



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

<b>Purpose Permit number:</b>	CPS 10326/1
<b>Permit Holder:</b>	Regional Power Corporation, trading as Horizon Power
<b>Duration of Permit:</b>	From 25 November 2024 to 25 November 2035

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

### **PART I – CLEARING AUTHORISED**

#### **1. Clearing authorised (purpose)**

The permit holder is authorised to clear *native vegetation* for the purpose of installing renewable energy infrastructure and supporting infrastructure.

#### **2. Land on which clearing is to be done**

Lot 114 on Deposited Plan 219259, Warmun  
 Lot 504 on Deposited Plan 52633, Warmun  
 Lot 89 on Deposited Plan 91011, Dampier Peninsula  
 Lot 100 on Deposited Plan 415243, Dampier Peninsula  
 Lot 500 on Deposited Plan 421974, Dampier Peninsula  
 Lot 246 on Deposited Plan 91725, Dampier Peninsula  
 Lot 278 on Deposited Plan 240321, Lagrange  
 Great Northern Hwy Road Reserve (PINs 11598590 and 11603657), Warmun

#### **3. Clearing authorised**

The permit holder must not clear more than 21.2 hectares of *native vegetation* within the areas cross-hatched yellow in Figures 1 to 5 of Schedule 1.

#### **4. Period during which clearing is authorised**

The permit holder must not clear any *native vegetation* after 25 November 2029.

## **PART II – MANAGEMENT CONDITIONS**

### **5. Avoid, minimise, and reduce impacts and extent of clearing**

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

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

### **6. Priority ecological community management**

The permit holder must:

- (a) prior to undertaking any *clearing* within the area cross-hatched yellow in Figure 3 of Schedule 1, demarcate the *recorded occurrence* of the ‘Kimberley Vegetation Association 67’ priority ecological community within that area; and
- (b) not clear more than one (1) hectare of the *recorded occurrence* of the ‘Kimberley Vegetation Association 67’ priority ecological community.

### **7. Weed management**

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

- (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. Erosion management**

The permit holder must commence activities relating to the purpose of clearing, as specified under *condition* 1, no later than six (6) months after undertaking clearing authorised under this permit.

### **9. Fauna management – directional clearing**

The permit holder must:

- (a) conduct *clearing* authorised under this permit in one direction towards adjacent *native vegetation* and away from existing adjacent roads; and
- (b) allow reasonable time for fauna present within the area being cleared to move into adjacent *native vegetation* ahead of the *clearing* activity.

### **10. Fauna management – time of clearing**

The permit holder must undertake all *clearing* authorised under this permit during *daytime hours*.

## 11. Fauna management – greater bilby

- (a) within fourteen (14) days prior to undertaking any clearing authorised under this permit, for the areas cross-hatched yellow in Figures 1 to 3 of Schedule 1, the permit holder must engage a *fauna specialist* to:
  - (i) undertake surveys using transects spaced at 100 metres on average, to identify evidence of use by the greater bilby (*Macrotis lagotis*); and
  - (ii) where evidence of greater bilby use is identified under *condition* 11(a)(i), undertake surveys using transects spaced at 20 metres on average, to identify evidence of burrows that may be suitable for greater bilby use.
- (b) where potential greater bilby burrow/s are identified under *condition* 11(a), the permit holder must engage a *fauna specialist* to:
  - (i) flag the location of the burrow/s; and
  - (ii) inspect the burrow/s and determine whether the burrow/s are *occupied*.
- (c) where an *occupied* burrow is identified under *condition* 11(b), the permit holder must not clear within 50 metres of the *occupied* burrow and ensure there is an undisturbed vegetative linkage between the *occupied* burrow and vegetation outside of the area to be cleared, where practicable.
- (d) where an *occupied* burrow is identified under *condition* 11(b), and cannot be avoided with a minimum 50 metre vegetative buffer in accordance with *condition* 11(c), the permit holder must engage a *fauna specialist* to:
  - (i) monitor the burrow with remote cameras for greater bilby use for a minimum of three (3) consecutive nights;
  - (ii) where no evidence of greater bilby activity is identified under *condition* 11(d)(i), the burrow shall be deemed as un-*occupied* and the permit holder must engage a *fauna specialist* to:
    - A. carefully excavate the burrow by hand, and remove and relocate any native vertebrate fauna found within the burrow; and
    - B. collapse and fill the burrow immediately after the *fauna specialist* has confirmed that no native vertebrate fauna are present within the burrow.
  - (iii) where evidence of greater bilby use is identified under *condition* 11(d)(i), the permit holder must engage a *fauna specialist* to:
    - A. continue to monitor the burrow for greater bilby activity;
    - B. implement displacement techniques such as deliberate disturbance of the burrow entrance, while ensuring the disturbance does not prevent greater bilby from exiting the burrow; and
    - C. once greater bilby displacement from the burrow is confirmed, stop monitoring, and undertake the actions required under *condition* 11(d)(ii)A and *condition* 11(d)(ii)B.
- (e) if the greater bilby has not moved on from an *occupied* burrow under *condition* 11(d)(iii), the permit holder must, within 24 hours prior to clearing, engage a *fauna specialist* to remove and relocate the identified greater bilby to an area of *greater bilby suitable habitat* no closer than 100 metres from the area to be cleared, in accordance with a section 40 authorisation under the *Biodiversity Conservation Act 2016*.
- (f) immediately after the greater bilby has been relocated under *condition* 11(e), the permit holder must engage a *fauna specialist* to undertake the actions required under *condition* 11(d)(ii)A and *condition* 11(d)(ii)B.
- (g) within 24 hours prior to *clearing* within the areas cross-hatched yellow in Figures 1 to 3 of Schedule 1, the permit holder must engage a *fauna specialist* to re-inspect

- any flagged burrow/s identified under *condition 11(b)(i)* for evidence of re-excavation by greater bilby, unless these burrows are being avoided with a minimum 50 metre vegetative buffer in accordance with *condition 11(c)*.
- (h) where re-excavated greater bilby burrow/s are identified under *condition 11(g)*, the permit holder must engage a *fauna specialist* to:
    - (i) flag the location of the burrow/s; and
    - (ii) inspect the burrow/s and determine whether the burrow/s are *occupied*.
  - (i) where an *occupied* burrow is identified under *condition 11(h)(ii)*, the permit holder must engage a *fauna specialist* to:
    - (i) remove and relocate any identified greater bilby from the burrow to an area of *greater bilby suitable habitat*, in accordance with a section 40 authorisation under the *Biodiversity Conservation Act 2016*; and
    - (ii) immediately after the greater bilby has been relocated under *condition 11(i)(i)*, undertake the actions required under *condition 11(d)(ii)A* and *condition 11(d)(ii)B*.
  - (j) where an *un-occupied* burrow is identified under *condition 11(h)(ii)*, the permit holder must engage a *fauna specialist* to undertake the actions required under *condition 11(d)(ii)A* and *condition 11(d)(ii)B*.
  - (k) where any greater bilby burrows are identified under *condition 11(a)* or *11(g)*, and any greater bilby is relocated under *condition 11(e)* or *11(i)*, the permit holder must include the following in a report to be submitted to the *CEO* within two (2) months of undertaking any clearing authorised under this permit:
    - (i) the location of any burrow identified including a description of whether the burrow was *occupied*, using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
    - (ii) a description of the remote camera monitoring actions undertaken under *condition 11(d)*;
    - (iii) the date and time that burrows have been excavated and collapsed under *conditions 11(d)*, *11(f)*, *11(i)* and *11(j)*;
    - (iv) the date and time greater bilby are recorded as independently moving on from an *occupied* burrow under *condition 11(d)*;
    - (v) the gender of each greater bilby captured and relocated under *condition 11(e)* or *11(i)*;
    - (vi) the location of any greater bilby captured under *condition 11(e)* or *11(i)*, using a GPS unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings or decimal degrees;
    - (vii) the date, time and vegetation type at each location where greater bilby are captured under *condition 11(e)* or *11(i)*;
    - (viii) the location of any greater bilby relocated under *condition 11(e)* or *11(i)*, using a GPS unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings or decimal degrees;
    - (ix) the date, time and vegetation type at each location where greater bilby are relocated under *condition 11(e)* or *11(i)*;
    - (x) the name of the *fauna specialist* that relocated greater bilby under *condition 11(e)* or *11(i)*; and
    - (xi) a copy of the fauna licence authorising the relocation of greater bilby under *condition 11(e)* or *11(i)*.



## 12. Fauna management – fauna spotter

- (a) the permit holder must engage a *fauna specialist* to traverse the areas cross-hatched yellow in figures 1-5 of Schedule 1, ahead of clearing machinery immediately prior to and for the duration of clearing activities, to identify native vertebrate fauna.
- (b) where native vertebrate fauna is identified under *condition* 12(a), the permit holder must:
  - (i) cease clearing activities in any area where native vertebrate fauna was identified under *condition* 12(a), until the identified individual(s) have naturally dispersed from the clearing area to adjoining habitat;
  - (ii) where native vertebrate fauna identified under *condition* 12(a) do not naturally disperse, the *fauna specialist* must remove and relocate native vertebrate fauna to an area of suitable habitat outside of the authorised clearing area, prior to recommencing clearing;
  - (iii) where fauna listed under the *Biodiversity Conservation Act 2016* require removal and relocation under *condition* 12(b)(ii), this action must be undertaken in accordance with a section 40 authorisation under the *Biodiversity Conservation Act 2016*.
- (c) Where northern blue-tongue skink (*Tiliqua scincoides intermedia*) is identified under *condition* 12(a), the permit holder shall include the following in a report submitted to the CEO, within six (6) months of undertaking any clearing authorised under this permit:
  - (i) the number of individuals identified;
  - (ii) the date each individual was identified;
  - (iii) the location where each individual was identified, recorded using a GPS unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings or decimal degrees
  - (iv) the location of any native fauna captured and relocated, using a GPS unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings or decimal degrees; and
  - (v) the name of the *fauna specialist* that relocated northern blue-tongue skink under *condition* 12(b).

## 13. Fauna management – Gouldian finch

- (a) prior to clearing *suitable Gouldian finch (Erythrura gouldiae) nesting trees* during the *Gouldian finch nesting season* within the areas cross-hatched yellow in Figures 2 to 5 of Schedule 1, the permit holder must engage a *fauna specialist* to identify and inspect *suitable Gouldian finch nesting trees* within these areas for hollows, and evidence of *active nesting use*.
- (b) if any hollow bearing trees are identified under *condition* 13(a), the permit holder shall retain that tree, where practicable.
- (c) the permit holder must not clear any *suitable Gouldian finch nesting trees* with hollow(s) identified under *condition* 13(a) that show evidence of *active nesting use*, during the *Gouldian finch nesting season*.
- (d) where *suitable Gouldian finch nesting trees* with hollow(s) are identified under *condition* 13(a), the permit holder must include the following in a report submitted to the CEO:
  - (i) the number of tree(s) with hollows identified under *condition* 13(a);

- (ii) the number of hollow bearing tree(s) retained under *condition* 13(b), and for any hollow bearing tree(s) not retained the reasons why the tree(s) could not be retained;
- (iii) the methodology used to inspect tree hollows;
- (iv) the number and location of any *active nesting use* trees identified under *condition* 13(a), recorded using a GPS unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings or decimal degrees; and
- (v) for any *active nesting use* trees cleared outside of the *Gouldian finch nesting season*, the date that the *active nesting use* tree was cleared.

#### 14. Fauna management – rainbow bee-eater

The permit holder shall avoid clearing during the *rainbow bee-eater breeding season*, where practicable.

#### 15. Flora management

- (a) prior to undertaking any clearing authorised under this permit, the boundaries of the areas authorised to be cleared under this permit must be identified and demarcated using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees.
- (b) prior to undertaking any clearing authorised under this permit, the locations of *recorded priority flora* within the areas cross-hatched yellow in Figures 1-5 of Schedule 1, must be demarcated and avoided with a minimum 20 metre buffer, where practicable.
- (c) where *priority flora* cannot be avoided under *condition* 15(b), the permit holder must not cause or allow the clearing of more than the following *recorded priority flora*, unless otherwise approved by the CEO:
  - (i) 15 locations of *Tephrosia andrewii*
  - (ii) 8 locations of *Triodia acutispicula*.

#### 16. Revegetation (temporary cleared areas)

The permit holder must:

- (a) retain the vegetative material and topsoil removed by clearing authorised under this permit and stockpile in an area that has already been cleared.
- (b) at an optimal time no later than twelve (12) months following *clearing* authorised under this permit, *revegetate* the areas that are no longer required for the purpose for which they were *cleared* under this permit by:
  - (i) re-shaping the surface of the land so that it is consistent with the surrounding five metres of land;
  - (ii) ripping the ground on the contour to remove soil compaction, where required;
  - (iii) laying the vegetative material and topsoil retained under *condition* 16(a) on the areas that are no longer required for the purpose for which they were cleared; and
  - (iv) undertake ongoing *weed* control over the *revegetated* areas.

- (c) within 24 months of undertaking the actions required under *condition 16(b)*, the permit holder must:
  - (i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated*; and
  - (ii) engage an *environmental specialist* to determine whether the composition, structure and density determined under *condition 16(c)(i)* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area.
- (d) if the determination made by the *environmental specialist* under *condition 16(c)(ii)* is that the species composition, structure, and density determined under *condition 16(c)(i)* will not, without further *revegetation*, result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, the permit holder must *revegetate* the area by deliberately *planting local provenance* propagating material and/or *direct seeding* of *local provenance* seeds that will result in a similar species composition, structure, and density of native vegetation to pre-clearing vegetation types in that area.
- (e) where additional *planting* or *direct seeding* of *native vegetation* is undertaken in accordance with *condition 16(d)*, the permit holder must repeat the activities required by *condition 16(c)(i)*, *condition 16(c)(ii)* and *condition 16(d)* within two years of undertaking the additional *planting* or *direct seeding* of *local provenance*.
- (f) where an *environmental specialist* has determined that the composition, structure and density within areas *revegetated* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, that determination shall be submitted to the *CEO* within three (3) months of the determination being made.
- (g) if the *CEO* does not agree with the determination made by the *environmental specialist* under *condition 16(f)*, the *CEO* may require the permit holder to repeat the actions required under *condition 16(d)* and *condition 16(e)*.

### **PART III - RECORD KEEPING AND REPORTING**

#### **17. Records that must be kept**

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

**Table 1: Records that must be kept**

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	<ul style="list-style-type: none"> <li>(a) the species composition, structure, and density of the cleared areas;</li> <li>(b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings;</li> <li>(c) the date that the areas were cleared;</li> <li>(d) the size of the areas cleared (in hectares);</li> <li>(e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in</li> </ul>

No.	Relevant matter	Specifications
		<p>accordance with <i>condition 5</i>;</p> <p>(f) actions taken in accordance with <i>condition 6</i>;</p> <p>(g) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> in accordance with <i>condition 7</i>;</p> <p>(h) actions taken in accordance with <i>condition 8</i>;</p> <p>(i) actions taken in accordance with <i>condition 9</i>; and</p> <p>(j) actions taken in accordance with <i>condition 10</i>.</p>
2.	In relation to fauna management for the greater bilby pursuant to <i>condition 11</i>	<p>(a) results of the pre-clearance surveys undertaken in accordance with <i>condition 11</i>, including photographic records demonstrating the method and number of remote camera monitoring nights; and</p> <p>(b) a copy of the <i>fauna specialist's</i> report in accordance with <i>condition 11</i>.</p>
3.	In relation to fauna management pursuant to <i>condition 12</i>	<p>(a) a copy of the <i>fauna specialist's</i> report in accordance with <i>condition 12</i>.</p>
4.	In relation to fauna management for the Gouldian finch pursuant to <i>condition 13</i>	<p>(a) results of the <i>Gouldian finch habitat tree</i> inspection undertaken in accordance with <i>condition 13</i>; and</p> <p>(b) a copy of the <i>fauna specialist's</i> report in accordance with <i>condition 13</i>.</p>
5.	In relation to flora management pursuant to <i>condition 15</i>	<p>(a) actions taken to demarcate and avoid <i>recorded priority flora</i> with a 20 metre buffer, where practicable;</p> <p>(b) if <i>recorded priority flora</i> cannot be avoided, the:</p> <p>(i) date <i>recorded priority flora</i> species were cleared;</p> <p>(ii) location of <i>recorded priority flora</i> cleared, recorded using a GPS unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings; and</p> <p>(iii) the <i>recorded priority flora</i> taxa and number of individuals cleared.</p>

No.	Relevant matter	Specifications
6.	In relation to <i>revegetation</i> pursuant to <i>condition 16</i>	<p>(a) actions taken in accordance with <i>condition 16</i> to <i>revegetate</i> temporarily cleared areas;</p> <p>(b) the size of the area(s) <i>revegetated</i>;</p> <p>(c) the date(s) on which <i>revegetation</i> was undertaken; and</p> <p>(d) the boundaries of the area(s) <i>revegetated</i>, recorded using a GPS unit set to GDA2020, expressing the geographical coordinates.</p> <p>(e) a description of any additional <i>revegetation</i> works undertaken in accordance with <i>condition 16(d)</i>; and</p> <p>(f) a copy of the <i>environmental specialist's</i> monitoring report and determination, pursuant to <i>condition 16(f)</i>.</p>

## 18. Reporting

- (a) The permit holder must provide to the *CEO* on or before 30 June of each year, a written report containing:
  - (i) the records required to be kept under *condition 17*; and
  - (ii) records of activities done by the permit holder under this Permit between 1 January and 31 December of the preceding calendar year.
- (b) If no *clearing* authorised under this permit has been undertaken, a written report confirming that no *clearing* under this permit has been undertaken must be provided to the *CEO* on or before 30 June of each calendar year.
- (c) The permit holder must provide to the *CEO*, no later than 90 calendar days prior to the expiry date of the permit, a written report of records required under *condition 17*, where these records have not already been provided under *condition 18(a)*.

## DEFINITIONS

In this permit, the terms in Table 2 have the meanings defined.

**Table 2: Definitions**

Term	Definition
active nesting use	evidence of current Gouldian finch nesting in tree hollows as identified by a <i>fauna specialist</i> .
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
daytime hours	means the duration starting half an hour before sunrise and ending half

Term	Definition
	an hour after sunset.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent and has a minimum of 2 years work 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.
EP Act	<i>Environmental Protection Act 1986</i> (WA).
fauna specialist	means a person who holds a tertiary qualification specialising in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the <i>Biodiversity Conservation Act 2016</i> .
fill	means material used to increase the ground level, or to fill a depression.
Gouldian finch nesting season	means from January to May, noting that breeding typically occurs until the end of April and nestlings can take up to 25 days to fledge.
greater bilby suitable habitat	means habitat known to support the Greater Bilby ( <i>Macrotis lagotis</i> ) within the known current distribution of the species.
local provenance	means native vegetation seeds and propagating material from natural sources within 50 km and the same 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.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
occupied	means currently occupied, or where uncertainty exists, potentially occupied, by the greater bilby ( <i>Macrotis lagotis</i> ).
optimal time	means the period from November to December for undertaking seeding.
priority flora	means those plant taxa described as priority flora classes 1, 2, 3, or 4 in the <i>Department of Biodiversity, Conservation and Attractions Threatened and Priority Flora List for Western Australia</i> (as amended).
rainbow bee-eater breeding season	means from August to January.
recorded priority flora	means individuals of those priority flora species found within the areas cross-hatched yellow in Figures 1-5 of Schedule 1 during the following surveys: <ul style="list-style-type: none"> <li>• GHD (2023) <i>Future Energy Systems: Dampier Peninsula and Warmun, Biological survey for Horizon Power</i>.</li> <li>• GHD (2024) <i>Technical Memorandum, Warmun and Dampier connections survey, Reconnaissance Flora and Vegetation survey and Targeted flora survey for Warmun and Bidadanga</i>.</li> </ul>
recorded occurrence	means the recorded occurrence of the 'Kimberley Vegetation Association 67' priority ecological community within the area cross-hatched yellow in Figure 3 of Schedule 1 in the following survey: <ul style="list-style-type: none"> <li>• GHD (2023) <i>Future Energy Systems: Dampier Peninsula and Warmun, Biological survey for Horizon Power</i>.</li> </ul>



Term	Definition
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.
suitable Gouldian finch nesting trees	means any trees that have the potential to contain hollows suitable for Gouldian finch nesting.
weeds	means any plant – <ul style="list-style-type: none"> <li>(a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i>; or</li> <li>(b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or</li> <li>(c) not indigenous to the area concerned.</li> </ul>

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**END OF CONDITIONS**

**Meenu Vitarana****MANAGER****NATIVE VEGETATION REGULATION**

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

31 October 2024

## Schedule 1

The boundary of the areas authorised to be cleared is shown in the maps below (Figure 1 to 5).



