



## CLEARING PERMIT

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

<b>Purpose Permit number:</b>	CPS 9664/1
<b>Permit Holder:</b>	Regional Power Corporation trading as Horizon Power
<b>Duration of Permit:</b>	From 22 July 2022 to 22 July 2027

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 geotechnical investigations.

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

Lot 150 on Plan 242287, Maitland  
Lot 1502 on Plan 75876, Maitland  
Lot 324 on Plan 42631, Maitland  
Lot 530 on Plan 221145, Maitland  
Lot 650 on Plan 29591, Maitland  
Lot 651 on Plan 29591, Maitland  
Lot 693 on Plan 30490, Maitland  
Lot 2656 on Plan 215106, Stove Hill  
Lot 330 on Plan 46452, Stove Hill  
Lot 4217 on Plan 217002, Stove Hill  
Lot 501 on Plan 400632, Stove Hill  
Lot 588 on Plan 77089, Stove Hill  
Unallocated Crown Land (PIN 705585), Stove Hill  
Lot 331 on Plan 46452, Stove Hill, Gap Ridge  
Lot 589 on Plan 77089, Stove Hill, Gap Ridge  
Unknown Road (PIN 11441929), Stove Hill, Gap Ridge  
Lot 285 on Plan 242018, Gap Ridge  
Lot 32 on Plan 47815, Gap Ridge  
Lot 4659 on Plan 221145, Gap Ridge  
Lot 559 on Plan 407846, Gap Ridge

Lot 590 on Plan 77089, Gap Ridge  
Lot 591 on Plan 77089, Gap Ridge  
Lot 603 on Plan 66690, Gap Ridge  
Lot 931 on Plan 76543, Gap Ridge  
Unknown Road (PIN 11733157), Maitland, Gap Ridge, Stove Hill, Cooya Pooya  
Lot 450 on Plan 216916, Stove Hill, Gap Ridge, Baynton

### **3. Clearing authorised**

The permit holder must not clear more than 3.94 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1, Maps (a) to (d) of attached Schedule 1.

## **PART II – MANAGEMENT CONDITIONS**

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

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

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

### **5. Weed 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.

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

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

### **7. Fauna management – backfilling**

- (a) cover all boreholes at the end of each day and backfill upon completion; and
- (b) backfill all test pits with excavated material upon completion.

## 8. Vegetation management – clearing not allowed

The permit holder must ensure that no mechanical clearing of *native vegetation* occurs within the vegetation type six (VT06) and vegetation type seven (VT07) identified within the Flora and Vegetation survey (GHD, 2022) and mapped within the area cross hatched red in Figure 2 in Schedule 1. VT06 and VT07 are representative of *riparian vegetation*.

## 9. Revegetation and rehabilitation – retention of vegetative material and topsoil

The permit holder must:

- (a) retain the vegetative material and topsoil removed by *clearing* authorised under this permit and stockpile the vegetative material and topsoil in an area that has already been cleared;
- (b) as soon as is practicable, and no later than 12 months following clearing authorised under this permit, *revegetate* and *rehabilitate* the areas that are no longer required for geotechnical investigations by:
  - (i) re-shaping the surface of the land so that it is consistent with the surrounding five metres land;
  - (ii) ripping the ground on the contour to remove soil compaction;
  - (iii) laying the vegetative material and topsoil retained under condition 9(a) on the cleared areas; and
  - (iv) undertake *weed* control activities on an ‘as needed’ basis to reduce weed cover within the cleared areas to no greater than the weed cover within the adjacent *native vegetation*.

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

### 10. 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	<ol style="list-style-type: none"><li>(a) the species composition, structure, and density of the cleared area;</li><li>(b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;</li><li>(c) the date that the area was cleared;</li><li>(d) the size of the area cleared (in hectares);</li><li>(e) the direction of the clearing in accordance with condition 6;</li><li>(f) actions taken to avoid, minimise, and reduce the impacts and extent of clearing</li></ol>

