognathus minor*; Priority 2)	Approximately 8.3 km			Y WTG01	Y
Brown skua/sub-Antarctic skua (*Stercorarius antarcticus* subsp. *lonnbergi*; Priority 4)	Approximately 8.4 km			N	Y
Woollybush bee (*Hylaeus globuliferus*; Priority 3)	Approximately 8.7 km			Y WTG01	Y
South-western brush-tailed phascogale/wambenger (*Phascogale tapoatafa* subsp. *wambenger*; Conservation Dependent)	Approximately 9.2 km			N	Y

Species / Ecological Community	Distance to nearest record (km)	Suitable soil type?	Suitable vegetation type?	Suitable habitat features?	Surveys adequate to identify?
Ruff/reeve (*Philomachus pugnax*; International Agreement)	Approximately 9.3 km			N	Y
Western bristlebird (*Dasyornis longirostris*; Endangered)	Approximately 9.4 km			N	Y
Masked owl (*Tyto novaehollandiae* subsp. *novaehollandiae*; Priority 3)	Approximately 9.5 km			N	Y
Wandering albatross (*Diomedea exulans*; Vulnerable)	Approximately 9.5 km			N	Y
Indian yellow-nosed albatross (*Thalassarche carteri*; Endangered)	Approximately 9.5 km			N	Y
Short-tailed shearwater (*Ardenna tenuirostris*; International Agreement)	Approximately 10 km			N	Y
Dibbler (*Parantechinus apicalis*; Endangered)	Approximately 10.2 km			Y WTG01, but now locally extinct	Y
Shy albatross (*Thalassarche cauta* subsp. cauta; Vulnerable)	Approximately 10.4 km			N	Y
Arctic jaeger/Arctic skua (*Stercorarius parasiticus*; International Agreement)	Approximately 10.8 km)			N	Y
Noisy scrub-bird (*Atrichornis clamosus*; Endangered)	Approximately 11 km			N	Y
Western Australian pill millipede (*Cynotelopus notabilis*; Endangered)	Approximately 11.1 km			Unlikely due to restricted known range	Y
Banksia brownii plant-louse (*Trioza barrettae*; Endangered)	Approximately 11.1 km		N *Banksia brownii* not recorded		Y
Hutton's shearwater (*Puffinus huttoni*; Endangered)	Approximately 11.4 km			N	Y
Malleefowl (*Leipoa ocellata*; Vulnerable)	Approximately 12.1 km			N	Y
Western whipbird (western heath) (*Psophodes nigrogularis* subsp. *nigrogularis*; Endangered)	Approximately 12.3 km			N	Y
Red-tailed tropicbird (*Phaethon rubricauda*; International Agreement)	Approximately 14.2 km			N	Y
Sooty albatross (*Phoebetria fusca*; Endangered)	Approximately 14.9 km			N	Y

Species / Ecological Community	Distance to nearest record (km)	Suitable soil type?	Suitable vegetation type?	Suitable habitat features?	Surveys adequate to identify?
Wilson's storm-petrel (*Oceanites oceanicus*; International Agreement)	Approximately 15 km			N	Y
Gilbert's potoroo (*Potorous gilbertii*; Critically Endangered)	Approximately 15.2 km			Unlikely due to restricted known range	Y
Numbat (*Myrmecobius fasciatus*; Endangered)	Approximately 19.6 km			N	Y
Sooty shearwater (*Ardenna grisea*; International Agreement)	Approximately 19.7 km			N	Y
Flora					
Adenanthos x *cunninghamii* (Priority 4)	Within WTG07	Y		Y WTG01, WTG03, WTG11	Y
Thomasia quercifolia (Priority 4)	Within WTG03, WTG06, WTG08	Y		Y WTG11	Y
Calectasia cyanea (Critically Endangered)	Approximately 0.026 km	Y		Y WTG01, WTG02, WTG03, WTG11	Y
Isopogon uncinatus (Endangered)	Approximately 3.4 km	Y		N	Y
Banksia brownii (Endangered)	Approximately 3.8 km	Y		N	Y
Banksia verticillata (Vulnerable)	Approximately 4 km	Y		N	Y
Boronia crassipes (Priority 3)	Approximately 4.5 km	Y		N	Y
Lysinema lasianthum (Priority 4)	Approximately 5.1 km	N		N	Y
Thomasia solanacea (Priority 4)	Approximately 5.3 km	Y		Y WTG01, WTG03, WTG11	Y
Drosera paleacea (Priority 1)	Approximately 6 km	N		N	Y
Prasophyllum paulinae (Priority 1)	Approximately 6 km	N		N	Y
Conospermum quadripetalum (Priority 2)	Approximately 6.2 km	Y		Y All turbines	Y
Austrostipa mundula (Priority 3)	Approximately 6.2 km	Y		Y All turbines	Y
Gahnia sclerioides (Priority 4)	Approximately 6.3 km	N		Y All turbines except WTG01	Y