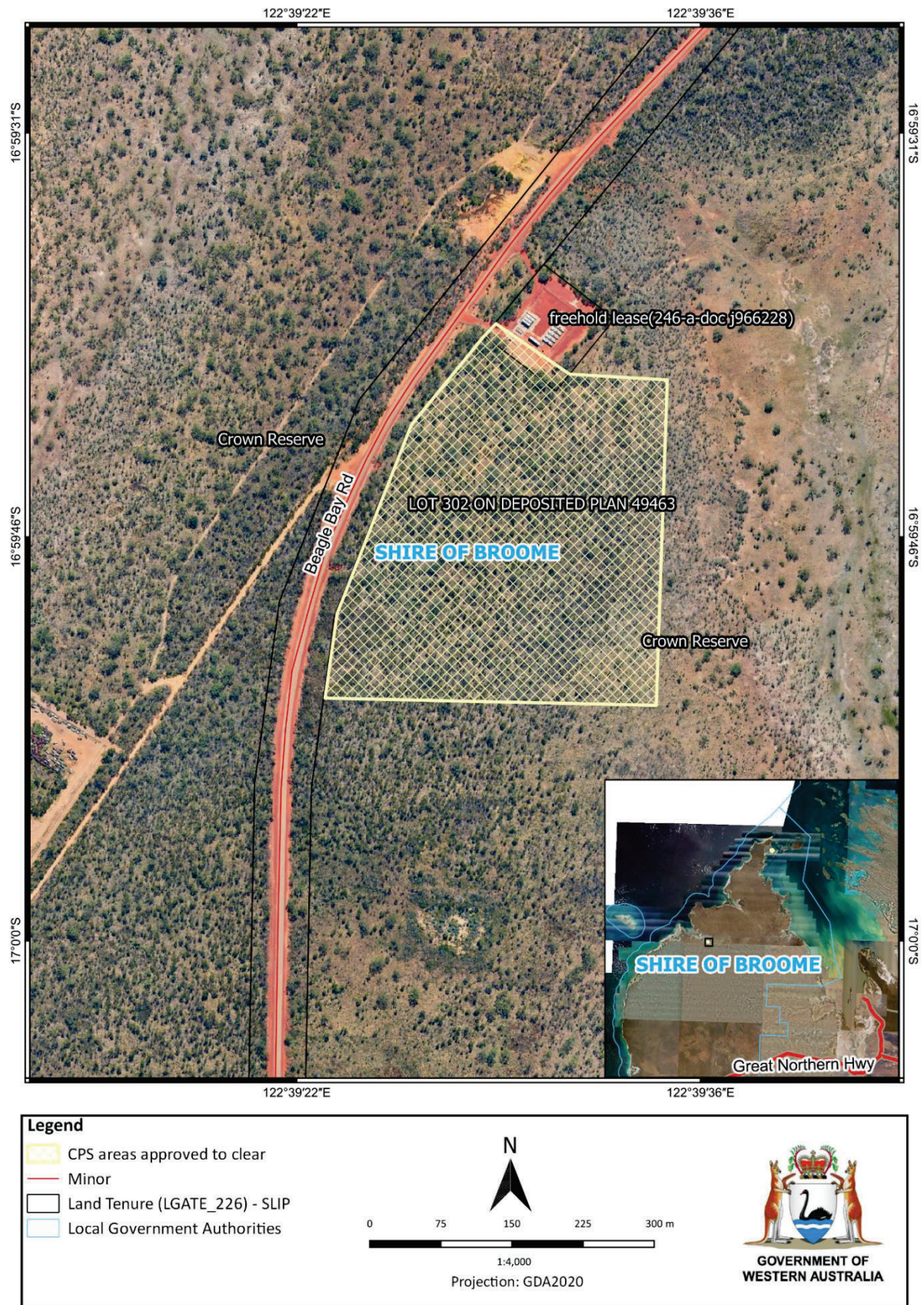
**Figure 1: Map of the boundary of the area within which clearing may occur – Area 1**





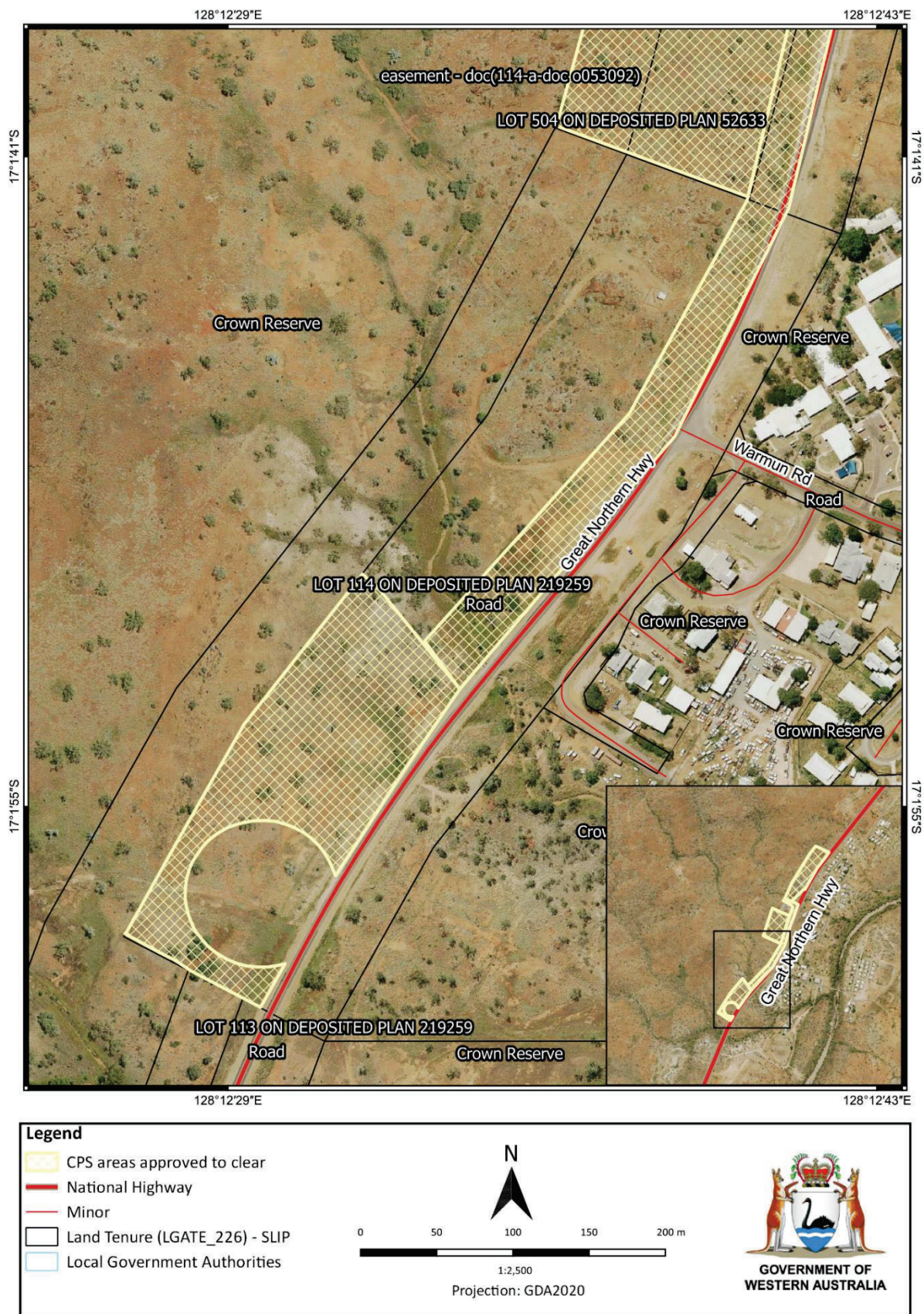
**Figure 2: Map of the boundary of the area within which clearing may occur – Area 2**





**Figure 3: Map of the boundary of the area within which clearing may occur – Area 3**





**Figure 4: Map of the boundary of the area within which clearing may occur – Area 4**



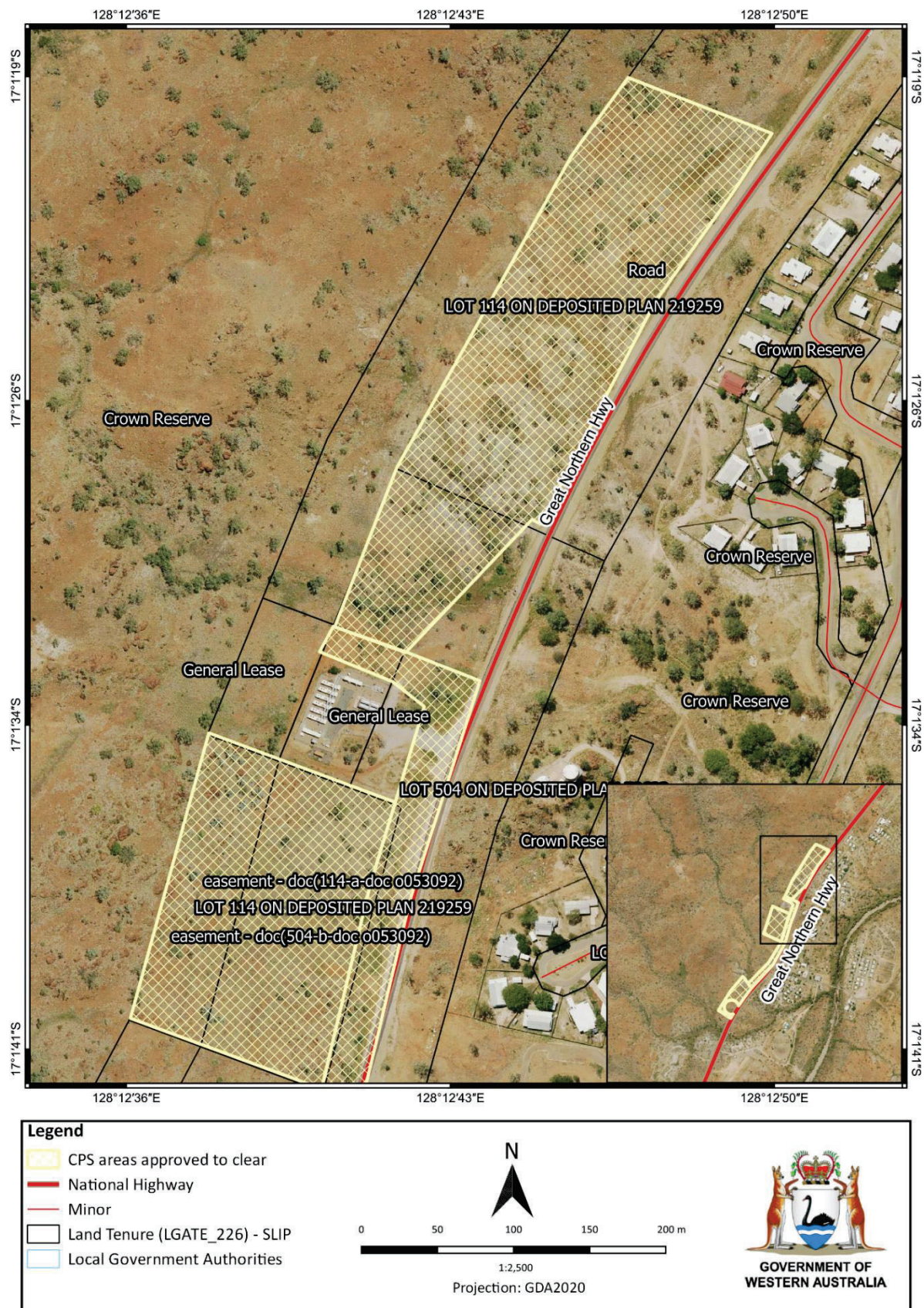


Figure 5: Map of the boundary of the area within which clearing may occur – Area 4





# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

<b>Permit number:</b>	CPS 10326/1
<b>Permit type:</b>	Purpose permit
<b>Applicant name:</b>	Regional Power Corporation, trading as Horizon Power
<b>Application received:</b>	5 September 2023
<b>Application area:</b>	21.2 hectares of native vegetation
<b>Purpose of clearing:</b>	Geotechnical surveys and installation of renewable energy infrastructure
<b>Method of clearing:</b>	Mechanical
<b>Property:</b>	Lot 114 on Deposited Plan 219259 Lot 100 on Deposited Plan 415243 Lot 500 on Deposited Plan 421974 Lot 504 on Deposited Plan 52633 Lot 278 on Deposited Plan 240321 Lot 89 on Deposited Plan 91011 Lot 246 on Deposited Plan 91725 Great Northern Hwy Road Reserve (PINs 11598590 and 11603657)
<b>Location (LGA area/s):</b>	Shire of Broome, Shire of Halls Creek
<b>Localities (suburb/s):</b>	Dampier Peninsula, Lagrange, Warmun

### 1.2. Application description

The vegetation proposed to be cleared is in four separate areas, three within the Shire of Broome and one in the Shire of Halls Creek. Within the Shire of Broome, two are in the Dampier Peninsula locality, approximately 70 kilometres apart, and the third is in Lagrange, approximately 200 kilometres south of the Dampier Peninsula (Horizon Power, 2023a). The Shire of Halls Creek application area is approximately 550 kilometres east of the Broome application areas (see Figure 1-5, Section 1.5).

Due to the large distance between the application areas, each has been individually assessed:

- Area 1 - in Lagrange near the community of Bidyadanga;
- Area 2 - in the Dampier Peninsula near the community of Ardyaloon;
- Area 3 - in the Dampier Peninsula near the community of Beagle Bay; and
- Area 4 - in the Shire of Halls Creek near the community of Warmun

The application is to clear 21.2 hectares of native vegetation within a larger 100.49 ha footprint for the installation of renewable energy infrastructure. Specifically, the applicant proposes to construct a future energy system including renewable energy facilities together with batteries and backup firming diesel generation, to supply electricity to the remote communities of Warmun, Beagle Bay, Ardyaloon and Bidyadanga, including 900 kilowatts renewable infrastructure (Horizon Power, 2023a).

The applicant has advised that the project aligns with the *Western Australian Climate Policy* and presents an opportunity for cost-effective carbon abatement, given that it is expected to reduce emissions between 2332 tonnes and 5734 tonnes of carbon (Horizon Power, 2023a).

The applicant has advised that initial geotechnical surveys will be required prior to the construction of the renewable energy infrastructure.

### 1.3. Decision on application

<b>Decision:</b>	Granted
<b>Decision date:</b>	31 October 2024
<b>Decision area:</b>	21.2 hectares of native vegetation, as depicted in Section 1.5, below.

### 1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), relevant datasets (see Appendix F.1), the findings of biological surveys (see Appendix E), the clearing principles set out in Schedule 5 of the EP Act (see Appendix C), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The Delegated Officer also took into consideration the purpose of the proposed clearing, to install renewable energy infrastructure in four remote Aboriginal communities, that aligns with the *Western Australian Climate Policy*.

The assessment identified that the proposed clearing will result in:

- a risk of injury to conservation listed fauna through clearing operations given the presence of suitable habitat for the Greater bilby (vulnerable), northern blue-tongue skink (critically endangered), Gouldian finch (priority 4), rainbow bee-eater (migratory), Dampierland burrowing snake (priority 2), and Dampierland plain slider (priority 2)
- the loss of up to 112 individuals (from 15 locations) of *Tephrosia andrewii* (priority 3) and up to 124 individuals (from 8 locations) of *Triodia acutispicula* (priority 3)
- the loss of 1 hectare of Kimberley Vegetation Association 67 (priority ecological community (PEC) (Priority 3)
- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values; and
- potential land degradation, and sedimentation of watercourses through wind and water erosion.

After consideration of the available information, as well as the applicant's avoidance, minimisation and mitigation measures (see Section 3.1), which include minimising the extent of impact to the Kimberley Vegetation Association 67 PEC, and avoiding several priority flora individuals, the Delegated Officer determined that the proposed clearing can be appropriately managed through conditions on the clearing permit such that it is unlikely to lead to an unacceptable risk to environmental values.