No.	Relevant matter	Specifications
		<p>in accordance with condition 4;</p> <p>(g) actions taken to minimise the risk of the introduction and spread of <i>weeds</i> in accordance with condition 5; and</p> <p>(h) actions taken to avoid clearing of VT06 and VT07 in accordance with condition 8.</p>
2.	In relation to fauna management pursuant to condition 7	(i) actions taken to cover and backfill all boreholes and test pits.
3.	In relation to <i>revegetation</i> and <i>rehabilitation</i> of areas pursuant to condition 9 of this permit:	<p>(j) the location of any areas revegetated and rehabilitated, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;</p> <p>(k) a description of the <i>revegetation</i> and <i>rehabilitation</i> activities undertaken;</p> <p>(l) the date that the area was <i>revegetated</i> and <i>rehabilitated</i>;</p> <p>(m) the size of the area <i>revegetated</i> and <i>rehabilitated</i> (in hectares); and</p> <p>(n) any weed control activities undertaken within the area <i>revegetated</i> and <i>rehabilitated</i>.</p>

## 11. Reporting

The permit holder must provide to the *CEO* the records required under condition 10 of this permit when requested by the *CEO*.

## DEFINITIONS

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

**Table 2: Definitions**

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
fill	means material used to increase the ground level, or to fill a depression.
department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the

<b>Term</b>	<b>Definition</b>
	administration of the EP Act, which includes Part V Division 3.
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
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.
rehabilitate/ed/ion rehabilitate/ed/ion	rehabilitate/ed/ion rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area.
revegetate/ed/ion revegetate/ed/ion	revegetate/ed/ion 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
riparian vegetation	has the meaning given to it in Regulation 3 of the <i>Environmental Protection (Clearing of Native Vegetation) Regulations 2004</i> ;
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**




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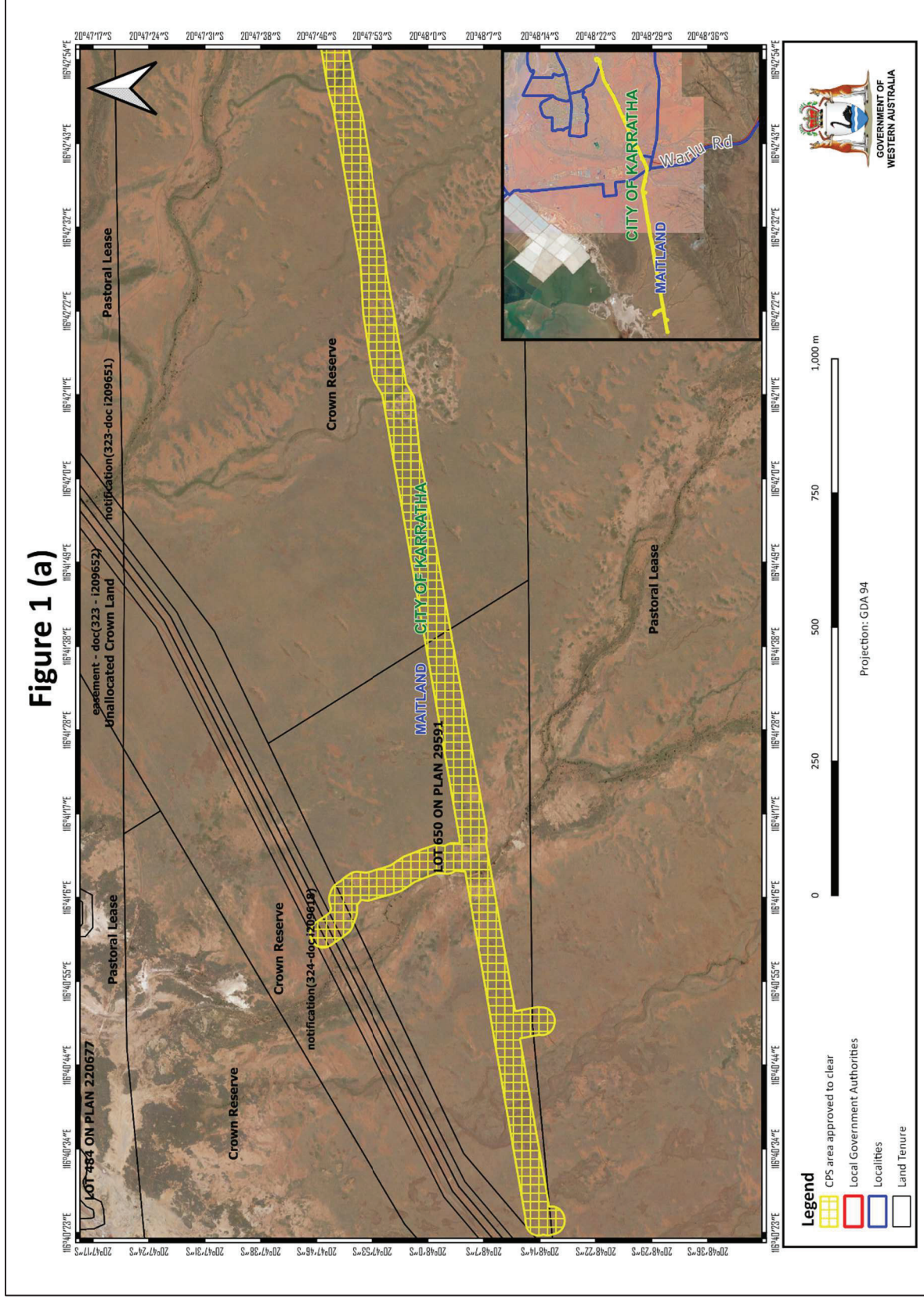
**Mathew Gannaway**  
**MANAGER**  
NATIVE VEGETATION REGULATION