Species / Ecological Community	Distance to nearest record (km)	Suitable soil type?	Suitable vegetation type?	Suitable habitat features?	Surveys adequate to identify?
Synaphea incurva (Priority 3)	Approximately 6.8 km	N		Y All turbines except WTG01	Y
Banksia serra (Priority 4)	Approximately 6.8 km	N		N	Y
Banksia seneciifolia (Priority 4)	Approximately 7.1 km	N		N	Y
Caladenia harringtoniae (Vulnerable)	Approximately 7.3 km	N		N	Y
Kunzea pauciflora (Priority 4)	Approximately 7.9 km	N		Y WTG02, WTG04-WTG10, WTG12-WTG18	Y
Stylidium falcatum (Priority 2)	Approximately 8 km	N		N	Y
Thomasia multiflora (Priority 1)	Approximately 8.1 km	N		N	Y
Agrostocrinum scabrum subsp. *littorale* (Priority 2)	Approximately 8.1 km	N		N	Y
Gyrostemon thesioides (Priority 2)	Approximately 8.1 km	Y		Y All turbines	Y
Isopogon buxifolius var. *buxifolius* (Priority 2)	Approximately 8.1 km	N		N	Y
Juncus meianthus (Priority 3)	Approximately 8.1 km	N		N	Y
Leucopogon alternifolius (Priority 3)	Approximately 8.1 km	N		N	Y
Thysanotus isantherus (Priority 4)	Approximately 8.1 km	N		N	Y
Banksia goodii (Vulnerable)	Approximately 8.2 km	N		N	Y
Degelia flabellata (Priority 2)	Approximately 8.2 km	N		N	Y
Thelymitra variegata (Priority 2)	Approximately 8.2 km	N		Y All turbines except WTG01	Y
Acacia ataxiphylla subsp. *ataxiphylla* (Priority 3)	Approximately 8.3 km	N		N	Y
Schoenus sp. grassy (E. Gude & J. Harvey 250) (Priority 2)	Approximately 8.5 km	N		N	Y
Spyridium spadiceum (Priority 4)	Approximately 8.8 km	N		N	Y
Conospermum spectabile (Priority 2)	Approximately 8.9 km	N		Y WTG01, WTG03, WTG11	Y
Verticordia endlicheriana var. *angustifolia* (Priority 3)	Approximately 9 km	N		N	Y