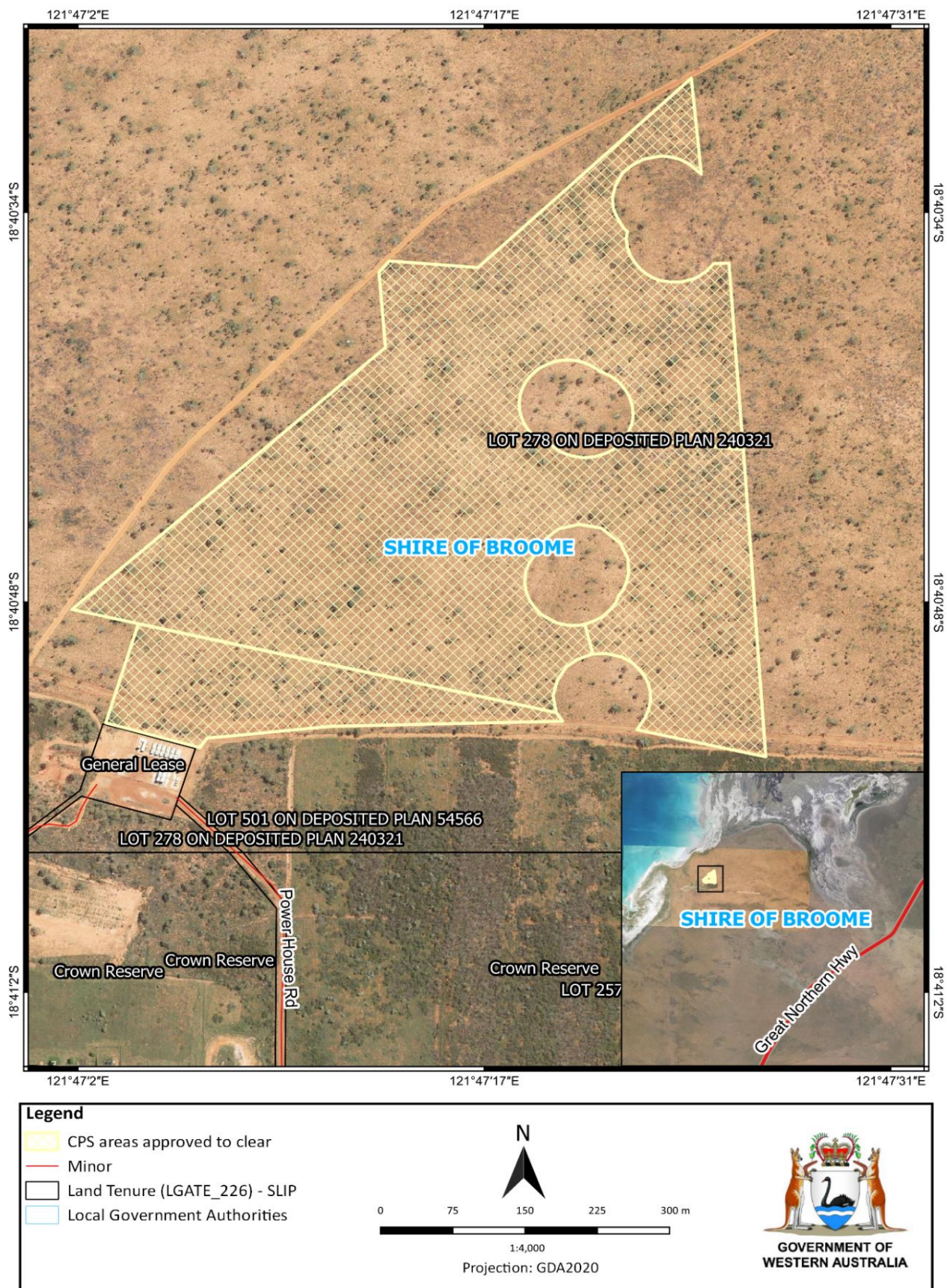
The Delegated Officer therefore decided to grant a clearing permit subject to conditions to:

- undertake avoid and minimise measures to reduce the impacts and extent of clearing
- undertake hygiene steps to minimise the risk of the introduction and spread of weeds
- undertake construction works within six months of undertaking any clearing to reduce the potential for wind and water erosion
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity
- restrict clearing to no more than one hectare of the Kimberley Vegetation Association 67 PEC
- engage a fauna specialist to undertake pre-clearance surveys for the Greater bilby, including specific management measures should bilby burrows be identified
- restrict clearing activities to daylight hours to reduce the risk of injury to fauna

- engage a fauna specialist for the duration of clearing to identify, and if necessary, remove and relocate, native fauna from the application area to an area of suitable habitat ahead of the clearing activity
- if proposing to undertake clearing during the Gouldian finch nesting season, inspect suitable Gouldian finch nesting trees within the application area for hollows, and avoid hollow bearing trees showing signs of nesting use until after nestlings have fledged
- avoid clearing during the rainbow bee-eater nesting period, where practicable
- demarcate and avoid with a 20-metre buffer priority flora recorded within the application area during the biological surveys, where practicable. If clearing of priority flora is unavoidable, clear no more than 15 locations of *Tephrosia andrewii* and 8 locations of *Triodia acutispicula*
- revegetate temporary cleared areas to their pre-cleared state.



## 1.5. Site maps



**Figure 1** Map of Area 1 - Bidyadanga application area

The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.





**Figure 2** Map of Area 2 - Ardyaloon application area

The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

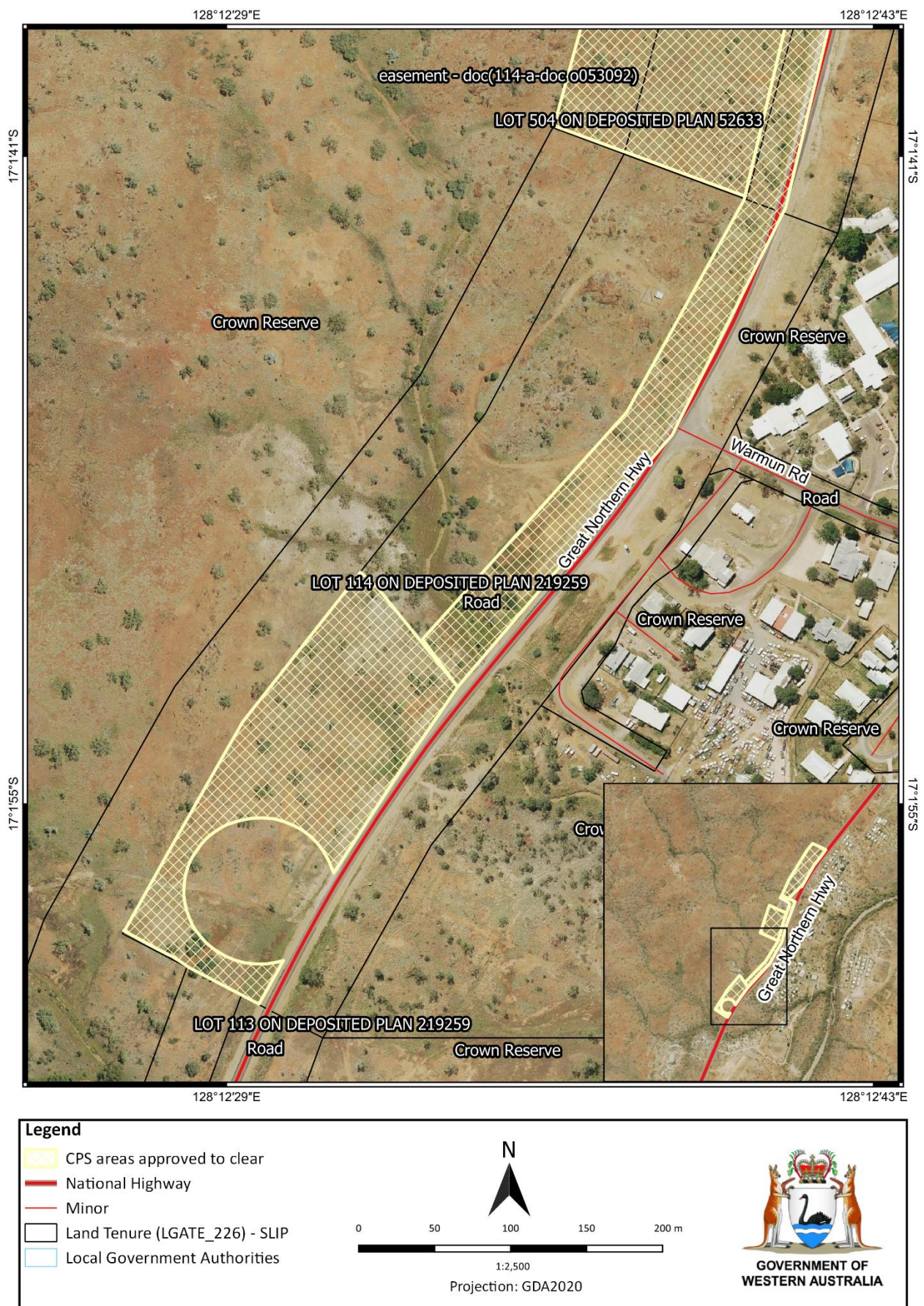




**Figure 3** Map of Area 3 - Beagle Bay application area

The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

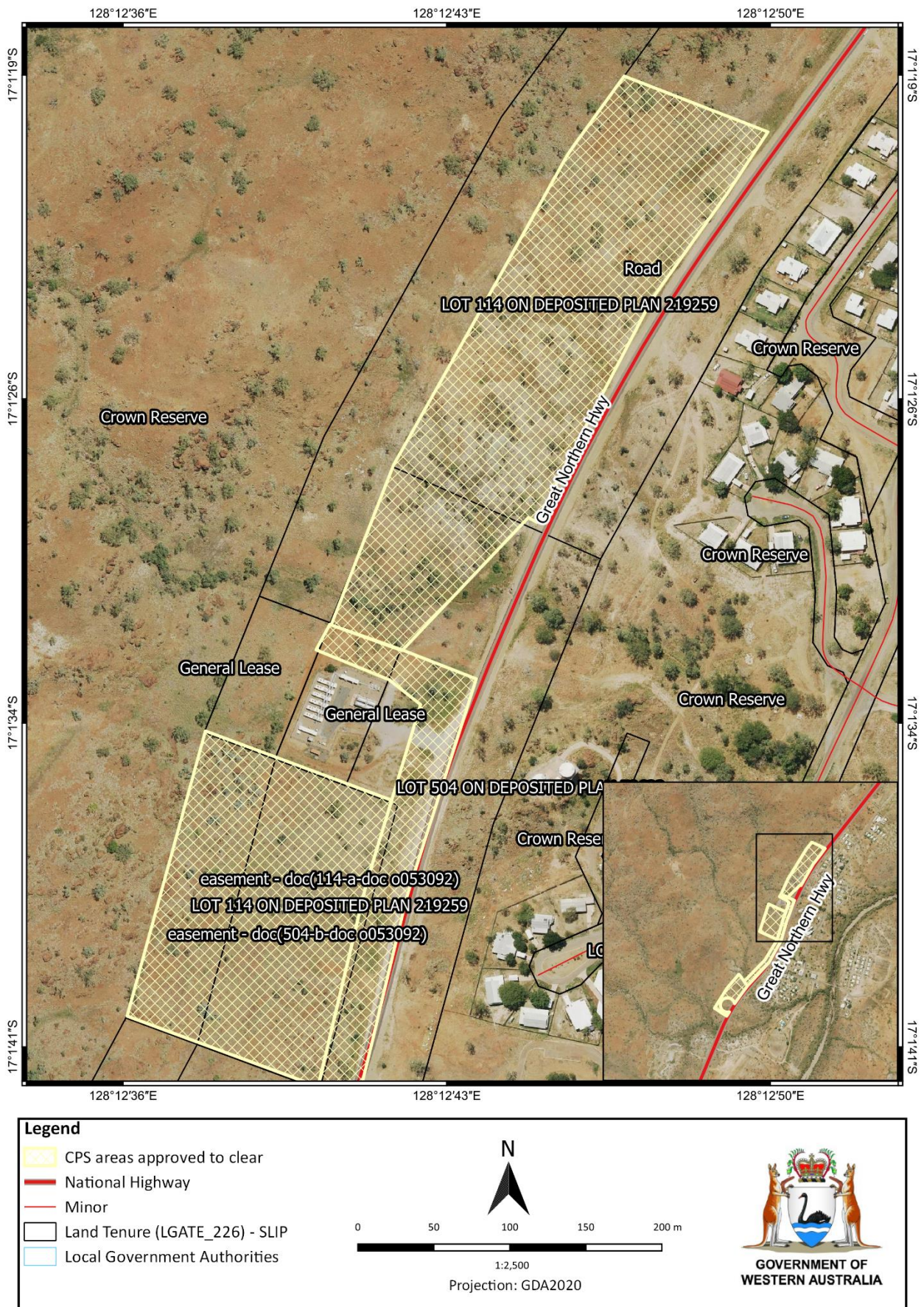




**Figure 4** Map of Area 4 - Warmun south application area

The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.





**Figure 5** Map of Area 4 - Warmun north application area

The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.



## 2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)

The key guidance documents which inform this assessment are:

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

## 3 Detailed assessment of application

### 3.1. Avoidance, minimise, mitigation and management measures

The applicant submitted supporting information with its application which committed to the following avoid, minimise, mitigate and management measures (Horizon Power, 2023a):

- construction activities will commence within six months of the clearing being conducted
- the clearing area will be demarcated prior to clearing activities and no clearing will be permitted beyond the approved clearing area
- a 50 metre exclusion buffer will be provided around *Goodenia byrnesii* (priority 3) at Area 4
- seven locations, comprising 82 individuals (42 per cent of all recorded) of *Tephrosia andrewsii* will be avoided
- no more than one hectare of the Kimberley vegetation Association 67 PEC will be cleared, and Horizon Power will aim to avoid clearing the PEC completely, pending the outcome of Heritage Surveys
- where possible, pre-existing access tracks will be used
- areas of degraded and sparsely vegetated or previously cleared areas will be preferentially selected
- weed and hygiene management practices will be applied
- slow, one-directional clearing will be undertaken to allow fauna to move offsite, if present
- any dust generated through clearing activities will be managed through the Construction Environmental Management Plan (Horizon Power, 2023)
- temporarily cleared areas will be revegetated, revegetation activities will include:
  - topsoil will be stockpiled and spread over the test pits
  - recontouring of soil within the test pit and laydown areas will be undertaken.

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

### 3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer had regard for the site characteristics (see Appendix B), biological survey findings, and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values. Surveys commissioned over the application area by the applicant included:

- GHD (2019) – A targeted flora survey including a portion of the Warmun area (Area 4)
- GHD (2021) – A detailed and targeted flora and vegetation survey and basic and targeted fauna survey for Bidiyadanga (Area 1), Ardyaloon (Area 2) and Beagle Bay (Area 3)
- GHD (2023) – A biological survey comprising a detailed and targeted flora and vegetation survey and a basic and targeted fauna survey

- GHD (2024) - A reconnaissance flora and vegetation survey and targeted flora survey for Warmun (Area 4) and Bidiyadanga (Area 1) to cover portions of the application area (proposed connection routes) not previously covered by the historical GHD surveys mentioned above.

The assessment against the clearing principles (see Appendix C) identified that the impacts of the proposed clearing present a risk to biological values (fauna, flora and ecological communities) and land and water resources. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

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

#### Assessment

#### Area 1 - Bidiyadanga

According to available datasets, there are records of 48 conservation listed fauna in the local area (50-kilometre radius). A post wet season basic and targeted fauna survey including this area was undertaken from 20-24 February 2023, as part of the broader biological survey (the survey) (GHD, 2023). The survey identified six fauna habitats, of which one habitat type occurred in Area 1; *Corymbia* open woodland over *Acacia* shrubs over tussock grasses over *Triodia* hummock grassland over herbs on red brown sandplain. The survey considered that Area 1 provides moderate value fauna habitat.

During the survey, 20 fauna species were identified in Area 1, one of which was conservation listed, being the critically endangered (under the EPBC Act) northern blue-tongue skink (GHD, 2021; GHD, 2023). In addition to the northern blue-tongued skink, four other conservation listed fauna species were considered likely to occur within Area 1:

- oriental pratincole (*Glareola maldivarum*, migratory listed under the EPBC 1999 and BC Act)
- grey falcon (*Falco hypoleucos*, vulnerable listed under the EPBC Act 1999 and BC Act)
- rainbow bee-eater (*Merops ornatus*, marine listed under the EPBC Act 1999)
- Greater bilby (*Macrotis lagotis*, vulnerable listed under the EPBC Act 1999 and BC Act).

#### *Oriental pratincole*

The oriental pratincole is a medium sized tern like shorebird, it is widespread in northern Australia and often found in the Pilbara and Kimberley coast in beaches, open plains, floodplains or short grasslands with extensive bare areas (DCCEEW, 2023a). The closest known record is 2.28 kilometres from Area 1. Noting the habitat present and proximity to the coast, the oriental pratincole may be present. However, given the large migratory distribution of this species and lack of significant habitat features in the context of the extensively vegetated local area, this species is unlikely to be significantly impacted by the proposed clearing.

#### *Grey falcon*

The grey falcon is a medium sized raptor endemic to mainland Australia and occurs in arid and semi-arid parts of Australia (Threatened Species Scientific Committee, 2020). The species is often found in *Acacia* shrublands near watercourses but can occur in tussock grasslands and open woodlands. The closest known record of this species is 43.15 kilometres from Area 1. No breeding habitat is present for this species (GHD, 2021; GHD, 2023), however given the application area consists of an open woodland, the grey falcon may utilise this area for foraging. Given the large distribution of this species, and lack of significant habitat features on site (i.e. breeding habitat) in the context of the extensively vegetated local area, this species is unlikely to be significantly impacted by the proposed clearing.

#### *Rainbow bee-eater*

The rainbow bee-eater is a medium sized bird and is widely distributed throughout Australia. It occurs mainly in open forests and woodlands, shrublands and in cleared or semi-cleared habitats often near permanent water (DCCEEW, 2023b). This species creates burrowed nests within the ground (nesting tunnels). Noting the extent of suitable habitat that exists in the local area, the proposed clearing is not likely to impact on significant habitat for this species. DBCA (2024) has recommended that where possible, clearing should be undertaken outside of this species breeding period (August to January) to reduce the risk of impact to this species.

#### *Greater bilby*

The Greater bilby once occupied more than three quarters of Australia but their range has since reduced by more than 80 per cent. It is a medium sized burrowing marsupial and can have large foraging ranges (DCCEEW, 2023c).

Historically, bilbies occurred in a wide range of climatic zones, soil, vegetation types and landforms. More recently, they persist in open tussock grasslands on uplands and hills, in mulga (*Acacia aneura*) woodland or shrubland on ridges and rises and are often found in areas with sandy soil for easier burrow excavation. In the north of Western Australia suitable habitat includes low *Eucalyptus* and *Acacia* woodlands, Pindan woodlands with hummock and tussock grasses on sandy soils, and loams and red earth or spinifex grasslands with low shrub cover of *Acacia* on sandy and sandy loam soils (DCCEEW, 2023c).

There are 51 records of the Greater bilby in the local area, the closest 760 metres away. While this species has not been recorded within the application area (GHD, 2021; GHD, 2023), it may transiently occur on site given the proximity of known records, high mobility of the species and habitat suitability within the application area.

Any area where the species is known or likely to occur is considered habitat critical to the survival of the Greater bilby (DCCEEW, 2023c). Given the extent of nearby records and that the vegetation in Area 1 comprises suitable habitat in the form of low woodlands with *Acacia* shrubs and *Triodia* open hummock grassland, this area may comprise critical habitat (GHD, 2021; GHD, 2023). The surveys conducted by GHD (2021; 2023) did not record any evidence of bilbies utilising Area 1 or the immediate surrounds. Noting this and given the nomadic and transient nature of bilbies and the presence of extensive suitable habitat in the local area, the proposed impact to Greater bilby habitat is not considered to be a significant residual impact that requires an offset in this instance.

DBCA (2024a and 2024b) provided advice on the proposed impact to this species and has recommended a pre-clearance fauna survey, along with appropriate management actions to prevent any harm to greater bilbies that may be utilising the application area at the time of clearing.

#### *Northern blue-tongue skink*

The northern blue-tongue skink was recorded within Area 1 (GHD, 2021; GHD, 2023), however was not considered a significant record at the time of surveys given they were conducted prior to the recent listing of the species as critically endangered under the EPBC Act (DCCEEW, 2023d).

The northern blue-tongue skink has been recorded in a wide variety of ecosystems, mostly near seasonal or permanent water, in dissected sandstone plateaus and gorges, limestone ranges, granite, basalt and dolerite hills, glacial shale undulations, sand plains, sandy waterways, swamps, cracking clay floodplains and coastal flats (DCCEEW, 2023d). Area 1 provides suitable habitat for this species.

Areas of dense vegetation that provide cool and moist conditions (typically riparian forest, and well vegetated wetlands and watercourses) within otherwise hot, dry, and flammable landscapes that are within the historical distribution of the species are habitat critical to the survival of this species (DCCEEW, 2023d). Area 1 does not include any mapped watercourses or riparian habitat and is therefore not likely to provide critical habitat for this species.

The greatest threat to the long-term persistence of this species is the invasive and toxic cane toad. There are few recorded areas where the northern blue-tongue skink persists following the arrival and establishment of the cane toad (DCCEEW, 2023d).