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

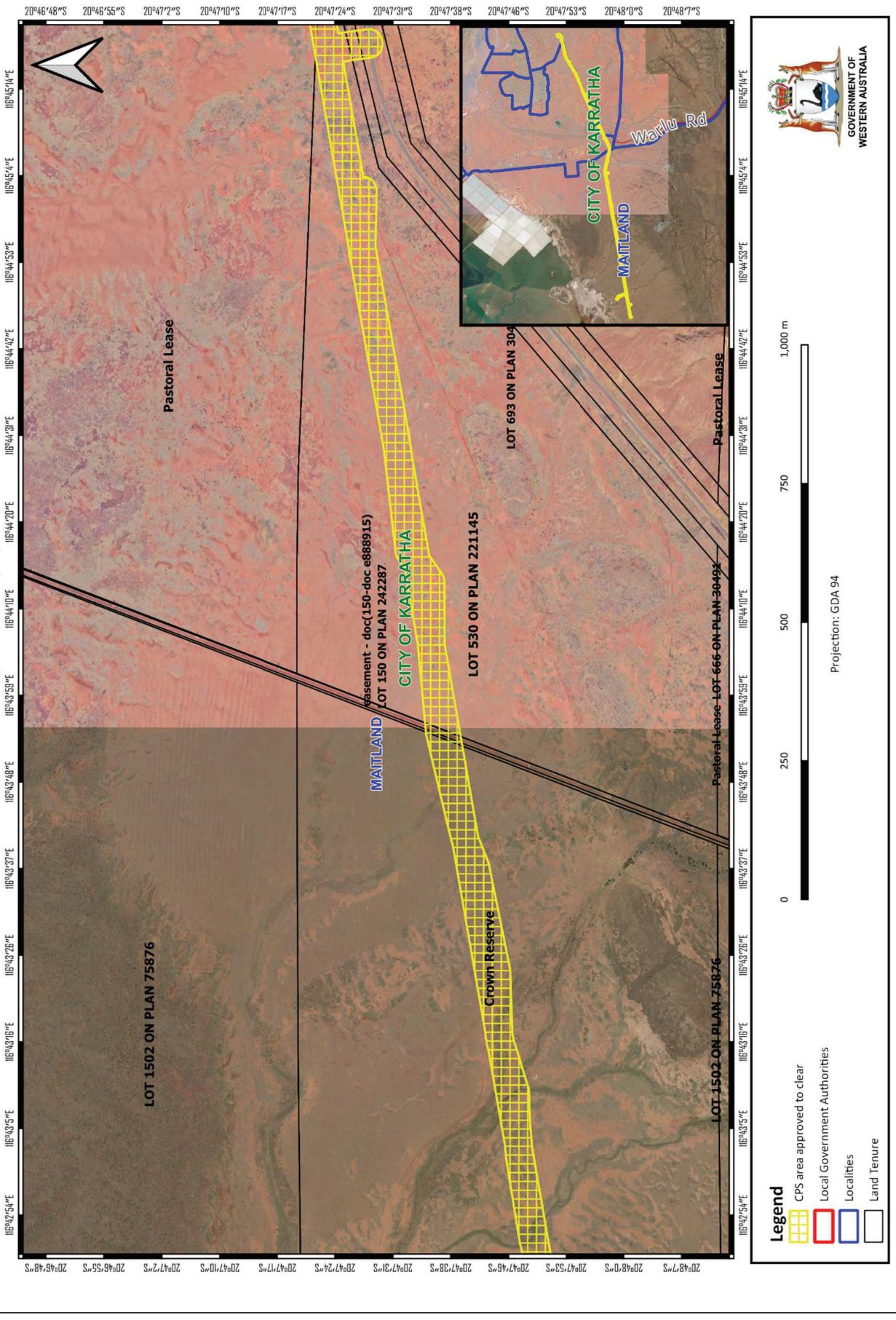
28 June 2022

# Schedule 1