Species / Ecological Community	Distance to nearest record (km)	Suitable soil type?	Suitable vegetation type?	Suitable habitat features?	Surveys adequate to identify?
Conostylis misera (Endangered)	Approximately 9.1 km	N		Y WTG03, WTG11 Possibly WTG02, WTG04-WTG10, WTG12-WTG18	Y
Leucopogon bracteolaris (Priority 2)	Approximately 9.1 km	N		N	Y
Lepidium pseudotasmanicum (Priority 4)	Approximately 9.1 km	N		N	Y
Microtis pulchella (Priority 4)	Approximately 9.1 km	N		N	Y
Caladenia evanescens (Priority 1)	Approximately 9.2 km	N		Y WTG01	Y
Chorizema carinatum (Priority 3)	Approximately 9.2 km	N		Y WTG01	Y
Gonocarpus pusillus (Priority 4)	Approximately 9.2 km	N		N	Y
Microtis quadrata (Priority 4)	Approximately 9.2 km	N		N	Y
Drosera fimbriata (Priority 4)	Approximately 9.3 km	N		N	Y
Corybas limpidus (Priority 4)	Approximately 9.4 km	N		Y WTG03, WTG11 Possibly WTG02, WTG04-WTG10, WTG12-WTG18	Y
Gonocarpus simplex (Priority 4)	Approximately 9.7 km	N		N	Y
Pterostylis heberlei (Priority 2)	Approximately 10.9 km	N		N	Y
Andersonia sp. *jamesii* (J. Liddelow 84) Priority 4	Approximately 10.9 km	N		N	Y
Andersonia setifolia (Priority 3)	Approximately 11 km	Y		Unlikely	Y
Myosotis australis (Priority 4)	Approximately 11 km	N			Y
Poa billardierei (Priority 3)	Approximately 11.6 km	N		N	Y
Stylidium articulatum (Priority 2)	Approximately 11.8 km	N			Y
Stylidium gloeophyllum (Priority 4)	Approximately 11.8 km	N		N	Y
Diuris drummondii (Vulnerable)	Approximately 12.1 km	Y		N	Y
Eucalyptus calcicola subsp. *unita* (Priority 4)	Approximately 12.3 km	Y			Y

Species / Ecological Community	Distance to nearest record (km)	Suitable soil type?	Suitable vegetation type?	Suitable habitat features?	Surveys adequate to identify?
Eucalyptus x *missilis* (Priority 4)	Approximately 12.3 km	Y		Y WTG01, WTG03, WTG11	
Schizaea rupestris (Priority 2)	Approximately 12.6 km	N		N	Y
Stylidium lepidum (Priority 3)	Approximately 13.1 km	N		N	Y
Usnea pulvinata (Priority 1)	Approximately 13.2 km	N		N	Y
Verticordia fimbrilepis subsp. *australis* (Endangered)	Approximately 13.4 km	N		N	Y
Thomasia purpurea x *solanacea* (Priority 1)	Approximately 13.4 km	Y		N	Y
Synaphea preissii (Priority 3)	Approximately 13.4 km	Y		Y WTG01, WTG03, WTG11	Y
Andersonia auriculata (Priority 3)	Approximately 13.6 km	N		Unlikely	Y
Pimelea rosea subsp. *annelsii* (Priority 3)	Approximately 13.6 km	N			Y
Boronia virgata (Priority 4)	Approximately 13.9 km	N		N	Y
Hydrocotyle serendipita (Priority 2)	Approximately 14.5 km	Y			Y
Amanita fibrillopes (Priority 3)	Approximately 14.7 km	N			Y
Calandrinia sp. Torndirrup (S.D. Hopper et al. SDH 8712) (Priority 2)	Approximately 14.9 km	Y		N	Y
Leucopogon altissimus (Priority 3)	Approximately 14.9 km	N			Y
Drakaea micrantha (Vulnerable)	Approximately 15 km	N		Y WTG01, WTG03, WTG11	Y
Asplenium decurrens (Priority 4)	Approximately 15 km	Y		N	Y
Amanita drummondii (Priority 3)	Approximately 15.2 km	N			Y
Amanita preissii (Priority 3)	Approximately 16.1 km	N			Y
Gonocarpus rudis (Priority 2)	Approximately 16.3 km	N		N	Y
Banksia sessilis var. *cordata* (Priority 4)	Approximately 16.5 km	N		N	Y
Lasiopetalum sp. Denmark (B.G. Hammersley 2012) (Priority 3)	Approximately 16.6 km	N			Y