Given the wide range of habitats where this species has previously been recorded, extensively vegetated local area which provides suitable habitat for this species, and that this area does not include riparian habitat (see Section 3.2.4), the proposed clearing is unlikely to impact on critical habitat for this species. However, there is the risk of fauna strike should this species occur on site at the time of clearing. DBCA (2024a) has recommended that a fauna spotter be present during clearing activities to ensure the dispersal or relocation of this species, along with slow, directional clearing, to reduce the risk of fauna strike during clearing.

#### **Area 2 - Ardyaaloon**

According to available datasets, there are records of 40 conservation listed fauna in the local area (50 kilometre radius). The surveys of Area 2 identified one fauna habitat, *Eucalyptus* and *Corymbia* woodland to isolated clumps of trees over tussock grasses and herbs on Pindan red sand loam on low plain (GHD, 2021; GHD, 2023). The surveys classified the fauna habitat value as high.

During the surveys 23 fauna species were identified in Area 2, including two introduced species and one conservation listed species, the rainbow bee-eater. The surveys identified a further six conservation listed fauna species that were likely to occur in Area 2 (GHD, 2021; GHD, 2023). DWER's desktop assessment identified two additional conservation significant fauna to those referred to in the surveys that were likely to occur. These were:

- Gouldian finch (*Erythrura gouldiae*, priority 4 listed by DBCA)
- grey falcon
- peregrine falcon (*Falco peregrinus*, other specially protected listed under the BC Act)
- Greater bilby
- Dampierland burrowing snake (*Simoselaps minimus*, priority 2 listed by DBCA)
- Dampierland plain slider (*Lerista separanda*, priority 2 listed by DBCA)
- osprey (*Pandion haliaetus*, migratory listed under the EPBC Act)
- northern blue-tongue skink

#### *Rainbow bee-eater*

The rainbow bee-eater was found in Area 2 (GHD, 2021; GHD, 2023). Noting the reasons previously described for Area 1, the proposed clearing is unlikely to provide significant habitat for this species.

#### *Gouldian finch*

Gouldian finches are small seed eating birds restricted to the northern savannas of Australia. Nesting has been noted to occur in rocky hills between January to April in hollow bearing smooth barked gums within two to four kilometres of water sources that persist through the dry season (O'Malley, 2006; Australian Museum, 2024). The foraging habitat is dominated by annual spear grasses or native sorghum in the dry season and cockatoo grass, golden beard grass or spinifex in the wet season. Area 2 contains *Sorghum plumosum* and *Triodia spinifex* hummock grasslands which provide suitable foraging habitat, and *Corymbia* trees that may contain hollow bearing trees with suitable nesting habitat. The closest record of Gouldian finch is around 1 kilometre from the application area.

Noting the above, Area 2 provides suitable foraging habitat and potentially suitable nesting habitat for Gouldian finch and this species may therefore be present. While the impact to this species habitat from the proposed clearing is unlikely to be significant, given the extent of surrounding suitable habitat, DBCA (2024) has recommended that potentially suitable nesting trees within the application area be inspected for breeding, and if in use avoided until after the nestlings have naturally fledged and dispersed from the hollow.

#### *Grey falcon*

As per Area 1, Area 2 consists of an open woodland which provides suitable foraging habitat for this species. Noting the reasons previously described for Area 1, this species is unlikely to be significantly impacted by the proposed clearing.

#### *Peregrine falcon*

The Peregrine Falcon are large raptors found across Australia within many different habitats such as rainforests, arid zones and coastal areas with open woodlands near water (Birdlife Australia, 2023). They feed on small to medium-sized birds and small mammals. Their home range is 20-30 km<sup>2</sup> and they nest on cliff faces and tree hollows. This species is known from several records in the local area.

While no breeding habitat exists for this species in Area 2, given this area consists of open woodland, the peregrine falcon may utilise the application area for foraging. However, given the large distribution and home range of this species, absence of breeding habitat and extent of suitable foraging habitat for this species in the extensively vegetated local area, this species is unlikely to be significantly impacted by the proposed clearing.

#### *Greater bilby*

As per Area 1, Area 2 provides suitable habitat for this species. The closest Greater bilby record is 10.15 kilometres from the application area. The fauna surveys did not record any evidence of greater bilbies (GHD, 2021; GHD, 2023). Noting this, and for the reasons described for this species under Area 1, the proposed clearing of suitable bilby habitat was not considered a significant residual impact that required an offset in this instance.

DBCA (2024a and 2024b) has recommended a pre-clearance fauna survey, along with appropriate management actions to prevent any harm to greater bilbies that may be using the application area at the time of clearing.

#### *Dampierland burrowing snake*

The Dampierland burrowing snake is a poorly known species that only occurs in the Dampierland bioregion of Western Australia in Pindan woodland (Atlas of Living Australia, 2023). Area 2 comprises open woodland in the Dampierland bioregion, and several recent records occur in the local area. Therefore, Area 2 may provide suitable



habitat for this species. Noting the extensively vegetated local area, which provides presumably equally suitable habitat, and that this species was not identified during the fauna surveys, Area 2 is unlikely to provide significant habitat for this species. However, there is the risk that this species could be impacted if present at the time of clearing. DBCA (2024a) has recommended slow directional clearing to allow this species to disperse ahead of the clearing activity if present within the application area.

#### *Dampierland plain slider*

The Dampierland plain slider is a poorly known skink species that has been previously recorded under *Crotalaria cunninghamii* on coastal dunes in the Dampierland Bioregion (DCCEEW, 2023e). Two records have been recorded in the local area, with the closest 30.7 kilometres from Area 2. While no *Crotalaria cunninghamii* was noted in Area 2, the vegetation type comprises near coastal Pindan shrubland, which may provide suitable habitat for this species (GHD, 2021; GHD, 2023). Noting the extensively vegetated local area, which provides presumably equally suitable habitat, and that this species was not identified during the fauna surveys (GHD, 2021; GHD, 2023), Area 2 is unlikely to provide significant habitat for this species. However, there is the risk that this species could be impacted if present at the time of clearing. DBCA (2024a) has recommended slow directional clearing to allow this species to disperse ahead of the clearing activity if present within the application area.

#### *Osprey*

The osprey occurs in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia. They require extensive areas of open fresh, brackish or saline water for foraging and frequent wetlands, inshore waters, beaches and estuaries (DCCEEW, 2023f). No osprey breeding habitat was identified during the fauna surveys (GHD, 2021; GHD, 2023), however the osprey has been recorded within 1 kilometre of the application area and given the proximity to the ocean, it may utilise Area 2 for foraging purposes. Given the large vegetated coastal areas within the local area, and lack of breeding habitat within Area 2, the osprey is unlikely to rely on this area or be significantly impacted by the proposed clearing.

#### *Northern blue-tongue skink*

For the reasons described under Area 1, the proposed clearing of Area 2 is not likely to impact on critical habitat for this species, noting that riparian habitat was identified during the surveys of this area (GHD, 2023). However, it may be susceptible to fauna strike should it occur at the time of clearing. DBCA (2024a) has recommended that a fauna spotter be present during clearing activities to ensure the dispersal or relocation of this species, along with slow, directional clearing, to reduce the risk of fauna strike.

### **Area 3 - Beagle Bay**

According to available datasets, there are records of 35 conservation listed fauna in the local area (50-kilometre radius). The fauna surveys identified two high value fauna habitat types in Area 3, being *Eucalyptus* and *Corymbia* on Pindan red sand, and *Corymbia* over *Melaleuca* on silty clay loam on drainage flats and floodplains (GHD, 2021; GHD, 2023). While no conservation listed fauna were identified in Area 3, five conservation listed fauna were considered likely to occur during the GHD surveys (GHD, 2021; GHD, 2023), and DWER's desktop assessment identified an additional five conservation listed species that were likely to occur. These are:

- rainbow bee-eater
- Gouldian finch
- grey falcon
- Peregrine falcon
- Oriental pratincole
- Greater bilby
- Fork-tailed swift (*Apus pacificus*, Migratory listed under the EPBC Act)
- Northern blue-tongue skink
- Dampierland burrowing snake
- Dampierland plain slider

*Rainbow bee-eater*

Area 3 provides suitable habitat for this species, noting the reasons previously described for Area 1, the proposed clearing is unlikely to provide significant habitat for this species.

*Gouldian finch*

Area 3 contains suitable foraging habitat in the form of *Sorghum plumosum* tussock grassland and potential nesting habitat within *Corymbia* trees (GHD, 2021; GHD, 2023). The Gouldian Finch has been recorded 1.45 kilometres from Area 3.

As Area 3 contains suitable foraging habitat and potential nesting habitat for the Gouldian Finch, it may be present at the time of clearing. As per area 2, while the impact to this species habitat from the proposed clearing is unlikely to be significant, given the extent of surrounding suitable habitat, DBCA (2024) has recommended that potentially suitable nesting trees within the application area be inspected for breeding, and if in use avoided until after the nestlings have naturally fledged and dispersed from the hollow.

*Grey falcon and peregrine falcon*

Area 3 consists of open woodland which provides suitable foraging habitat for these species (no suitable breeding habitat identified) (GHD, 2021; GHD, 2023), therefore these species may utilise this area. As per the reasons described under Area 1, these species are unlikely to be significantly impacted by the proposed clearing.

*Oriental pratincole*

As per the reasons described under Area 1, while the oriental pratincole may be present in Area 3, it is unlikely to be significantly impacted by the proposed clearing.

*Greater bilby*

Area 3 provides suitable habitat for this species and noting that 155 Greater bilby records exist in the local area, with (the closest 470 metres away), the Greater bilby may utilise this area. The fauna surveys conducted by GHD (2021; 2023) did not record any evidence of bilbies. Noting this, and for the reasons described under Area 1, the proposed clearing of suitable bilby habitat was not considered a significant residual impact that required an offset in this instance.

DBCA (2024a and 2024b) has recommended a pre-clearance fauna survey, along with appropriate management actions to prevent any harm to greater bilbies that may be using the application area at the time of clearing.

*Fork-tailed swift*

The fork-tailed swift occurs on inland plains and in coastal areas near beaches. They occupy a large range of habitats from riparian woodland, low scrub, sandplains with spinifex and coastal sand dunes (DCCEEW, 2023g). One record occurs in the local area, around 2.5 kilometres from Area 3. Given their use of a wide range of habitats, and extent of proposed clearing relative to suitable habitat that exists in the local area, the fork-tailed swift is unlikely to be significantly impacted by the proposed clearing.

*Northern blue-tongue skink*

Area 3 provides suitable habitat for this species. This area includes riparian habitat in the form of *Corymbia greeniana* and *Corymbia bella* isolated clumps of trees over *Melaleuca nervosa* subsp. *crosslandiana* open woodland on silty loam over clay on drainage flats/floodplain, which may provide critical habitat for this species. This is noting that areas of dense vegetation that provide cool and moist conditions within otherwise hot, dry, landscapes in the known distribution of the species are considered critical habitat for this species (DCCEEW, 2023d).

The applicant has committed to clearing a maximum of one hectare of this vegetation type, and will aim to completely avoid this habitat type altogether pending the outcome of Aboriginal Cultural Heritage Surveys (Horizon Power, 2023a).

Given the wide range of habitats where this species has previously been recorded, extensively vegetated local area which provides suitable habitat for this species, and that this area includes a small portion of riparian habitat, the proposed clearing of Area 3 is not likely to significantly impact on critical habitat for this species, and is therefore not considered a significant residual impact.

DBCA (2024a) has recommended that a fauna spotter be present during clearing activities to ensure the dispersal or relocation of this species ahead of clearing, along with slow, directional clearing, to reduce the risk of fauna strike.

#### *Dampierland burrowing snake and Dampierland plain slider*

The fauna habitat in Area 3 contains *Eucalyptus* and *Corymbia* on Pindan red sand which may provide suitable habitat for these species (GHD, 2021; GHD, 2023). For the reasons described under Area 2, this habitat is unlikely to constitute significant habitat for these species. DBCA (2024a) has recommended slow directional clearing to allow these species to disperse ahead of the clearing activity, if present within the application area.

#### **Area 4 - Warmun**

According to available datasets, there are records of 18 conservation listed fauna in the local area of Area 4 (50 kilometre radius). The fauna survey identified three moderate-high value fauna habitat types in Area 4, stony plains, rocky hills and minor drainage lines (GHD, 2023). No conservation listed fauna species were recorded in this area. Four conservation listed species were considered likely to occur by the GHD (2023) survey, and DWER's desktop assessment identified an additional two species, these were:

- rainbow bee-eater
- Gouldian finch
- grey falcon
- peregrine falcon
- glossy ibis (*Plegadis falcinellus*, migratory listed under the EPBC Act)
- northern blue-tongue skink

#### *Rainbow bee-eater*

Area 4 provides suitable habitat for this species. Noting the reasons previously described for Area 1, the proposed clearing is unlikely to provide significant habitat for this species.

#### *Gouldian finch*

Area 4 contains suitable foraging habitat and potential nesting habitat for the Gouldian finch (GHD, 2023), and it may be present at the time of clearing. As per Areas 2 and 3, while the impact to this species habitat from the proposed clearing is unlikely to be significant, given the extent of surrounding suitable habitat, DBCA (2024) has recommended that potentially suitable nesting trees within the application area be inspected for breeding, and if in use avoided until after the nestlings have naturally fledged and dispersed from the hollow.

#### *Grey falcon and Peregrine falcon*

Area 4 includes suitable foraging habitat for these species, which may utilise this area (GHD, 2023). As per the reasons previously described for Area 1, these species are unlikely to be significantly impacted by the proposed clearing.

#### *Glossy ibis*

The Glossy ibis occupies freshwater marshes at the edges of lakes, rivers and floodplains in the eastern Kimberley region (DCCEEW, 2023h). Area 4 contains some drainage line habitat and is 430 metres from Turkey Creek, therefore it may contain suitable habitat for this species. Seven glossy ibis records occur in the local area, the closest 870 metres away. While the Glossy ibis may utilise the application area, given the large distribution of this species and likely presence of extensive suitable habitat in the local area, it is unlikely to be significantly impacted by the proposed clearing.

#### *Northern blue-tongue skink*

Area 4 includes suitable habitat for this species, and includes preferred riparian habitat in the form of 0.6 hectares of *Lophostemon* open woodland on minor drainage areas. For the reasons described under Area 3, the proposed clearing of Area 4 is unlikely to significantly impact on critical habitat for this species, and the proposed clearing does not constitute a significant residual impact to this species habitat. However, this species is susceptible to fauna strike should it occur at the time of clearing. DBCA (2024a) has recommended that a fauna spotter be present during clearing activities to ensure the dispersal or relocation of this species, along with slow, directional clearing, to reduce the risk of fauna strike.

## Conclusion

Based on the above assessment, the proposed clearing will result in the loss of suitable habitat for conservation significant fauna species. While the loss of this suitable habitat is not considered to be a significant residual impact that requires an offset (as detailed in the above assessment), the proposed clearing may directly impact on these conservation listed fauna through machinery strike, should they be using the application area at the time of clearing.

## Conditions

To address the potential impact to fauna strike, the clearing permit contains conditions that require the applicant to undertake the following actions:

- slow, one directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity
- engage a fauna specialist to undertake pre-clearance surveys for the Greater bilby, including specific management measures should bilby burrows be identified
- prior to and for the duration of clearing activities, engage a fauna specialist to identify, and if necessary remove and relocate, native fauna from the application area to an area of suitable habitat
- if proposing to undertake clearing during the Gouldian finch nesting season, inspect suitable Gouldian finch nesting trees within the application area for hollows, and avoid hollow bearing trees showing signs of nesting use until after nestlings have fledged
- avoid clearing during the rainbow bee-eater nesting period, where practicable
- restrict clearing activities to daylight hours to reduce the risk of injury to fauna.

### **3.2.2. Biological values (flora) - Clearing Principle (a)**

#### Assessment

#### **Area 1 - Bidyadanga**

According to available datasets, there are records of five conservation listed flora in the local area (50-kilometre radius). Of these, the 2023 GHD flora survey found *Tephrosia andrewii* (priority 3) in Area 1 from 10 locations with a total of 121 individuals. Of these, 38 (from two locations) are proposed to be impacted (GHD, 2023). An additional follow up targeted flora survey identified a further 74 individuals in Area 1 (from 13 locations), which are proposed to be impacted (GHD, 2024). The remaining four conservation listed flora in the local area are unlikely to occur in Area 1 (GHD, 2023).

*Tephrosia andrewii* is an ascending, multistemmed shrub endemic to the Dampierland bioregion (Western Australian Herbarium, 2023). Four known records exist in the local area and their frequency ranged from over 50 plants to an uncommon frequency.

Area 1 was modified to minimise impacts to this species and 112 individuals (out of 195 recorded) from 15 locations, are proposed for impact. Advice from DBCA (2024a) stated that large populations of this species exist on Thagoo, Frasier Downs and Anna Plains stations, and while the proposed removal of 112 individuals will impact this species at a local level, it is unlikely to be significant at a regional scale or to the conservation of the species.

#### **Area 2 - Ardyaloon**

According to available datasets, there are records of 17 conservation listed flora in the local area (50-kilometre radius). The flora survey conducted by GHD (2021) found a tentative record of *Triodia acutispicula* (priority 3) which was later confirmed in the follow up GHD (2023) flora survey of this area. This species was recorded from 17 locations with a count of 149 individuals and ranged from between 1 – 60 per cent cover within the *Corymbia greeniana* and *Corymbia* sp. open woodland on sandy Pindan plain vegetation type (GHD, 2023). The remaining 11 conservation listed flora known from the local area are unlikely to occur (GHD, 2023).

*Triodia acutispicula* is a tussock forming resinous perennial in the Dampierland, Central Kimberley and Northern Kimberley bioregions (Western Australian Herbarium, 2023). Four records are known from the local area with record frequency noted as common / abundant to scattered.

The applicant has committed to clearing no more than eight locations of *Triodia acutispicula* (including up to 124 individuals) (Horizon Power, 2023). The applicants supporting information notes that the species may be abundant in the local area based on the extent of suitable habitat (Horizon Power, 2023). Advice from DBCA (2024) notes that

while the proposed clearing will impact on this species at a local level, it is unlikely to be significant at the regional scale or to the conservation of this species.

### Area 3 - Beagle Bay

According to available datasets, there are records of 18 conservation listed flora in the local area (50-kilometre radius). Based on suitability of habitat present, four conservation listed flora were considered as having the potential to occur in Area 3:

- *Aphyllodium glossocarpum* (priority 3)
- *Dendrophthoe odontocalyx* (priority 3)
- *Nymphoides beaglensis* (priority 3)
- *Stylidium costulatum* (priority 3)

These species were not identified during the GHD targeted flora surveys (GHD, 2021; GHD, 2023), and the proposed clearing is not expected to significantly impact on these species at a local or regional level.

### Area 4 - Warmun

According to available datasets, there are records of 44 conservation listed flora in the local area (50 kilometre radius). A targeted flora survey of this area conducted by GHD in 2019 did not identify any conservation listed flora (GHD, 2019). However, a follow up GHD survey of this area in 2023 identified *Goodenia byrnesii* (priority 3) (GHD, 2023).

*Goodenia byrnesii* is a prostrate to decumbent herb found in the Dampierland, Northern Kimberley, Ord Victoria Plain and Victoria Bonaparte bioregions (Western Australian Herbarium, 2023). The species was recorded opportunistically from five individuals during the GHD (2023) survey and is a range extension, noting the closest previously recorded locality is over 70 kilometres from Area 4. As the individuals were found opportunistically, no population count was recorded (GHD, 2023). *Goodenia byrnesii* is known from 28 records state-wide.