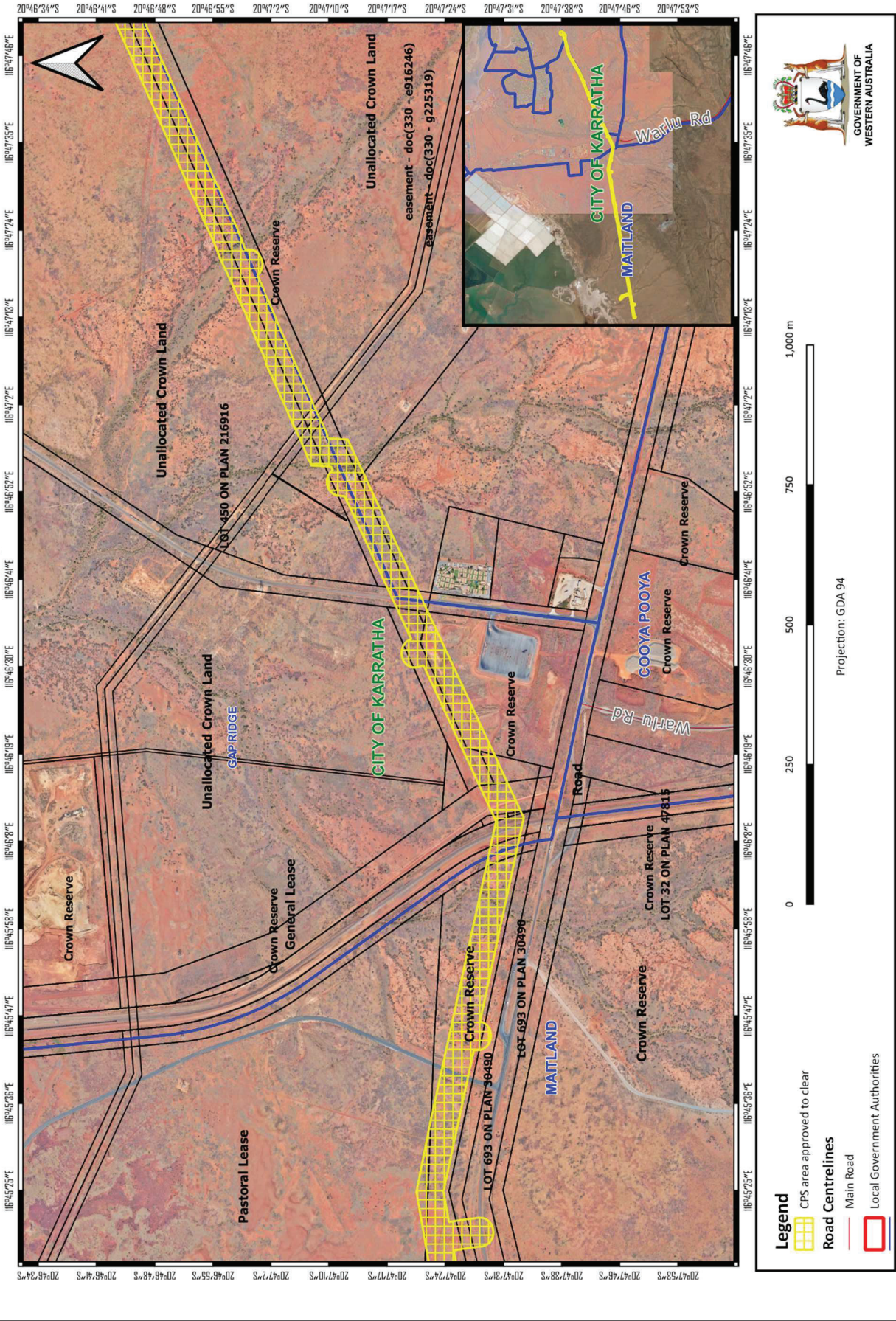
Figure 1: Maps (a) to (d) of the boundaries of the areas within which clearing may occur under CPS 9664/1.