Species / Ecological Community	Distance to nearest record (km)	Suitable soil type?	Suitable vegetation type?	Suitable habitat features?	Surveys adequate to identify?
Pleurophascum occidentale (Priority 4)	Approximately 16.9 km	N		N	Y
Corybas abditus (Priority 3)	Approximately 17 km	N		N	Y
Chordifex abortivus (Endangered)	Approximately 17.9 km	N		Y WTG02, WTG04-WTG10, WTG12-WTG18	Y
Hibbertia sandifordiae (Priority 1)	Approximately 18.1 km	N			Y
Astartea transversa (Priority 2)	Approximately 18.2 km	N		N	Y
Caustis sp. Boyanup (G.S. McCutcheon 1706) (Priority 3)	Approximately 18.2 km	N		N	Y
Microtis globula (Vulnerable)	Approximately 18.4 km	N			Y
Synaphea intricata (Priority 3)	Approximately 18.6 km	N		N	Y
Lachnagrostis billardierei subsp. *billardierei* (Priority 3)	Approximately 19.2 km	Y		N	Y
Ecological communities					
Banksia coccinea Shrubland/*Eucalyptus staeri*/ Sheoak Open Woodland (Community 14a - Sandiford & Barrett 2010) (all/or portion in EPBC listed Kwongkan community) (Priority 1)	Approximately 3.8 km		N		Y
Banksia littoralis woodland/ *Melaleuca incana* Shrubland (Priority 1)	Approximately 4.3 km		N		Y
Subtropical and Temperate Coastal Saltmarsh (Priority 3)	Approximately 4.7 km		N		Y
Coastal *Melaleuca incana*/ *Taxandria juniperina* Shrubland/Closed Forest (Priority 1)	Approximately 5 km		N		Y
Astartea scoparia Swamp Thicket (Priority 1)	Approximately 5.9 km		N		Y
Banksia occidentalis/*Kunzea clavata* shrubland (Priority 1)	Approximately 5.9 km		N		Y
Melaleuca spathulata/ *Melaleuca viminea* Swamp Heath (Priority 1)	Approximately 10.8 km		N		Y

Vegetation extent

	Pre-European (ha)	Current extent (ha)	Current extent (%)	Current extent (ha) in DBCA[18]-managed lands	Current extent (%) in DBCA-managed lands
IBRA[19] bioregion (as at March 2019)[20]					
Warren	833,985.56	659,432.21	79.07	570,134.69	68.36
Vegetation Association (as at March 2019)[21]					
49 – overall	52,134.84	26,102.69	50.07	11,602.06	22.48
49 – in bioregion	9,696.96	9,443.73	97.39	6,257.88	64.53
Albany Regional Vegetation Survey (as at 2010)[22]					
Peppermint Low Forest (ARVS 2)	N/a	1,232	-	281	-
Coastal Heath (ARVS 3)	N/a	3,737	-	830	-
Coastal Limestone Heath (ARVS 5)	N/a	1,849	-	740	-
Local area					
20-kilometre radius	147,191.55	-	-	-	-
excluding open water:	80,765.68	28,660.07	35.48	N/a	N/a

The Albany Regional Vegetation Survey (ARVS) area encompasses 124,415 ha that extends some 30 km east and west of Albany and 20 km north, situated at the junction of the Warren, Jarrah Forest and Esperance Plains Regions IBRA bioregions. THE ARVS determined that 35 per cent (44,093 ha) of remnant vegetation remains within the ARVS area, of which 19 per cent occurs within formal conservation reserves (IUCN I-IV) and 39 per cent in other Crown reserves; of the overall extent remaining, two thirds (67 per cent) of the vegetation is in residual condition (excellent-very good) with 21 per cent in modified and 12 per cent in transformed states (Sandiford and Barrett, 2010).