*Goodenia byrnesii* was recorded in the *Lophostemon* open woodland on minor drainage areas vegetation type, which extends beyond the Area 4 footprint and is likely to contain further individuals of this species (GHD, 2023), however surveys have not been undertaken to confirm this.

Area 4 has been modified by the applicant to provide a 50-metre exclusion buffer to the recorded occurrence of this species. DBCA (2024) advised that, as all recorded individuals will be avoided during the proposed clearing, the impact to this species is not likely to be significant.

In addition, three non-conservation listed species with significant range extensions were recorded near Area 4 (GHD, 2023):

- *Goodenia heterochila*, with a range extension of 450 kilometres north
- *Euphorbia drummondii*, with a range extension of 350 kilometres east
- *Pterocaulon verbascifolium*, with a range extension of 150 kilometres east and south.

These species are considered locally significant as they represent large range extensions. These species were recorded 50 metres or greater from Area 4 and are therefore unlikely to be significantly impacted by the proposed clearing.

### Conclusion

Based on the above assessment, none of the conservation listed, or range extension flora species recorded within or nearby the application area are likely to be significantly impacted by the proposed clearing, at a regional scale or at a conservation status level. Therefore, the proposed clearing does not constitute a significant residual impact to these species.

It is considered that the impacts of the proposed clearing on priority flora, which include both direct and potential indirect impacts (given some priority flora occur outside of, but within 50 metres of the application area), can be managed through permit conditions, and through implementing appropriate construction and design measures such as the applicants proposed dust and weed control measures. These measures include restricting the clearing of vegetation and ground disturbance during high wind, stabilising soils with a water cart, and ensuring that no weed-affected soil or other material is brought into the application area or surrounds (Horizon Power, 2023a).



### Conditions

To address the above impacts, the clearing permit contains conditions that require the applicant to undertake the following actions:

- demarcate and avoid with a 20 metre buffer priority flora recorded within the application area during the flora surveys, where practicable
- demarcate the defined clearing area to avoid impacts to *Goodenia byrnesii*, and avoid impacts to those *Tephrosia andrewii* and *Triodia acutispicula* individuals recorded beyond the application areas
- where the removal of *Tephrosia andrewii* and *Triodia acutispicula* within the application areas is unavoidable, clear no more than 15 locations of *Tephrosia andrewii* and 8 locations of *Triodia acutispicula*
- weed hygiene measures to limit the introduction and transportation of weed affected material.

### **3.2.3. Biological values (ecological communities) - Clearing Principle (a)**

#### Assessment

#### **Area 1 - Bidadanga**

According to available datasets, there are records of six conservation listed ecological communities in the local area, with the closest 1.42 kilometres from Area 1, being the Eighty Mile Land System and the Roebuck Land System (both priority 3 PECs). Area 1 is not considered representative of either PEC (50-kilometre radius) and the flora and vegetation survey did not identify any PEC's in Area 1 (GHD, 2023).

#### **Area 2 - Ardyaloon**

According to available datasets, there are records of three conservation listed ecological communities in the local area with the closest, the Monsoon vine thickets on the coastal sand dunes of the Dampier Peninsula threatened ecological community (TEC), recorded 270 metres from Area 2 (50-kilometre radius). The flora and vegetation survey confirmed the vegetation type in Area 2 is not representative of the Monsoon vine thicket TEC and this area is not likely to be representative of any other PEC's or TEC's (GHD, 2023).

#### **Area 3 - Beagle Bay**

According to available datasets, there are records of six conservation significant ecological communities in the local area (50 kilometre radius). One vegetation type recorded in Area 3 was considered representative of Kimberley Vegetation Association 67 PEC (Priority 3), which covered 1.61 hectares (14.1 per cent) of Area 3 (GHD, 2023). The applicant has committed to clearing no more than one hectare of this PEC. The applicant has advised that it will endeavour to avoid the PEC completely, however efforts to do so may be constrained by the findings of forthcoming Aboriginal Cultural Heritage Surveys, and therefore flexibility is required to account for a worst-case scenario (GHD, 2023; Horizon Power, 2023).

Kimberley Vegetation Association 67 retains 27240.5 hectares (99.84 per cent) of its pre-European extent. The proposed removal of one hectare, or <0.001 per cent of its known extent, will not significantly impact on the known extent of this PEC, also having regard to cumulative impacts of other developments in the local area (Government of Western Australia, 2019). Given that the application area intersects a portion of the much larger PEC, there is the risk of indirect impacts to surrounding areas of the PEC through weed spread and dust. DBCA (2024) has recommended that the PEC be avoided where possible, and any works near the PEC should follow appropriate hygiene practices to reduce secondary impacts such as weed spread.

#### **Area 4 - Warmun**

According to available datasets, there are records of six conservation listed ecological communities in the local area with one PEC, Kimberley Vegetation Association 834, mapped within Area 4 (50 kilometre radius). The flora and vegetation survey did not identify vegetation representative of this PEC noting the absence of Mitchell grass and/or Blue grass in the survey area (GHD, 2023). An additional PEC (Priority 3), Kimberley Vegetation Association 833, has been recorded 3.77 kilometres from Area 4. While one of the vegetation types within Area 4 (*Eucalyptus brevifolia* over a tussock grassland) somewhat aligns with the description of this PEC ('Grasslands, short bunch grass savanna sparse low tree; scattered snappy gum over arid short grass on plains'), this vegetation type was located on rocky hills and ridges within Area 4 and not on plains. DBCA (2024a) advised there is a low likelihood of Vegetation Association 833 being present in this area and Area 4 is therefore not considered representative of this PEC.



### Conclusion

Based on the above assessment, one conservation significant ecological community is likely to be impacted by the proposed clearing, being Kimberley Vegetation Association 67. The one hectare of this PEC proposed for clearing represents a very small portion of the known extent of the PEC, and the proposed clearing is therefore unlikely to significantly impact on the local or regional extent of the PEC. The Delegated Officer also considered that the applicant has committed to avoiding the PEC completely, depending on the findings and potential constraints identified by the planned Aboriginal Cultural Heritage Surveys. The applicant has prepared a construction environmental management plan (CEMP) which includes measures to minimise the introduction and spread of weeds and minimise dust, which will reduce the risk of indirect impacts to the surrounding PEC.

### Conditions

To address the impact to Kimberley Vegetation Association 67, the clearing permit contains conditions that require the applicant to undertake the following management actions:

- clear no more than one hectare of the Kimberley Vegetation Association 67 PEC recorded in Area 3
- take hygiene steps to minimise the risk of the introduction and spread of weeds.

### **3.2.4. Land and water resources - Clearing Principles (f), (g) and (i)**

#### Assessment

Areas 2, 3 and 4 are intersected by non-perennial watercourses, and the biological survey identified the following two riparian vegetation types within Areas 3 and 4 (GHD, 2023):

- VT03, described as *Lophostemon* open woodland on minor drainage areas (0.6 hectares within Area 4)
- VT05, described as *Corymbia greeniana* and *Corymbia bella* isolated clumps of trees over *Melaleuca nervosa* subsp. *crosslandiana* open woodland on silty loam over clay on drainage flats/floodplain (1.61 hectares within Area 3) (also forms part of the mapped Kimberley Vegetation Association 67 PEC)

Given that the watercourses are non-perennial, and the relatively small amount of riparian vegetation proposed to be cleared, the proposed clearing is not expected to impact significantly on the functioning of those watercourses or on riparian habitat within the local area. This is also noting the applicants commitment to clear no more than one hectare of VT05.

There is a minor risk of sedimentation should the watercourses be flowing during the time of clearing, noting the susceptibility of the mapped soils to wind and water erosion. Horizon Power has prepared a CEMP which includes dust and weed hygiene management measures to address sedimentation risks. Management measures include the use of water trucks to stabilise soils and avoiding clearing during high winds (Horizon Power, 2023). These measures, together with the conditions outlined below, are considered appropriate to manage this risk.

### Conclusion

Noting the relatively small extent of riparian habitat proposed for clearing, and the applicants management commitments, the impacts to riparian vegetation are not considered significant, and it is considered that erosion and potential water quality impacts can be managed by the below clearing permit conditions.

### Conditions

To address the above impacts, the clearing permit contains conditions that require the applicant to undertake the following management actions:

- clearing must not commence more than six months prior to the commencement of construction works to limit the exposure time of bare soils
- take hygiene steps to minimise the risk of the introduction and spread of weeds.

### **3.3. Relevant planning instruments and other matters**

The Shire of Broome has advised DWER that local government approvals are not required for this project, and that the Local Planning Scheme will be amended to allow the 'Public Utility' land use (Shire of Broome, 2023).

The Shire of Halls Creek has advised that the application is consistent with the local planning strategy and planning policies however development approval may be required (Shire of Halls Creek, 2024a). Horizon Power has stated that the proposed clearing is public works and is therefore exempt from requiring planning approval under Section 6 of the *Planning and Development Act 2005*. Horizon Power has advised it will contact the Shire of Halls Creek prior to undertaking any works to confirm its understanding of development approval requirement (Horizon Power, 2024b).

The application areas are within Priority 1 (P1) Drinking Water Source Protection areas for the Aboriginal communities nearby (DWER, 2023a; DWER, 2024). DWER's North West Region (NWR) and Water Source Protection Planning branch provided comment on the application and advised:

- any hydrocarbons, chemicals and potentially hazardous substances should be stored and disposed of in accordance with DWER's Guidelines and Water Quality Protection Notes
- if any groundwater or surface water is to be used by Horizon Power, the 'Minimum Construction Requirements for Water Bores in Australia 202' specifications should be followed
- if drill holes or bore holes are no longer required they should be decommissioned, backfilled and capped according to the 'Guidelines for the Protection of Surface and Groundwater Resources During Exploration Drilling'.

DWER NWR advised that solar energy production is compatible in P1 areas subject to conditions, including locating clearing outside the Wellhead Protection Zone (WPZ). However, portions of Areas 1, 2 and 4 occur within the WPZ. Discussions between Water Corporation, Horizon Power and DWER confirmed that in undertaking any clearing and post clearing activities, Horizon Power would take the Wellhead Protection Zone into account (DWER, 2024).

DWER NWR also recommended that diesel thermal generation and fuel storage be located outside of the protection areas to reduce the risk of contamination, noting these purposes are not compatible in P1 areas. The applicant has acknowledged this recommendation and will liaise further with DWER on this matter.

The Contaminated sites branch advised there is a potential for asbestos containing materials and landfill activities at the sites with the presence of dumped waste and has recommended that the applicant commissions a site walkover to identify sources of contamination prior to works commencing, and for an unexpected finds protocol to be developed for asbestos and waste (DWER, 2023b). The applicant has agreed to do a site walkover to identify sources of contamination (DWER, 2024c).

Several Aboriginal Sites of Significance have been mapped within the application area. The applicant confirmed that Aboriginal Cultural Heritage Surveys will be undertaken prior to ground disturbance (Horizon Power, 2023a).

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.

**End**

## Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
Applicant provided additional Warmun flora survey information (Horizon Power, 2023b)	Section 3.2.2
Applicant provided additional Bidyadanga flora survey (Horizon Power, 2024a; GHD, 2024)	Section 3.2.2
Proposed clearing is considered public works therefore is exempt from planning approvals for the Shire of Halls Creek (Horizon Power, 2024b).	Section 3.3
Horizon Power agreed to undertake contamination site walkover (Horizon Power, 2024c).	Section 3.3

## Appendix B. Site characteristics

### B.1. Site characteristics

Characteristic	Details
Local context	<p>The application areas are part of an expansive tract of native vegetation in the extensive land use zone of Western Australia's Kimberley region.</p> <p>The local area of each application area is extensively vegetated and retains around 98 to 99 per cent native vegetation cover.</p>
Ecological linkage	There are no mapped ecological linkages in any of the application areas.
Conservation areas	The closest conservation area to the application areas is a DBCA 'Land of interest' located around 15 kilometres south-east of Area 4.
Vegetation description	<p>A biological survey (GHD, 2023) identified seven vegetation types within the application areas including:</p> <ul style="list-style-type: none"> <li>Area 1 (Bidyadanga): <i>Corymbia hamersleyana</i> and <i>Corymbia flavescens</i> open woodland on red brown sandplain</li> <li>Area 2 (Ardyaloon): <i>Eucalyptus miniata</i> and <i>Corymbia greeniana</i> woodland to isolated clumps of trees on Pindan red sand loam on low plain, and <i>Corymbia greeniana</i> and <i>Corymbia</i> sp. open woodland on sandy Pindan plain with occasional rocky outcrops</li> <li>Area 3 (Beagle Bay): <i>Eucalyptus miniata</i> and <i>Corymbia greeniana</i> woodland to isolated clumps of trees on Pindan red sand loam on low plain, and <i>Corymbia greeniana</i> and <i>Corymbia bella</i> isolated clumps of trees over <i>Melaleuca nervosa</i> subsp. <i>crosslandiana</i> open woodland on silty loam over clay on drainage flats and floodplain</li> <li>Area 4 (Warmun): <i>Corymbia</i> open woodland on stony undulating plains, <i>Corymbia</i> and <i>Terminalia</i> open woodland on rocky hills and ridges, and <i>Lophostemon</i> open woodland on minor drainage lines.</li> </ul> <p>The full survey descriptions and maps are available in Appendix E.</p> <p>This is mostly consistent with the mapped vegetation types:</p> <ul style="list-style-type: none"> <li>Area 1 (Bidyadanga): Dampierland 699 which has 99.93 per cent native vegetation remaining and is described as <i>Acacia</i> thicket with scattered low trees over spinifex <i>Acacia eriopoda</i>, <i>Corymbia dichromophloia</i>, <i>Triodia pungens</i>, <i>T. bitextura</i></li> <li>Area 2 (Ardyaloon): Dampierland 771 which has 99.33 per cent native vegetation remaining and is described as <i>Acacia</i> thicket with eucalypt woodland over spinifex with <i>Acacia tumida</i>, <i>Eucalyptus tectifera</i>, <i>Corymbia grandifolia</i>, <i>Triodia pungens</i></li> <li>Area 3 (Beagle Bay): Dampierland 750 which has 99.68 per cent native vegetation remaining and is described as <i>Acacia</i> thicket with eucalypt woodland over spinifex with <i>Acacia tumida</i>, <i>Eucalyptus tectifera</i>, <i>Corymbia grandifolia</i>, <i>Triodia pungens</i>, <i>T. bitextura</i> and Dampierland 67 which has 99.84 per cent native vegetation remaining</li> </ul>



Characteristic	Details
	<p>and is described as mainly ribbon grass with low woodland or scattered trees e.g. <i>Eucalyptus terminalis</i> over <i>Chrysopogon</i> spp., <i>Dichanthium</i> spp.</p> <ul style="list-style-type: none"> <li>Area 4 (Warmun): Bow River Hills 834 which has 99.97 per cent native vegetation remaining and is described as Grasslands, tall bunch-grass savanna.</li> </ul>
Vegetation condition	The biological survey (GHD 2023) indicates that the vegetation within the application areas are in Very Good to Excellent (Trudgen, 1991) condition. The full Trudgen (1991) condition rating scale is provided in Appendix D. The full survey descriptions and mapping are available in Appendix E.
Climate and landform	<p><u>Climate</u></p> <p>Area 1 (Bidyadanga): The closest Bureau of Meteorology (BOM) weather station is in Bidyadanga approximately 600 metres from the town and receives 510.3 millimetres (mm) of rainfall per year (BOM, 2023a). The highest mean maximum temperature is 35.7 degrees Celsius (C) in April and the lowest is in July at 29.6 degrees C. The highest mean minimum temperature is 26.1 degrees C in January and the lowest is in July at 14 degrees C.</p> <p>Area 2 (Ardyaloon) and Area 3 (Beagle Bay): The closest BOM weather station is in Cygnet Bay approximately 18 kilometres south of Area 2 and 68 kilometres north east of Area 3 (BOM, 2023b). The area receives 821.4 mm rainfall per year and has the highest mean maximum temperature in November at 35.4 degrees C and the lowest at 28.1 degrees C in July. The highest mean minimum temperature is recorded in January at 25.7 degrees C and the lowest in July at 14.7 degrees C.</p> <p>Area 4 (Warmun): The closest BOM weather station is in Warmun approximately 1.6 kilometres from the town and receives 730.5 mm rainfall per year (BOM, 2023c). The highest mean maximum temperature is 39.3 degrees C in November and the lowest is 29.6 degrees C in June and July. The highest mean minimum temperature is 25.2 degrees C in December and the lowest is 12.8 degrees C in July.</p> <p><u>Landform</u></p> <p>Area 1 (Bidyadanga): The area is in the Yeeda land system which is described as red sandplains supporting pindan vegetation with dense acacia shrubs, scattered bloodwood and grey box trees and curly spinifex and ribbon grass, with little organised drainage and shallow valleys. The area is flat ranging from 10 to 20 metres above sea level.</p> <p>Area 2 (Ardyaloon): The area is in the Reeves land system which is described as sandplains with scattered sandstone hills and plateaux supporting low pindan woodlands with acacias and eucalypts and curly spinifex-ribbon grass sparse, branching drainage pattern; relief up to 60 m. The area is flat at 20 metres above sea level.</p> <p>Area 3 (Beagle Bay): The area is in the Wanganut land system which is described as sandplains and linear dunes supporting pindan woodlands with acacias and bloodwoods and curly spinifex- ribbon grass, and broad low-lying swales supporting bloodwood-grey box woodlands with curly spinifex-ribbon grass. Sandplain, mainly in the upper parts, with stable dunefields, low-lying sandplain, and scattered pans and depressions; sparse to moderately dense branching drainage pattern; relief up to 9 m. The area is flat at 20 metres above sea level.</p> <p>Area 4 (Warmun): The area is on the edge of the O'Donnell land system which is described as undulating plains and scattered low hills on granite and gneiss, loamy skeletal soils, supporting snappy gum and bloodwood very open woodlands with arid short grasses and ribbon grass; also minor Mitchell grass grasslands. Area 4 also overlaps the Richenda land system which is described as mountains and hills on granite and gneiss with narrow valleys and lower slopes supporting snappy gum and grey box low open woodlands with curly spinifex, ribbon grass and other grasses. The northwestern section borders a series of hills at around 240 metres above sea level with the majority of the area at 210 metres above sea level.</p>