**Figure 1 (b)**

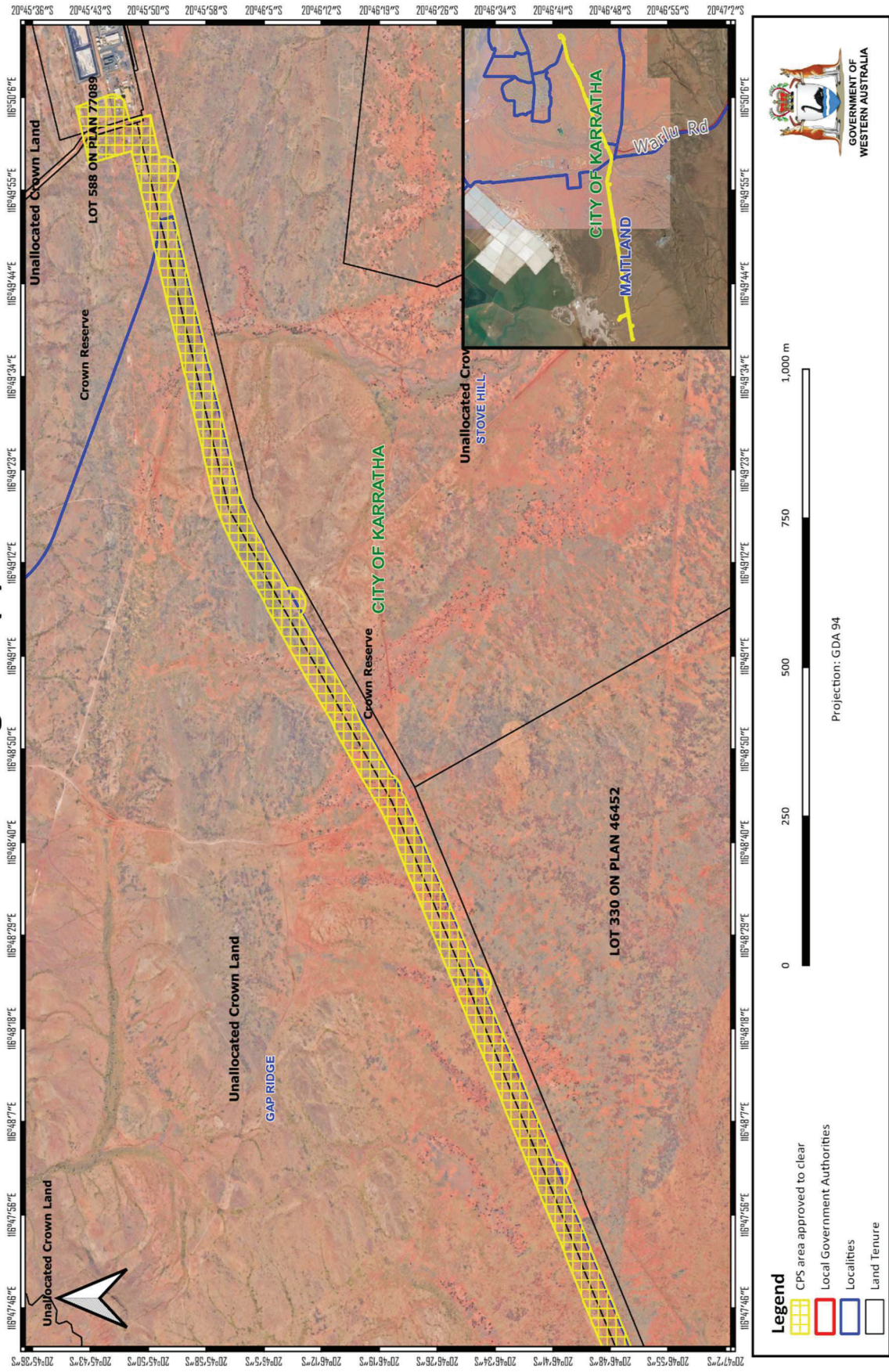


**Figure 1 (c)**





**Figure 1 (d)**



**Figure 2**