[18] Current extent calculated as proportion of pre-European extent within DBCA-managed lands.
[19] Interim Biogeographic Regionalisation for Australia.
[20] Government of Western Australia (2019)
[21] Government of Western Australia (2019)
[22] Sandiford and Barrett (2010)

Appendix D – Assessment against the Clearing Principles

Assessment against the Clearing Principles	Variance level	Is further consideration required?
Principle (a): "*Native vegetation should not be cleared if it comprises a high level of biodiversity*."[23] Assessment: The application area is comprised of 18 sites situated approximately 100-570 metres (m) apart in a linear alignment, within a broader remnant. The vegetation communities within the application area are widespread in the local area (Sandiford and Barrett, 2010). The proposed clearing will impact on populations of two priority flora recorded within the application area, and may impact on a further one priority flora for which suitable habitat is present within the application area. None of the threatened or priority ecological communities recorded in the local area are likely to occur within the application area.	May be at variance	Yes Sections 3.2.1 and 3.2.2
Principle (b): "*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*." Assessment: Forty-nine threatened, 11 priority, two 'conservation dependent' and three 'other specially protected' fauna, and 27 fauna protected under an international agreement, have been recorded in the local area (excluding extinct species). One priority fauna has been recorded within the application area, and the application area contains potential suitable habitat for a further eight threatened, four priority and one 'conservation dependent' fauna (although these have not been recorded within the application area). The application area is located within a mapped significant ecological linkage. Noting the fragmented linear shape of the application area and with regard for adjacent large patches of remnant vegetation, the application area is unlikely to be significant for the survival of indigenous fauna or be necessary for the maintenance of significant habitat.	Not likely to be at variance	Yes Section 3.2.1
Principle (c): "*Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora*." Assessment: Twelve threatened flora have been recorded in the local area; the application area is unlikely to comprise suitable habitat for any of these.	Not likely to be at variance	Yes Section 3.2.2
Principle (d): "*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*."[24] Assessment: Noting the composition of the vegetation proposed to be cleared, it is unlikely to be representative of any of the threatened ecological communities (TECs) recorded in the local area. The flora surveys indicate that TECs are not known to occur within the application area.	Not likely to be at variance	No
Principle (e): "*Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared*." 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 vegetation proposed to be cleared comprises habitat for threatened fauna and is within a mapped significant ecological linkage, however is not below the national target and objective for	Not likely to be at variance	No

[23] The *Biodiversity Conservation Act 2016* defines 'biodiversity' as 'the variability among living organisms and the ecosystems of which those organisms are a part and includes the following – (a) diversity within native species and between native species; (b) diversity of ecosystems; (c) diversity of other biodiversity components'.

[24] The *Biodiversity Conservation Act 2016* defines 'threatened ecological community' as 'an ecological community that – (a) is listed as a threatened ecological community under section 27(1); or (b) is to be regarded as a threatened ecological community under section 33'. Section 27(1) refers to TECs listed by the WA Minister for Environment; section 33 refers to the listing and de-listing of collapsed TECs.

Assessment against the Clearing Principles	Variance level	Is further consideration required?
biodiversity conservation, and is unlikely to be required to maintain ecosystem services (such as hydrological processes) or compensate for a high degree of fragmentation.		
Principle (f): "*Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland*." Assessment: The application area is located within the broader Malimup consanguineous wetland suite, at the top of three catchments. No watercourses or wetlands are mapped within the application area; the nearest water features are a man-made drain and Lake Powell, located approximately 2.1 km and 2.4 km north-west of the application area respectively. The application area does not include vegetation growing in association with a watercourse or wetland.	Not likely to be at variance	No
Principle (g): "*Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation*." Assessment: Noting the purpose of the proposed clearing, the primary land degradation risk is wind erosion (a greater than 70 per cent high to extreme risk). Noting that the applicant proposes to clear only as required and to re-spread cleared vegetation following maintenance activities, impacts in this regard are likely to be minimal and short-term.	Not likely to be at variance	Yes Section 3.2.3
Principle (h): "*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*." Assessment: The nearest conservation areas are Torndirrup National Park, an 'Agreement to Reserve' site and Lake Powell Nature Reserve, located approximately 1.9 km, 1.9 km and 2.3 km from the application area respectively. Given the separation distance, the proposed clearing is unlikely to impact on the environmental values of these conservation areas.	Not likely to be at variance	No
Principle (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*." Assessment: The mapped soil type has a high risk of wind erosion, which may result in mobilisation of soil sediments in surface water. With regard for the fragmented linear shape of the application area, and noting that there are no watercourses or wetland in close proximity, any impacts in this regard are likely to be minimal and short-term.	Not likely to be at variance	No
Principle (j): "*Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding*." Assessment: The soil types mapped across the application area have a low flood risk.	Not likely to be at variance	No