Characteristic	Details
Soil description	<p>The soil is mapped as:</p> <p>Area 1 (Bidyadanga): Yeeda system which is described as deep red sands with pindan vegetation grading to deep yellow sands, plains with thin sand cover and scattered pans with quaternary aeolian sands.</p> <p>Area 2 (Ardyaloon): Reeves system which is described as reddish sandplains with scattered sandstone hills and plateaux has dip slopes with thin sand cover and local outcrop with sandy siltstone, silicified quartz sandstone of Cretaceous age and quaternary aeolian sand.</p> <p>Area 3 (Beagle Bay): Waganut system which is described as sandplains and linear dunes and broad low-lying swales with scattered pans over quaternary aeolian sands</p> <p>Area 4 (Warmun): Richenda high hills subsystem which is described as rolling to steep high hills on granite. Pockets of shallow stony soil and much outcrop of granite or gneiss. O'Donnell granitic plains subsystem which is described as level to undulating low plains on granite. Red or brown shallow loamy or sandy duplexes and red sandy or loamy earths. O'Donnell granitic rises subsystem which is described as red or brown sandy or loamy duplexes, gently undulating to rolling rises on granite.</p>
Land degradation risk	Most of the soil types have a high risk of subsurface compaction with a medium to low risk for the remaining land degradation factors, including wind and water erosion.
Waterbodies	<p>DWER's desktop assessment and aerial imagery has identified the following mapped water bodies within the application areas:</p> <p>Area 1 (Bidyadanga): a manmade drain runs through the south side of Area 1.</p> <p>Area 2 (Ardyaloon): two small minor rivers run through a part of Area 2.</p> <p>Area 3 (Beagle Bay): the closest water bodies include several minor watercourses that are 300-400 metres from this area.</p> <p>Area 4 (Warmun): multiple minor rivers run through Area 4. Turkey creek is around 430 metres from this area.</p>
Hydrogeography	DWER's desktop assessment indicated that all areas are in the Canning-Kimberley groundwater area under the RIWI Act. Area 4 is also within the Ord Irrigation district and the Ord River and tributaries surface water areas and irrigation districts under the RIWI Act.
Flora	<p>DWER's desktop assessment identified the following with regard to conservation listed flora:</p> <p>Area 1 (Bidyadanga): Four conservation listed flora occur in the local area, with the closest 750 metres from this area.</p> <p>Area 2 (Ardyaloon): 10 conservation listed flora occur in the local area, with the closest 2.39 kilometres from this area.</p> <p>Area 3 (Beagle Bay): 18 conservation listed flora occur in the local area, with the closest 1.45 kilometres from this area.</p> <p>Area 4 (Warmun): 44 conservation significant flora occur in the local area, with the closest 15.72 kilometres from this area.</p> <p>The biological survey (GHD 2023) identified three priority flora in the survey areas.</p> <ul style="list-style-type: none"> <li>• <i>Goodenia byrnesii</i> (priority 3) nearby Area 4</li> <li>• <i>Triodia acutispicula</i> (priority 3) in Area 2</li> <li>• <i>Tephrosia andrewii</i> (priority 3) in Area 1.</li> </ul> <p>The survey also identified three significant range extensions of non-conservation significant flora. These are discussed in detail under Section 3.2.2.</p>
Ecological communities	DWER's desktop assessment identified the following with regard to priority and threatened ecological communities:



Characteristic	Details
	<p>Area 1 (Bidyadanga): There are six priority ecological communities in the local area, with the closest 1.42 kilometres from the application area, being the Priority 3 Eighty Mile Land System and the Priority 3 Roebuck Land System.</p> <p>Area 2 (Ardyaloon): There are three priority and threatened ecological communities in the local area, with the closest the endangered Monsoon vine thickets on the coastal sand dunes of Dampier Peninsula.</p> <p>Area 3 (Beagle Bay): There are six priority and threatened ecological communities in the local area with one overlapping Area 3, being the Priority 3 Kimberley Vegetation Association 67.</p> <p>Area 4 (Warmun): There are six priority ecological communities in the local area with one overlapping Area 4, being the Priority 3 Kimberley Vegetation Association 834.</p> <p>The biological survey (GHD 2023) identified 1.61 ha of Kimberly Vegetation association 67 in Area 3. No other PEC's or TEC's were identified in this survey.</p>
Fauna	<p>DWER's desktop assessment identified the following with regard to conservation listed fauna:</p> <p>Area 1 (Bidyadanga): 48 conservation listed fauna occur in the local area with the closest, the vulnerable Greater bilby (<i>Macrotis lagotis</i>) recorded 760 metres from this area.</p> <p>Area 2 (Ardyaloon): 40 conservation listed fauna occur in the local area with the closest, the migratory bridled tern (<i>Onychoprion anaethetus</i>) recorded 130 metres from this area.</p> <p>Area 3 (Beagle Bay): 35 conservation listed fauna occur in the local area with the closest, the Greater bilby recorded 470 metres from this area.</p> <p>Area 4 (Warmun): 18 conservation listed fauna occur in the local area with the closest, the priority 4 Gouldian finch (<i>Erythrura gouldiae</i>) and the migratory glossy ibis (<i>Plegadis falcinellus</i>) recorded 870 metres from the application area.</p> <p>The biological survey (GHD, 2023) identified one marine listed species (under the EPBC Act), the rainbow bee-eater (<i>Merops ornatus</i>) in Area 2. An additional conservation listed species, the northern blue-tongue skink (<i>Tiliqua scincoides intermedia</i>) was found in Area 1. This species was listed as critically endangered post survey. The survey identified that four additional conservation significant fauna were likely to occur in Area 1, six in Area 2, five in Area 3 and four in Area 4. These have been discussed under Section 3.2.1.</p>

## B.2. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F.1), and biological survey information, impacts to the following conservation significant flora required further consideration.

Species name (Conservation status)	Area that flora have been recorded within the local area of	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records in local area (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Aphyllodium glossocarpum</i> (priority 3)	3	Y	Y	Y	1.45	5	Y
<i>Bonamia oblongifolia</i> (priority 3)	1	Y	Y	Y	0.75	1	Y
<i>Dendrophthoe odontocalyx</i> (priority 3)	3	Y	Y	Y	3.17	1	Y
<i>Goodenia byrnesii</i> (priority 3)	4	Y	Y	Y	0	1	Y (found in survey area)
<i>Nymphoides beaglensis</i> (priority 3)	3	Y	Y	Y	1.45	9	Y

Species name (Conservation status)	Area that flora have been recorded within the local area of	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records in local area (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Polymeria</i> sp. Broome (K.F. Kenneally 9759) (priority 3)	1	Y	Y	Y	0.75	2	Y
<i>Stylidium costulatum</i> (priority 3)	3	Y	Y	Y	3.14	5	Y
<i>Tephrosia andrewii</i> (priority 3)	1	Y	Y	Y	0	4	Y (found in survey area)
<i>Triodia acutispicula</i> (priority 3)	2	Y	Y	Y	0	4	Y (found in survey area)

### B.3. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F.1), and biological survey information, impacts to the following conservation significant fauna required further consideration.

Species name (Common name)	Area that fauna have been recorded within the local area of	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records in the local area (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Apus pacificus</i> (fork-tailed swift)	3	MI	Y	Y	2.57	1	Y
<i>Erythrura gouldiae</i> (Gouldian finch)	2, 3, 4	P4	Y	Y	1.09 - Area 2, 1.45 - Area 3 and 0.87 - Area 4	16 - Area 2, 6 - Area 3 and 24 - Area 4	Y
<i>Falco hypoleucos</i> (grey falcon)	1, 2, 3, 4	VU	Y	Y	43.15 - Area 1	1 - Area 1	Y
<i>Falco peregrinus</i> (peregrine falcon)	2, 3, 4	OS	Y	Y	12 - Area 2, 12.28 - Area 3	4 - Area 2, 4 - Area 3	Y
<i>Glareola maldivarum</i> (oriental pratincole)	1, 3	MI	Y	Y	2.28 - Area 1	1 - Area 1	Y
<i>Lerista separanda</i> (Dampierland plain slider)	2, 3	P2	Y	Y	30.73 - Area 2	2 - Area 2	Y
<i>Macrotis lagotis</i> (Greater bilby)	1, 2, 3	VU	Y	Y	0.76 - Area 1, 10.15 - Area 2 and 0.47 - Area 3	51 - Area 1, 1 - Area 2 and 155 - Area 3	Y
<i>Merops ornatus</i> (rainbow bee-eater)	1, 2, 3, 4	MAR	Y	Y	0	1 - Area 2	Y (identified in survey)
<i>Pandion haliaetus</i> (osprey)	2	MI	Y	Y	0.81	27	Y
<i>Plegadis falcinellus</i> (glossy ibis)	4	MI	Y	Y	0.87	7	Y
<i>Simoselaps minimus</i> (Dampierland burrowing snake)	2, 3	P2	Y	Y	11.22 - Area 2	5 - Area 2	Y
<i>Tiliqua scincoides intermedia</i> (northern blue-tongue skink)	1, 2, 3, 4	CR	Y	Y	0	1 - Area 1	Y (identified in survey)

CR: critically endangered, EN: endangered, VU: vulnerable, P: priority, MI: migratory, MAR: marine.



**B.4. Ecological community analysis table**

Community name	Cons. Status	Relevant Application Area	Suitable habitat features ? [Y/N]	Suitable mapped vegetation type? [Y/N]	Suitable mapped soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records in local area (total)	Are surveys adequate to identify? [Y, N, N/A]
Kimberley Vegetation Association 37	3	3	N	Y	Y	0.94	3	Y
Kimberley Vegetation Association 67	3	3	Y	Y	Y	0	4	Y (identified in survey)
Kimberley Vegetation Association 833	3	4	Y	Y	Y	3.77	1	Y
Kimberley Vegetation Association 834	3	4	N	Y	Y	0	1	Y
Monsoon (vine) thickets on the coastal sand dunes of Dampier Peninsula	EN	2	N	Y	Y	0.27	56	Y

CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

**Appendix C. Assessment against the clearing principles**

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains two Priority 3 listed flora, <i>Tephrosia andrewii</i> and <i>Triodia acutispicula</i>, suitable habitat for conservation listed fauna, and a portion of the application area is mapped as the 'Kimberley Vegetation Association 67' (Priority 3) priority ecological community (PEC).</p> <p>Management measures have been conditioned on the clearing permit to address the potential impacts to these environmental values.</p>	At variance	Yes (Refer to Section 3.2.1, 3.2.2 and 3.2.3 above.)
<p><u>Principle (b):</u> "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."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains suitable habitat for conservation significant fauna including the northern blue-tongue skink, Greater bilby, Gouldian finch and rainbow bee-eater.</p> <p>Management measures have been conditioned on the clearing permit to address the potential impacts to these fauna species.</p>	May be at variance	Yes (Refer to Section 3.2.1, above.)
<p><u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</p> <p><u>Assessment:</u></p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
The area proposed to be cleared is unlikely to contain habitat for flora species listed under the BC Act.		
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>The areas proposed to be cleared are not considered to be representative of any threatened ecological communities.</p>	Not likely to be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The extent of native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia.</p>	Not likely to be at variance	No
<p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation area, the proposed clearing is not likely to impact on the environmental values of any conservation areas.</p>	Not likely to be at variance	No
<b>Environmental value: land and water resources</b>		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>Given watercourses intersect the application area, the proposed clearing will impact on a small area of riparian vegetation.</p>	At variance	Yes (Refer to Section 3.2.4, above.)
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils within the application area are moderately susceptible to wind and water erosion. Noting the extent of proposed clearing, it may result in minor land degradation, however management measures set out in the applicants CEMP, together with an erosion management condition on the clearing permit, will address this risk.</p>	May be at variance	Yes (Refer to Section 3.2.4, above.)
<p><u>Principle (i):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u></p> <p>Given watercourses intersect the application area, the proposed clearing may impact surface water quality, however given the limited clearing of riparian vegetation proposed and non-perennial watercourses being intersected, water quality is not likely to be significantly impacted by the proposed clearing.</p>	May be at variance	Yes (Refer to Section 3.2.4, above.)



Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (j):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</p> <p><u>Assessment:</u></p> <p>The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to an increased incidence or intensity of flooding.</p>	Not likely to be at variance	No

## Appendix D. 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 several interacting disturbance types.



Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.


### Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)

Condition	Description
Excellent	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Very poor	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.


## Appendix E. Biological survey information excerpts


Below are descriptions and mapping of the recorded vegetation and fauna habitat types within the application areas (GHD, 2023).


Vegetation type	Vegetation Type Description	Extent (ha) and proportion of individual survey area (%)	Sampling sites	Photograph
VT02	<i>Corymbia ?greeniana</i> , <i>Eucalyptus brevifolia</i> and <i>Terminalia canescens</i> open woodland over <i>Acacia leptophleba</i> , <i>Grevillea pyramidalis</i> subsp. <i>leucadendron</i> and <i>Flueggea virosa</i> subsp. <i>melanthesoides</i> isolated shrubs over <i>Triodia ?epactia</i> , <i>Sesima nervosum</i> and <i>Eriachne ciliata</i> tussock grassland over <i>Gomphrena canescens</i> subsp. <i>canescens</i> , <i>Tephrosia phaeosperma</i> and <i>Euphorbia ?trigonosperma</i> sparse forbland on skeletal soils on rocky hills and ridges.	2.21 ha (23.4%)	War01, War03, War06 (Wamun)	
VT03	<i>Lophostemon grandiflorae</i> subsp. <i>riparius</i> and <i>Lysiphylum cunninghamii</i> scattered trees to open woodland over <i>Acacia leptophleba</i> and/or <i>Sesbania cannabina</i> scattered shrubs over * <i>Cenchrus ciliaris</i> , <i>Heteropogon contortus</i> and <i>Dichanthium fecundum</i> open tussock grassland over <i>Ammannia multiflora</i> , <i>Crotalaria medicaginea</i> var. <i>neglecta</i> and <i>Alternanthera nodiflora</i> forbland to open forbland on minor drainage lines/floodplain.	0.51 ha (5.4%)	RA1 and RA2 (Wamun)	


Vegetation type	Vegetation Type Description	Extent (ha) and proportion of individual survey area (%)	Sampling sites	Photograph
VT01	<i>Corymbia ?greeniana</i> open woodland over <i>Acacia leptophleba</i> and <i>Hakea arboreocens</i> isolated shrubs over <i>Triodia ?epactia</i> , <i>Eragrostis ?desertorum</i> , <i>Enneapogon ?purpurascens</i> and <i>Heteropogon contortus</i> tussock grassland over <i>Gomphrena canescens</i> subsp. <i>canescens</i> and <i>Indigofera colutea</i> sparse forbland on stony undulating plains.	6.73 ha (71.2%)	War02, War04, War05 (Wamun)	





Vegetation type	Vegetation Type Description	Extent (ha) and proportion of individual survey area (%)	Sampling sites	Photograph
VT04	<i>Eucalyptus miniata</i> and <i>Corymbia greeniana</i> open woodland to isolated clumps of trees over <i>Acacia tumida</i> var. <i>kulparn</i> shrubland to open shrubland over <i>Wrightia saligna</i> , <i>Grevillea pyramidalis</i> subsp. <i>pyramidalis</i> and <i>Bauhinia cunninghamii</i> sparse shrubland over <i>Cochlosorus sidioides</i> subsp. <i>sidioides</i> and <i>Dodonaea hispidula</i> var. <i>arida</i> sparse shrubland over <i>Sorghum plumosum</i> and <i>Chrysopogon pallidus</i> tussock grassland over <i>Waltheria indica</i> , <i>Calandrinia strophilata</i> and <i>Heliotropium leptaleum</i> open forbland on Pindan red sand loam on low plain.	Beagle Bay – 9.74 ha (84.77%)  Ardyaloon north – 10.08 ha (100%)  Djarindjin – 10.21 ha (99.90%)	Ard01-23, Beag_HP-05, Dja-HP-01, Dja_HP-02, Dja01-23 (Djarindjin, Beagle Bay and Ardyaloon)	

Vegetation type	Vegetation Type Description	Extent (ha) and proportion of individual survey area (%)	Sampling sites	Photograph
VT05	<i>Corymbia greeniana</i> and <i>Corymbia bella</i> isolated clumps of trees over <i>Melaleuca nervosa</i> subsp. <i>crosslandiana</i> open woodland over <i>Chrysopogon pallidus</i> open tussock grassland over <i>Fimbristylis rara</i> , <i>Fimbristylis cardiocarpa</i> and <i>Cyperus pulchellus</i> sparse sedgeland over <i>Scleromitron scleranthoides</i> , <i>Buchnera linearis</i> and <i>Indigofera hirsuta</i> open forbland on silty loam over clay on drainage flats/floodplain.  Represents DBCA P3 PEC Kimberley Vegetation Association 67.	1.62 ha (14.10%)	BB01-23 (Beagle Bay)	



Vegetation type	Vegetation Type Description	Extent (ha) and proportion of individual survey area (%)	Sampling sites	Photograph
VT06	<i>Corymbia greeniana</i> and <i>Corymbia</i> sp open woodland over <i>Acacia tumida</i> var. <i>kulparn</i> , <i>Acacia monticola</i> and <i>Brachychiton diversifolius</i> subsp. <i>diversifolius</i> shrubland over <i>Ehretia saligna</i> var. <i>saligna</i> , <i>Grevillea pyramidalis</i> subsp. <i>Pyramidalis</i> and <i>Santalum lanceolata</i> open shrubland over <i>Chrysopogon pallidus</i> and <i>Sorghum plumosum</i> open tussock grassland over <i>Triodia acutispicula</i> (P3) isolated hummocks over <i>Zornia albiflora</i> , <i>Corchorus sidioides</i> subsp. <i>sidioides</i> and <i>Bonamia linearis</i> open forbland on sandy Pindan plain with occasional rocky outcrops.	37.08 ha (99.76%)	Ard02-23, Ard03-23, Ard04-23 (Ardyaloon - south)	


Vegetation type	Vegetation Type Description	Extent (ha) and proportion of individual survey area (%)	Sampling sites	Photograph
VT07	<i>Corymbia hamersleyana</i> and <i>Corymbia flavesces</i> open woodland over <i>Grevillea pyramidalis</i> subsp. <i>pyramidalis</i> and <i>Acacia colei</i> var. <i>colei</i> sparse shrubland over <i>Indigofera monophylla</i> , <i>Acacia arida</i> and <i>Acacia adoxa</i> var. <i>subglabra</i> shrubland over <i>Triodia epactia</i> open hummock grassland over <i>Stylosanthes hamata</i> , <i>Indigofera linnaei</i> and <i>Calandrinia strophilata</i> sparse forbland on red brown sandplain.	28.09 ha (99.64%)	Bid01-23, Bid02-23, Bid03-23 (Bidyadanga)	
Cleared	Areas devoid of native vegetation, such as cleared tracks	Beagle Bay – 0.12 ha (1.04%)  Ardyaloon south – 0.09 ha (0.24%) Djarindjin – 0.01 ha (0.10%)  Bidyadanga – 0.10 ha (%)	-	Photo not available


Habitat Type	Habitat Description	Extent (ha) and proportion of survey area (%)	Representative photograph
Stony Plains (VT01)	<p><i>Corymbia ?greeniana</i> open woodland over <i>Acacia leptophleba</i> over <i>Triodia</i> and tussock grassland on stony undulating plains. This habitat is widespread in the region, and most represented in the survey area. The diverse and dense grassy understorey provides suitable foraging and nesting for various bird species such as doves, pigeons and quail, and insectivorous and granivore bird species. The habitat would be utilised by wallaby (such as Agile Wallaby) and Euro for foraging. Several birds of prey would utilise this habitat as it provides an open plain for foraging. As the Eucalypt trees are not tall/mature it would not provide breeding habitat for birds of prey.</p> <p><b>Conservation significant fauna</b></p> <p>Gouldian Finch (<i>Erythrura gouldiae</i>) (P4/EN) may utilise this habitat, foraging on seed of grasses when seasonally available.</p> <p>The Grey Falcon (<i>Falco hypoleucos</i>) (VU) has the potential to utilise this habitat as it contains suitable foraging opportunity. The survey area is within the known distribution of the Grey Falcon.</p> <p>The Peregrine Falcon (<i>Falco peregrinus</i>) (OS) is likely to utilise this habitat for foraging. This species is known to occur locally.</p> <p><b>Habitat value</b> High</p>	6.73 ha (71.2%)	