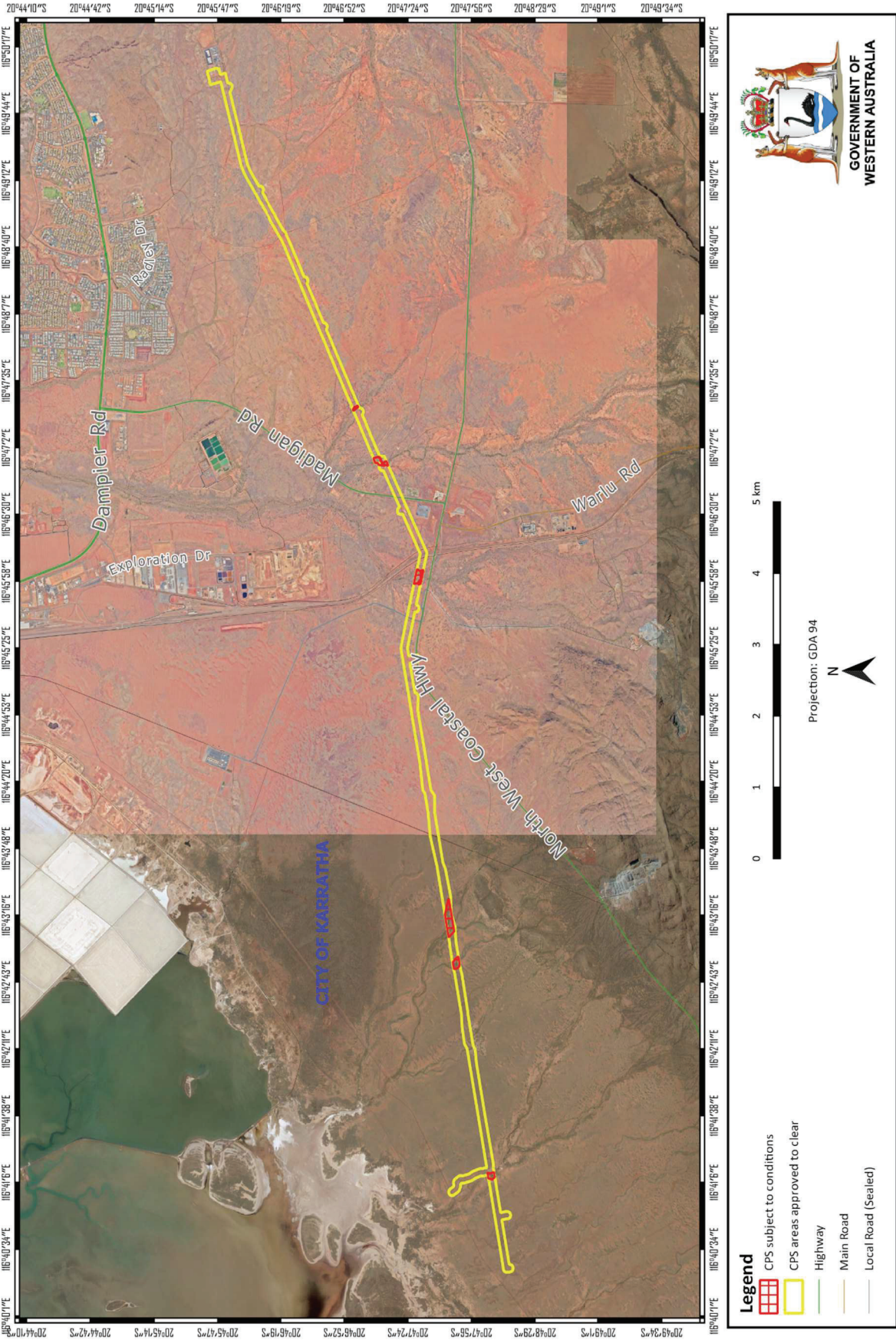


Figure 2: Map of the boundary of the areas the Permit Holder is not authorised to clear under CPS 9664/1.