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.

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 – Photographs of the vegetation

Biological surveys

Biological surveys provided as supporting information by the applicant are published on the Department of Water and Environmental Regulation's website at: ftp://ftp.dwer.wa.gov.au/permit/8946/.

- Bio Diverse Solutions (2018) *Level 1 Flora, Fauna and Vegetation Survey Windmills 3 and 11 Albany Windfarm*. Report prepared for Eco Logical Australia Pty Ltd on behalf of Synergy Pty Ltd, November 2018. The field component was undertaken in November 2018 at turbines WTG03 and WTG11, and included a targeted survey for Main's assassin spider (*Zahyrarchaea mainea*; Vulnerable).
- Bio Diverse Solutions (2019) *Reconnaissance Flora, Vegetation and Level 1 Fauna Survey Wind Turbine 1, Albany Windfarm*. Report prepared for Eco Logical Australia Pty Ltd on behalf of Synergy Pty Ltd, February 2019. The field component was undertaken in January 2019 (outside recommended flora survey timing for the South-West and Interzone Botanical Provinces[25]) at turbine WTG01, and included a targeted survey for Main's assassin spider.
- Eco Logical Australia (2020b) *Flora and Vegetation Survey – Albany Wind Farm*. Report prepared for Synergy Pty Ltd, February 2020. The field component was undertaken in November 2020 at turbines WTG02, WTG04-WTG10 and WTG12-WTG18.
- Invertebrate Solutions Pty Ltd (2020a) *Level 1 Vertebrate Fauna Survey for the Albany Wind Farm, Albany, Western Australia*. Report prepared for Eco Logical Australia Pty Ltd on behalf of Synergy Pty Ltd, February 2020. The field component was undertaken in December 2019 at turbines WTG02, WTG04-WTG10 and WTG12-WTG18.
- Invertebrate Solutions Pty Ltd (2020b) *Targeted Survey for Main's Assassin Spider (Zephyrarchaea mainae) for the Albany Wind Farm, Albany, Western Australia*. Report prepared for Eco Logical Australia Pty Ltd on behalf of Synergy Pty Ltd, February 2020. The field component was undertaken in December 2019 at turbines WTG02, WTG04-WTG10 and WTG12-WTG18.

Fauna

Bio Diverse Solutions (2019) WTG01[26]	• The presence of south-western brown bandicoot/quenda (*Isoodon fusciventer*; Priority 4) was detected through diggings and presence of runnels. • No Main's assassin spider individuals were recorded at the site. • No other threatened or priority fauna species were recorded.
Bio Diverse Solutions (2018) WTG03 WTG11	• The presence of south-western brown bandicoot/quenda was detected through diggings and presence of runnels at WTG11. • No Main's assassin spider individuals were recorded at either site. • No threatened or priority fauna species were recorded at WTG03.
Invertebrate Solutions (2020a; 2020b) WTG02 WTG04-WTG10 WTG12-WTG18	• Suitable habitat for south-western brown bandicoot/quenda is present and diggings were recorded at various locations. • No Main's assassin spider individuals were recorded from any of the sites.

[25] The recommended timing for flora and vegetation surveys in the South-West and Interzone Botanical Provinces (within which the application area is located) is 6-8 weeks post wet season (September to November) with supplementary surveys after autumn rains, as set out in: Environmental Protection Authority (2016) *Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment*. December 2016. Government of Western Australia.