Habitat Type	Habitat Description	Extent (ha) and proportion of survey area (%)	Representative photograph
Rocky Hills (VT02)	<p><i>Corymbia ?greeniana</i>, <i>Eucalyptus brevifolia</i> and <i>Terminalia canescens</i> open woodland over <i>Triodia</i> and tussock grassland on skeletal soils on rocky hills and ridges.</p> <p>This habitat type lacks large bisected rocky gorges with deep crevices or caves that are suitable for rock wallaby spp, bats, possums and rodents. The habitat in the survey area provides looser rocky boulders on hilltops which is suitable for certain reptiles seeking shelter in the <i>Triodia</i> and foraging on the rocky hills, such as several species of dragon, geckos, Spiny-tailed Monitor and whip-snakes. This habitat would attract Woodswallows and other arid land species such as Rufous Songlark and Rufous Whistler. Several birds of prey would utilise this habitat also for foraging and using tall trees as a vantage.</p> <p><b>Conservation significant fauna</b></p> <p>Gouldian Finch (<i>Erythrura gouldiae</i>) (P4/EN) may utilise this habitat, foraging on seed of grasses when seasonally available, and has the potential to utilise hollow-bearing Eucalypts in this habitat-type for breeding, although mature hollow-bearing trees were scant in the survey area.</p> <p>The Grey Falcon (<i>Falco hypoleucos</i>) (VU) has the potential to utilise this habitat as it contains suitable foraging opportunity. The survey area is within the known distribution of the Grey Falcon. The Eucalypts in the survey area are not mature enough to provide suitable breeding habitat.</p> <p>The Peregrine Falcon (<i>Falco peregrinus</i>) (OS) is likely to utilise this habitat for foraging. This species is known to occur locally. The rocky habitat is not suitable for breeding as no large open shelf rock or large mature Eucalypts with hollows.</p> <p><b>Habitat value</b> High</p>	2.21 ha (23.4%)	



Habitat Type	Habitat Description	Extent (ha) and proportion of survey area (%)	Representative photograph
Minor Drainage (VT03)	<p><i>Lophostemon grandifloras</i> subsp. <i>riparius</i> and <i>Lysiphylum cunninghamii</i> scattered trees over open tussock grassland on minor drainage lines/floodplain.</p> <p>This habitat would attract honeyeaters and granivores for foraging on the grasses and shrubs, such as Yellow-tinted honeyeater, Yellow Throated minor and Friarbird spp.</p> <p>Wallaby (such as Agile wallaby) and Euro would utilise this habitat type for foraging and shelter under trees.</p> <p>Several species of frog may utilise this habitat such as Green Tree Frog, Ornate Burrowing Frog and Northern Spadefoot.</p> <p><b>Conservation significant fauna</b></p> <p>Gouldian Finch (<i>Erythrura gouldiae</i>) (P4/EN) may be attracted to the water in the drainage lines but this would be an opportunistic occurrence. Habitat may be suitable for foraging as well.</p> <p><b>Habitat value</b></p> <p>Medium</p>	0.51 ha (5.4%)	
<i>Eucalyptus</i> and <i>Corymbia</i> on Pindan red sand (VT04 and VT06)	<p><i>Eucalyptus</i> and <i>Corymbia</i> woodland to isolated clumps of trees over tussock grasses and herbs on Pindan red sand loam on low plain.</p> <p>This habitat type generally corresponds with vegetation type VT04 and VT06. It tends to occur on well draining porous sandy soil. Habitat condition is generally very good to excellent; however some disturbance includes frequent fire, edge effects of weeds from adjacent tracks and clearings, and dumped rubbish.</p> <p>This habitat is extensive and widespread within the Pindanland bioregion of the Dampier Peninsular and occurs within Ardyaloon, Djarindjin and Beagle Bay survey areas. It is foraging and nesting habitat for a diverse range of insectivorous, nectar and granivore bird species including common resident and nomadic woodland bird species such as Dollarbird, Rainbow Bee-eater, Little Friarbird, Peaceful Dove, Grey-crowned Babbler and Double-barred Finch. A range of reptiles utilise this habitat including arboreal species: Stimson's Python, Black-tailed Monitor, and Tree Dittella. Borrowing and</p>		

Habitat Type	Habitat Description	Extent (ha) and proportion of survey area (%)	Representative photograph
	<p>fossorial reptiles include Griffin's Slider, Dampierland Limbless Slider and Gould's Monitor.</p> <p><b>Conservation significant fauna</b></p> <p>Foraging habitat Gouldian Finch (<i>Erythrura gouldiae</i>), Foraging and nesting habitat for Peregrine Falcon (<i>Falco peregrinus</i>), habitat for Dampierland Burrowing snake (<i>Simoselaps minimus</i>), and Dampierland plain slider (<i>Lerista separanda</i>) and Greater Bilby (<i>Macrotis lagotis</i>).</p> <p><b>Habitat value</b></p> <p>High value</p>		
<i>Corymbia</i> over <i>Melaleuca</i> on silty clay loam on drainage flats/floodplain (VT05)	<p><i>Corymbia</i> isolated clumps of trees over <i>Melaleuca</i> open woodland over mixed sedges and herbs on silty loam over clay on drainage flats/floodplain</p> <p>This habitat type generally corresponds with vegetation type VT05. Habitat condition is generally very good to excellent; however some disturbance includes frequent fire, dumped rubbish, and ground disturbance from adjacent infrastructure.</p> <p>This habitat is restricted to the Beagle Bay survey area in the eastern portion that encroaches into poor-draining lower elevation floodplain. It is foraging and nesting habitat for a diverse range of insectivorous, nectar and granivore bird species including common resident woodland bird species such as Black-faced Cuckoo-shrike, Blue-winged Kookaburra, Collared Sparrowhawk, Long-tailed Finch, and Sacred Kingfisher. A range of frogs and reptiles utilise this habitat including: Desert Tree Frog, Greet Tree Frog, Ornate Burrowing Frog, Long-snouted Water Dragon and Plains Ctenotus (Skink).</p> <p><b>Conservation significant fauna</b></p> <p>Foraging habitat for Gouldian Finch (<i>Erythrura gouldiae</i>), Peregrine Falcon (<i>Falco peregrinus</i>), Dampierland Burrowing snake (<i>Simoselaps minimus</i>), Dampierland plain slider (<i>Lerista separanda</i>) and Greater Bilby (<i>Macrotis lagotis</i>)</p> <p><b>Habitat value</b></p> <p>High value</p>		

Habitat Type	Habitat Description	Extent (ha) and proportion of survey area (%)	Representative photograph
<i>Corymbia</i> over <i>Acacia</i> over tussock grasses over hummock grassland on red brown sandplain (VT07)	<p><i>Corymbia</i> open woodland over <i>Acacia</i> shrubs over tussock grasses over <i>Triodia</i> hummock grassland over herbs on red brown sandplain.</p> <p>This habitat type generally corresponds with vegetation type VT07. Habitat condition ranges from good to very good with some cleared areas. Disturbance includes weed invasion, dumped rubbish, ground disturbance, cattle grazing and recent fire (0-2 years). Soils are moderately well drained sandy clay. This habitat is restricted to the Bidiyadanga survey area where it extends throughout. It is foraging habitat for a diverse range of regionally widespread and common bird species such as Australian Bustard, Brown Falcon, Red-browed Pardalote, and Variegated Fairy-wren. Budgerigar.</p> <p>Several large termite mounds within the survey area provide sheltering habitat for many reptile species.</p> <p><b>Conservation significant fauna</b> Nil</p> <p><b>Habitat value</b> Moderate value</p>		
Cleared areas	Unmapped areas that include roads and tracks.		Photo not available



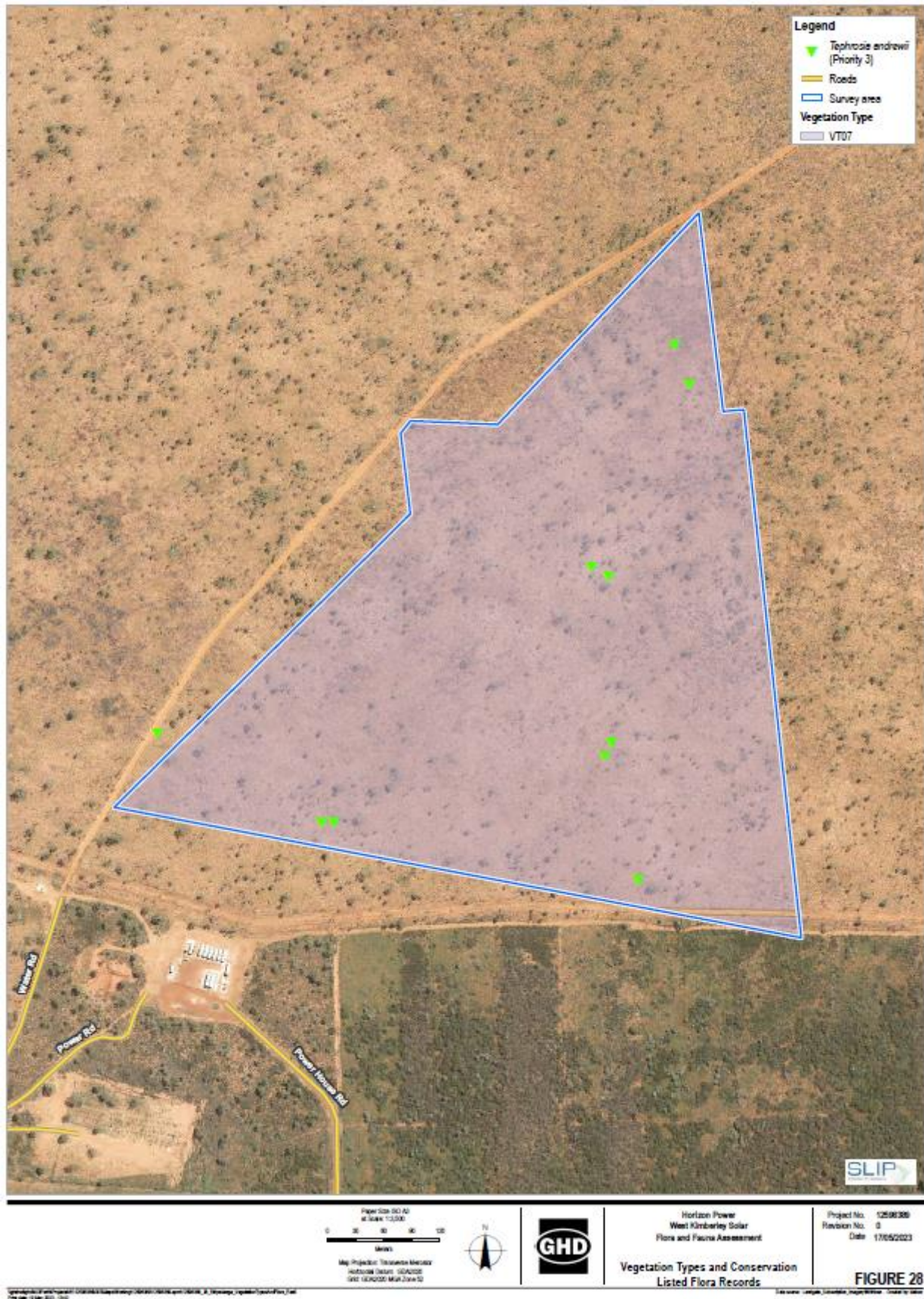


Figure 6: Area 1 - Bidyadanga - vegetation type





Figure 7: Area 1 - Bidyadanga - vegetation condition



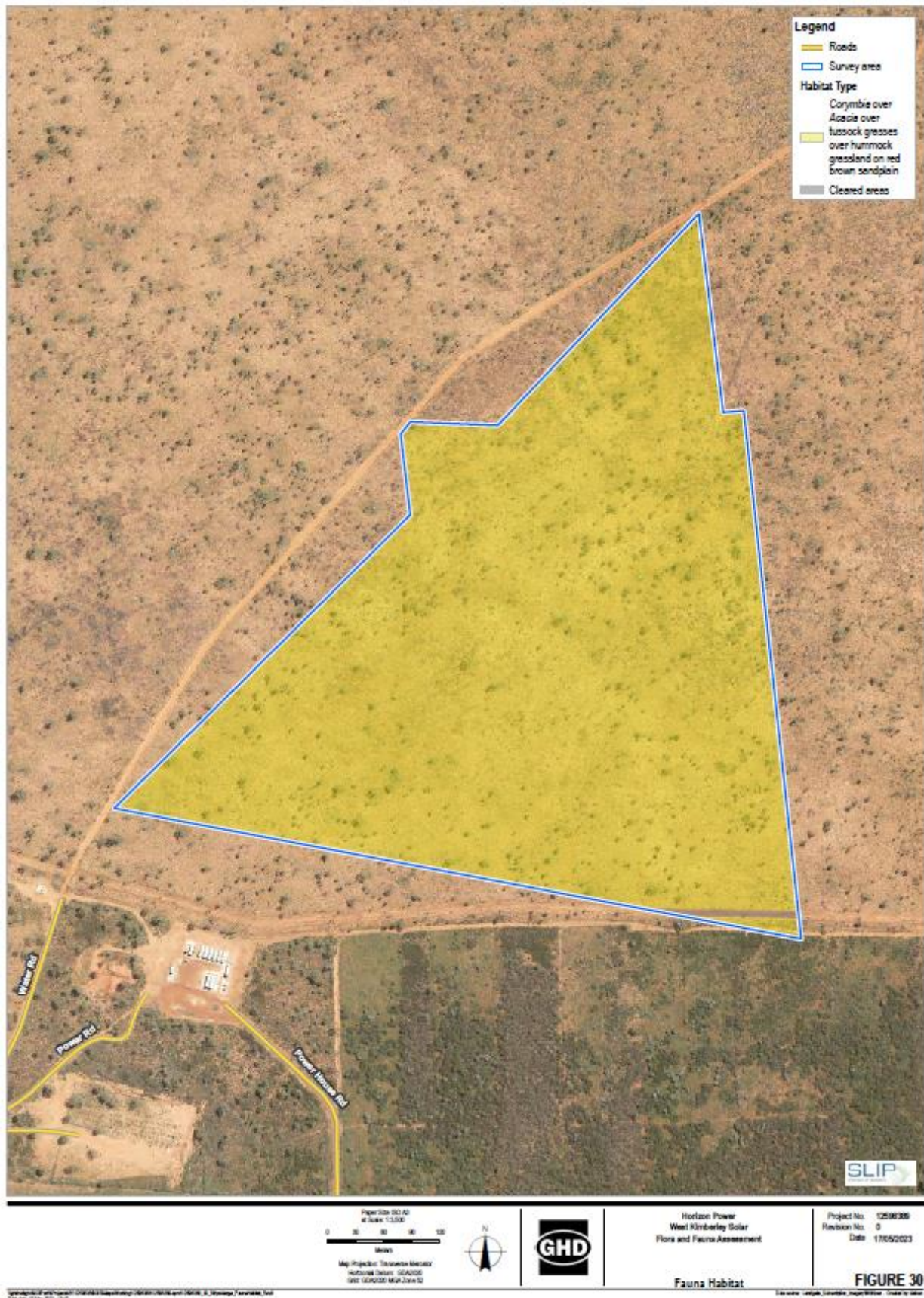


Figure 8: Area 1 - Bidyadanga - fauna habitat





Figure 9: Area 1 - Bidyadanga - vegetation type



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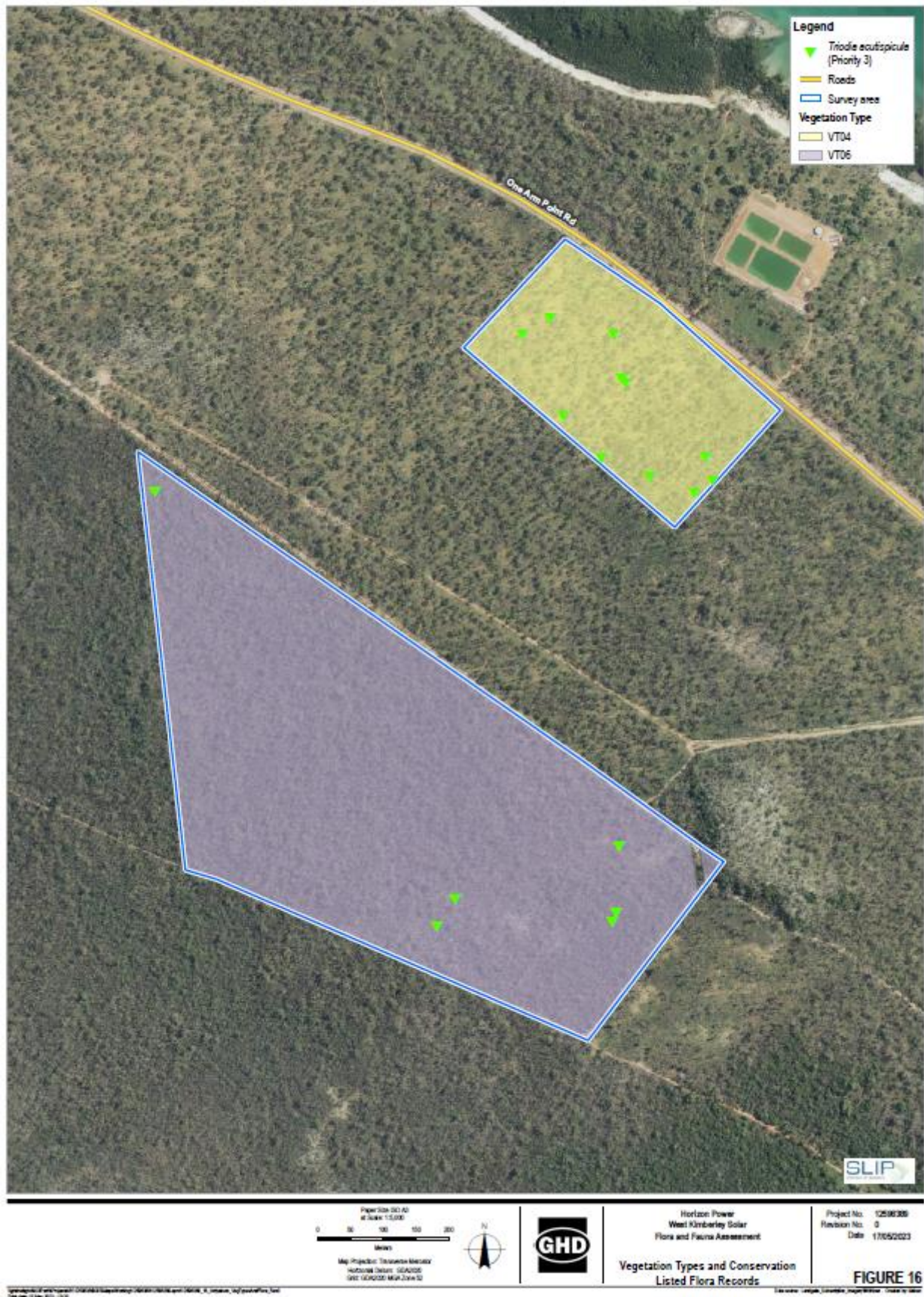


Figure 11: Area 2 - Ardyaloon - vegetation type





Figure 12: Area 2 - Ardyaloon - vegetation condition





Figure 13: Area 3 - Beagle Bay - vegetation type





Figure 14: Area 3 - Beagle Bay - vegetation condition



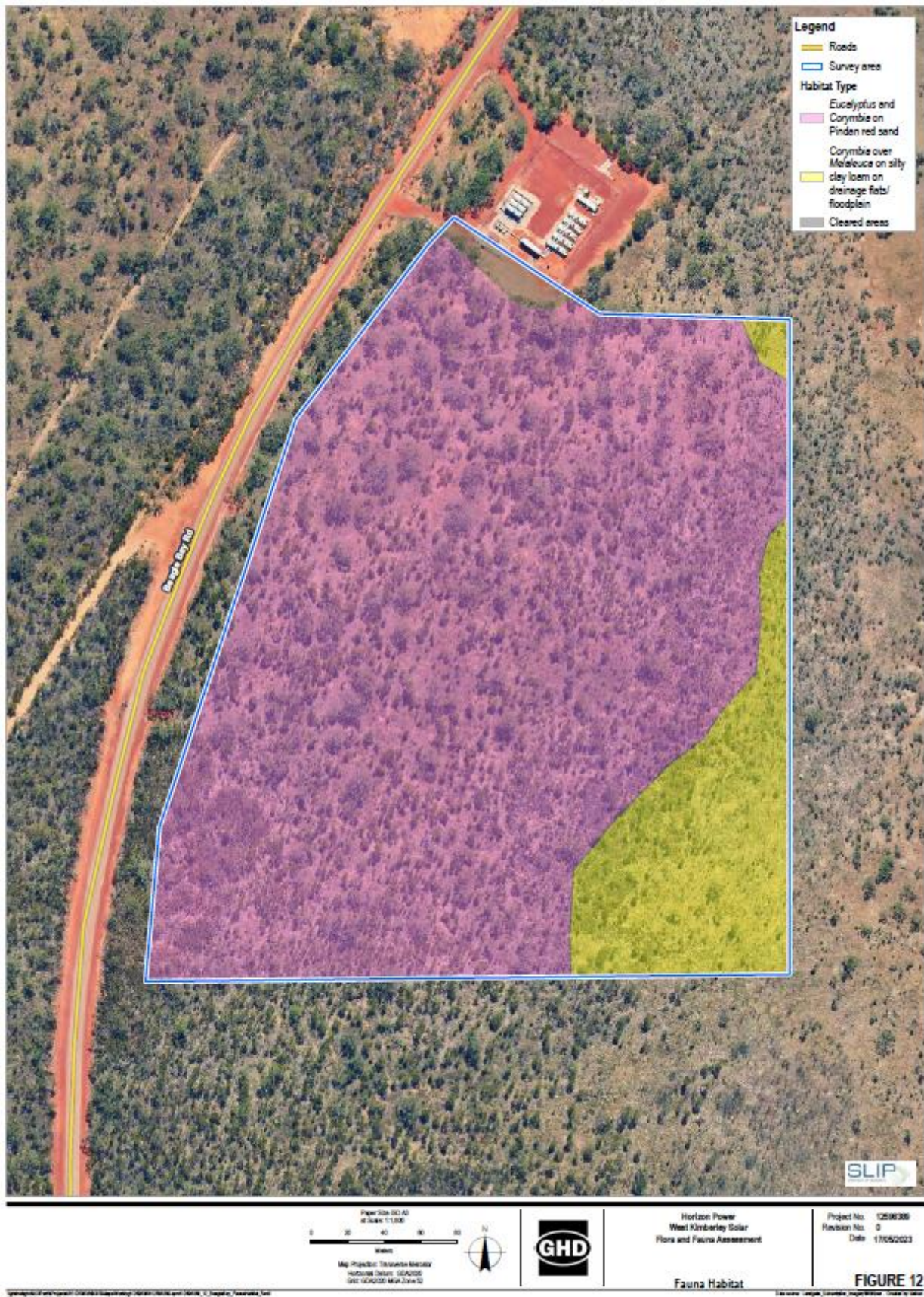


Figure 15: Area 3 - Beagle Bay - fauna habitat



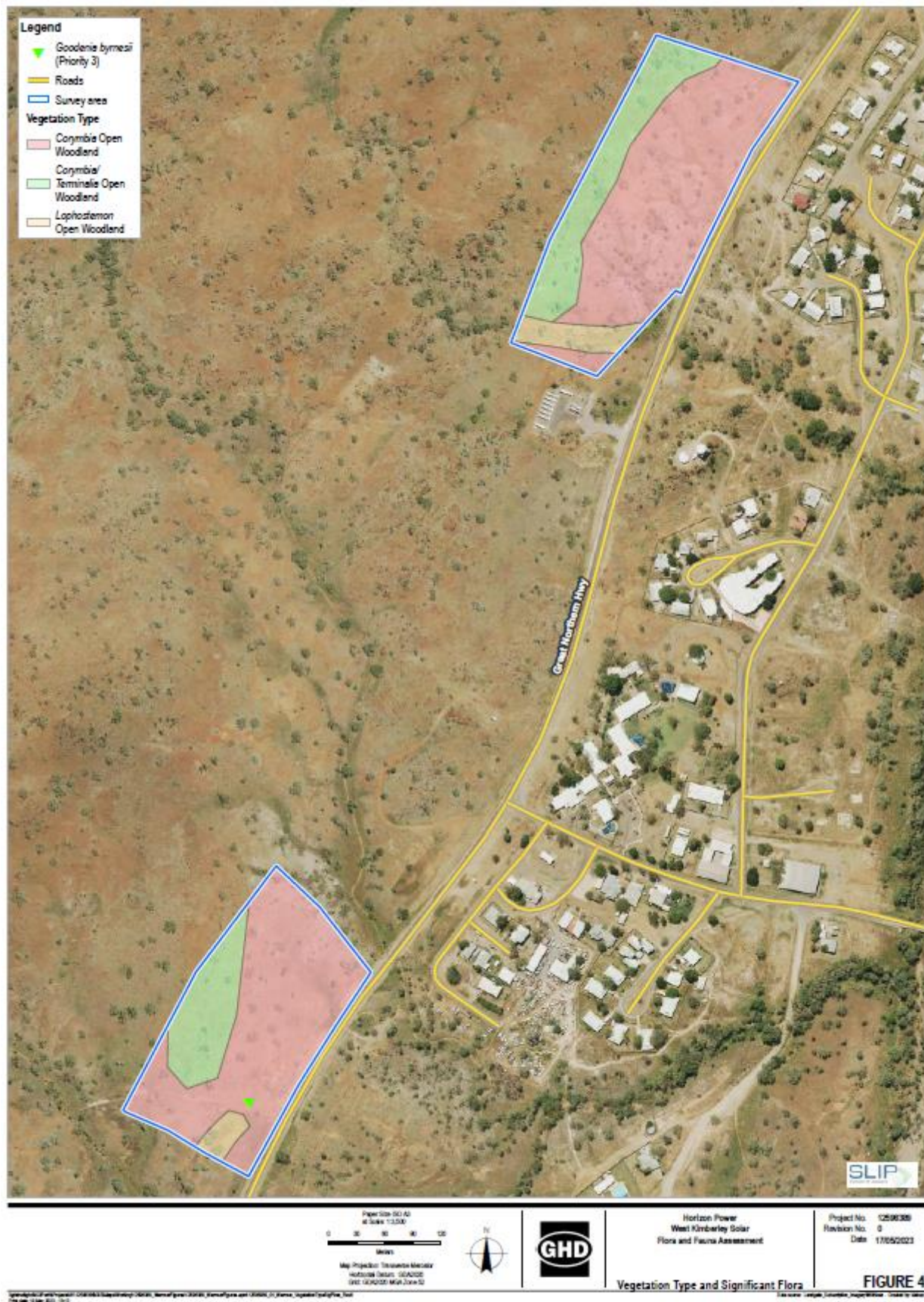


Figure 16: Area 4 - Warmun - vegetation type





Figure 17: Area 4 - Warmun - vegetation condition



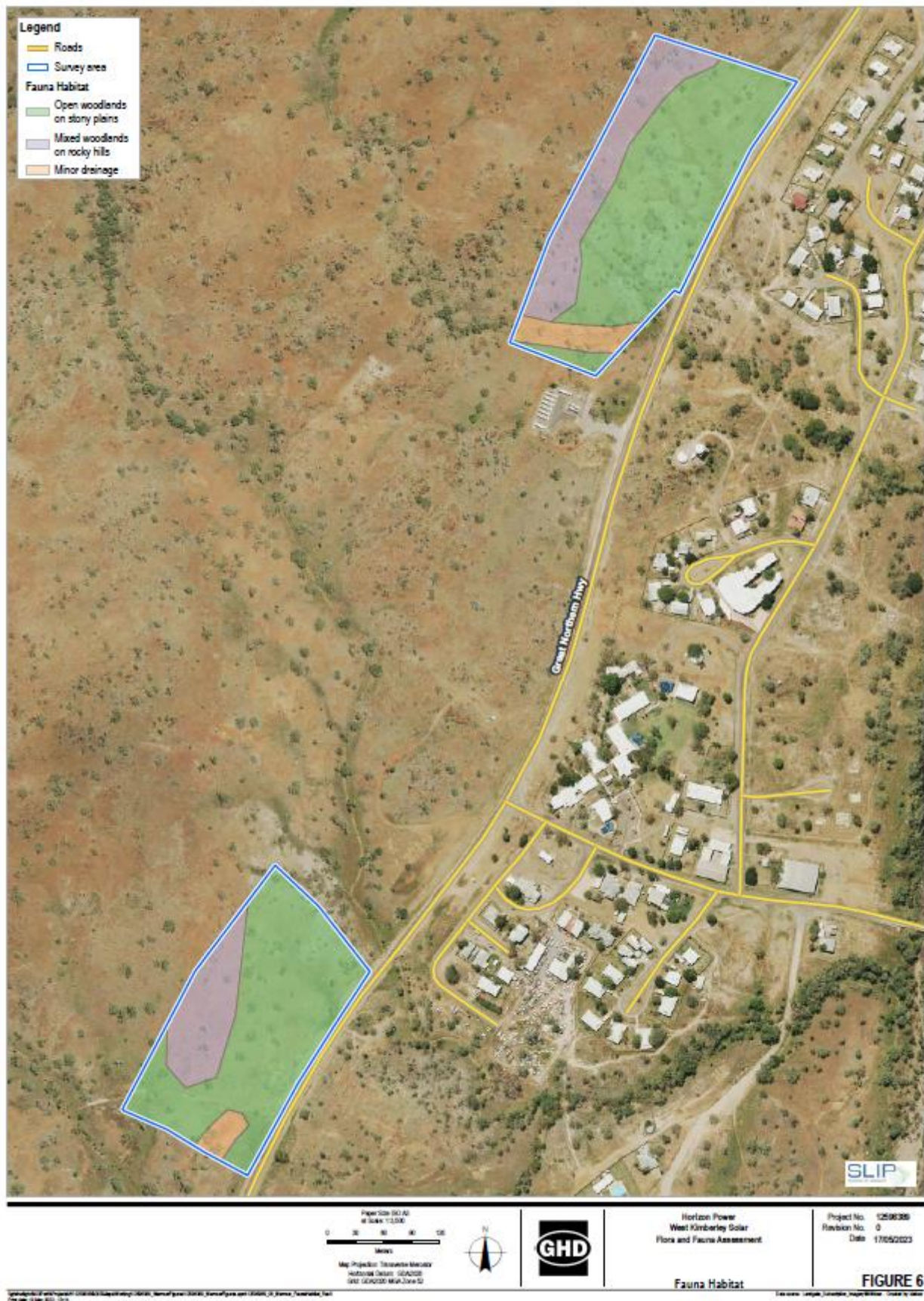


Figure 18: Area 4 - Warmun - fauna habitat



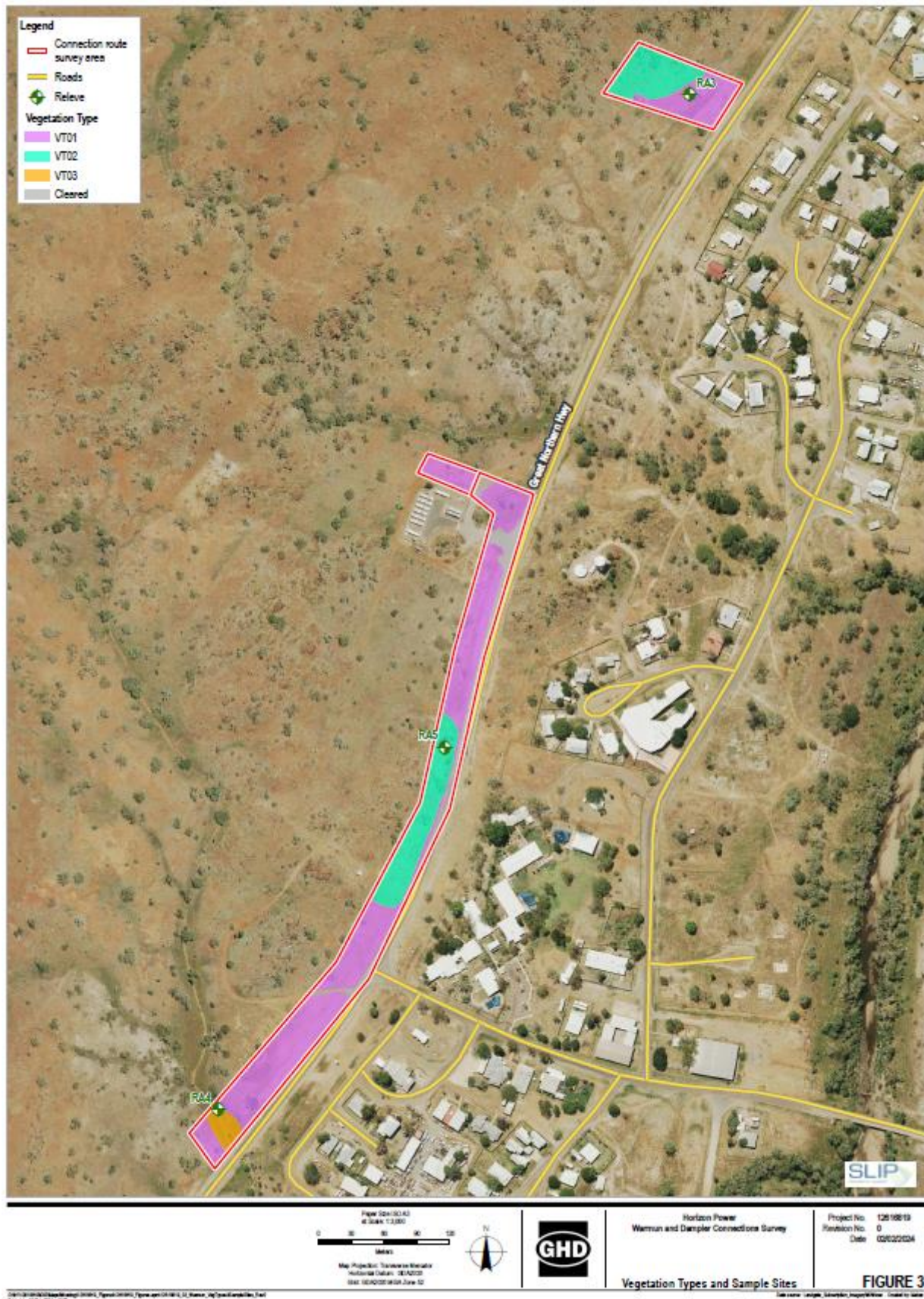


Figure 19: Area 4 - Warmun connection corridors - vegetation type



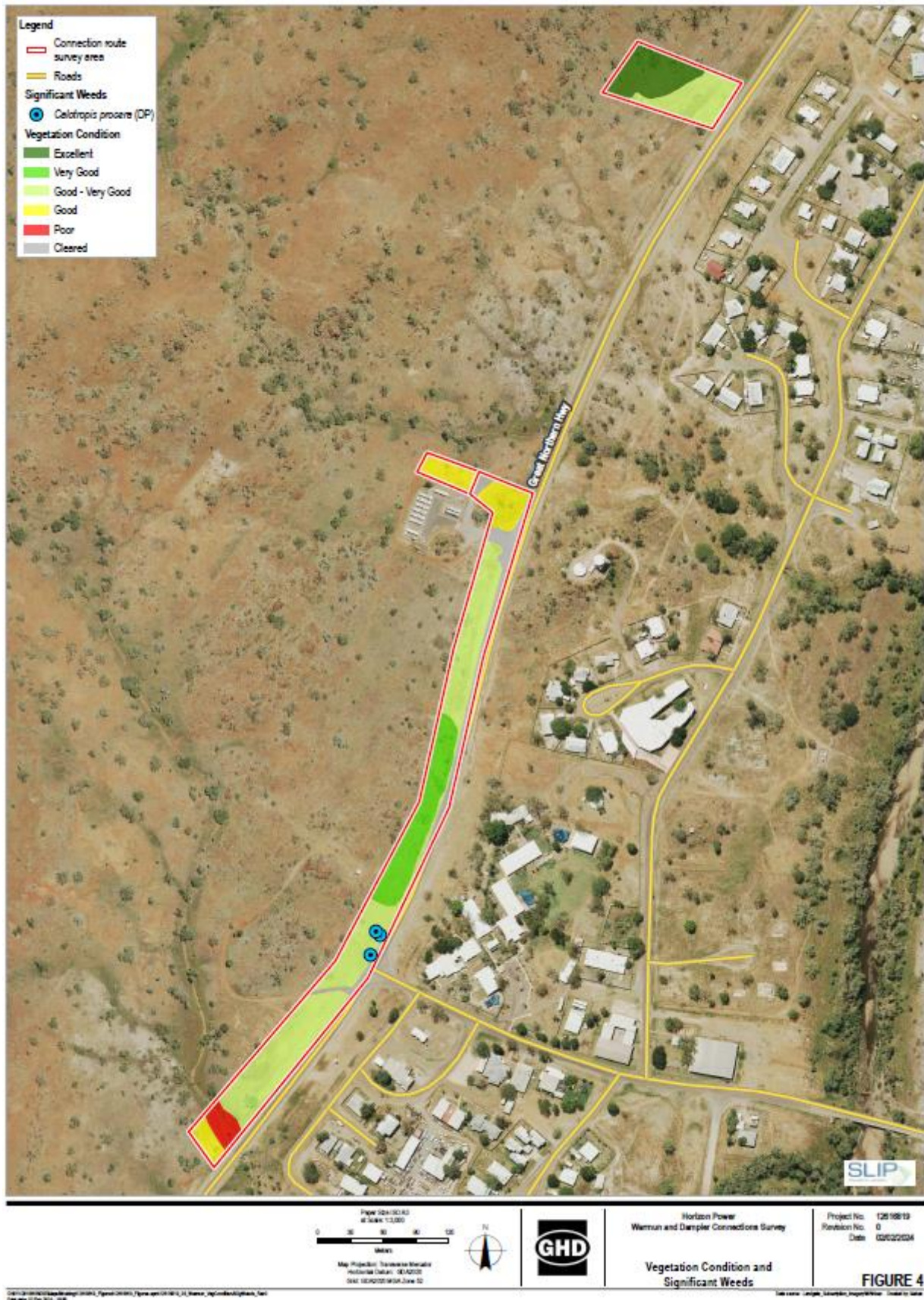


Figure 20: Area 4 - Warmun connection corridors - vegetation condition

## Appendix F. Sources of information

### F.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- 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)
- Flood Risk (DPIRD-007)
- 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)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems
- Wheatbelt Wetlands Stage 1 (DBCA-021)

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
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

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