[26] The turbines are sequentially numbered from WTG01 (south-east end) to WTG18 (north-west end).

Flora and vegetation

Bio Diverse Solutions (2019) WTG01	• Potential suitable habitat for conservation-significant flora *Drakaea micrantha* (Threatened), *Kennedia glabrata* (Threatened), *Caladenia evanescens* (Priority 1), *Conospermum spectabile* (Priority 2), *Conospermum quadripetalum* (Priority 2), *Gyrostemon thesioides* (Priority 2), *Leucopogon cymbiformis* (Priority 2), *Austrostipa mundula* (Priority 3), *Chorizema carinatum* (Priority 3), *Synaphea preissii* (Priority 3), *Adenanthos* x *cunninghamii* (Priority 4), *Corybas limpidus* (Priority 4), *Eucalyptus* x *missilis* (Priority 4), *Thomasia solanacea* (Priority 4). • No threatened or priority ecological communities were recorded within the survey area.
Bio Diverse Solutions (2018) WTG03 WTG11	• Nine *Thomasia quercifolia* (Priority 4) individuals were recorded at WTG03, with a further 36 plants within 10 metres. • Potential suitable habitat for conservation-significant flora *Calectasia cyanea* (Threatened), *Conostylis misera* (Threatened), *Drakaea micrantha* (Threatened), *Kennedia glabrata* (Threatened), *Conospermum quadripetalum* (Priority 2), *Gyrostemon thesioides* (Priority 2), *Leucopogon cymbiformis* (Priority 2), *Thelymitra variegata* (Priority 2), *Austrostipa mundula* (Priority 3), *Synaphea incurva* (Priority 3), *Synaphea preissii* (Priority 3), *Gahnia sclerioides* (Priority 4), *Adenanthos* x *cunninghamii* (Priority 4), *Corybas limpidus* (Priority 4), *Eucalyptus* x *missilis* (Priority 4), *Thomasia solanacea* (Priority 4), *Thomasia quercifolia* (Priority 4). • No threatened or priority ecological communities were recorded within the survey areas.
Eco Logical Australia (2020) WTG02 WTG04-WTG10 WTG12-WTG18	• Two *Adenanthos* x *cunninghamii* (Priority 4) individuals were recorded at WTG07, with a further two plants within surrounding vegetation. • Large populations of *Thomasia quercifolia* (Priority 4) were recorded at WTG06 and WTG08, estimated number of individuals 500-1,000 with further plants in surrounding vegetation. • No priority flora were recorded at the other turbine sites, and no threatened flora were recorded within the project area. • No conservation significant ecological communities listed under the EPBC Act, the BC Act or by DBCA occur or were inferred to occur within the project area.

Photographs

Photographs included in the biological surveys provide representative images of the vegetation communities (see Appendix C for descriptions) within the application area.

Vegetation communities described by Eco Logical Australia (2020)

Peppermint Low Forest (ARVS 2)

Coastal Heath (ARVS 3)

Coastal Limestone Heath (ARVS 5)

Ridge-fruited mallee (*Eucalyptus angulosa*) low mallee woodland

Rehabilitation

Peppermint Low Forest (ARVS 2) at WTG01 (south-east end) (Bio Diverse Solutions, 2019)




Coastal Limestone Heath (ARVS 5) / Coastal Heath (ARVS 3) mosaic at WTG03 (Biodiverse Solutions, 2018)



Peppermint Low Forest (ARVS 2) / Coastal Heath mosaic (ARVS 3) at WTG11 (Biodiverse Solutions, 2018)

Appendix G – References and databases

GIS datasets

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Consanguineous Wetlands Suites (DBCA-020)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- 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
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Remnant Vegetation, All Areas
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- South Coast Significant Wetlands (DBCA-018)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- RIWI Act, Groundwater Areas (DWER-034)

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)

- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities

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