# Clearing Permit Decision Report

## 1 Application details and outcome

### 1.1. Permit application details

<b>Permit number:</b>	CPS 9664/1
<b>Permit type:</b>	Purpose permit
<b>Applicant name:</b>	Regional Power Corporation trading as Horizon Power
<b>Application received:</b>	17 March 2022
<b>Application area:</b>	3.94 hectares of native vegetation
<b>Purpose of clearing:</b>	Geotechnical investigations
<b>Method of clearing:</b>	Mechanical removal and Incidental damage
<b>Property:</b>	Lot 150 on Plan 242287, Maitland Lot 1502 on Plan 75876, Maitland Lot 324 on Plan 42631, Maitland Lot 530 on Plan 221145, Maitland Lot 650 on Plan 29591, Maitland Lot 651 on Plan 29591, Maitland Lot 693 on Plan 30490, Maitland Lot 2656 on Plan 215106, Stove Hill Lot 330 on Plan 46452, Stove Hill Lot 4217 on Plan 217002, Stove Hill Lot 501 on Plan 400632, Stove Hill Lot 588 on Plan 77089, Stove Hill Unallocated Crown Land (PIN 705585), Stove Hill Lot 331 on Plan 46452, Stove Hill, Gap Ridge Lot 589 on Plan 77089, Stove Hill, Gap Ridge Unknown Road (PIN 11441929), Stove Hill, Gap Ridge Lot 285 on Plan 242018, Gap Ridge Lot 32 on Plan 47815, Gap Ridge Lot 4659 on Plan 221145, Gap Ridge Lot 559 on Plan 407846, Gap Ridge Lot 590 on Plan 77089, Gap Ridge Lot 591 on Plan 77089, Gap Ridge Lot 603 on Plan 66690, Gap Ridge Lot 931 on Plan 76543, Gap Ridge Unknown Road (PIN 11733157), Maitland, Gap Ridge, Stove Hill, Cooya Pooya

	Lot 450 on Plan 216916, Stove Hill, Gap Ridge, Baynton
<b>Location (LGA area/s):</b>	City of Karratha
<b>Localities (suburb/s):</b>	Maitland, Stove Hill, Gap Ridge, Cooya Pooya and Baynton

### 1.2. Description of clearing activities

The proposed temporary clearing includes up to 3.94 hectares of native vegetation comprising of both mechanical clearing for borehole and test pits and incidental impact to native vegetation from driving over vegetation (Horizon Power, 2022a). The proposed clearing is required to undertake geotechnical investigations along a corridor length of approximately 18 kilometres, within an application area of approximately 204 hectares (Horizon Power, 2022a). An indicative clearing footprint has been provided by Regional Power Corporation trading as Horizon Power (Horizon Power) and is represented in Figure 1 (maps a-d), Section 1.5.

An area of 1.16 hectares of disturbance is attributed to vehicle movements accessing the test sites. The testing will be conducted in a systematic manner from one location to the next, minimising the number of movements. Driving over vegetation will result in a temporary disturbance only, with rapid regeneration expected. The tracks (tyre tread impacts) are linear in nature which will support natural recolonisation from seed and root spread should vegetation death occur. The geotechnical test sites (26 test sites) will involve temporary clearing and rehabilitation activities are proposed to commence at each test site immediately after completion. Locations of the test pits will be selected with consideration of reducing vegetation impact with preference given to sparse areas (Horizon Power, 2022b).

### 1.3. Decision on application

<b>Decision:</b>	Granted
<b>Decision date:</b>	28 June 2022
<b>Decision area:</b>	3.94 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 a flora, vegetation and fauna survey (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 assessment identified that the proposed clearing will result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values.
- removal of vegetation representative of a Priority Ecological Community (PEC).
- potential mortality of conservation significant fauna utilising the application area.
- unfilled test pits and boreholes pose a threat to ground fauna moving through the landscape.

After consideration of the available information, as well as the applicant’s minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to lead to appreciable land degradation, have long-term adverse impacts on environmental values and can be minimised and managed to unlikely lead to an unacceptable risk to environmental values.

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

- avoid, minimise to reduce the impacts and extent of clearing.
- take hygiene steps to minimise the risk of the introduction and spread of weeds.
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity.
- retain cleared vegetation and topsoil and respread this on the temporary cleared areas.
- cover all boreholes at the end of each day and backfill all test pits and boreholes with excavated material upon completion.

1.5. Site maps

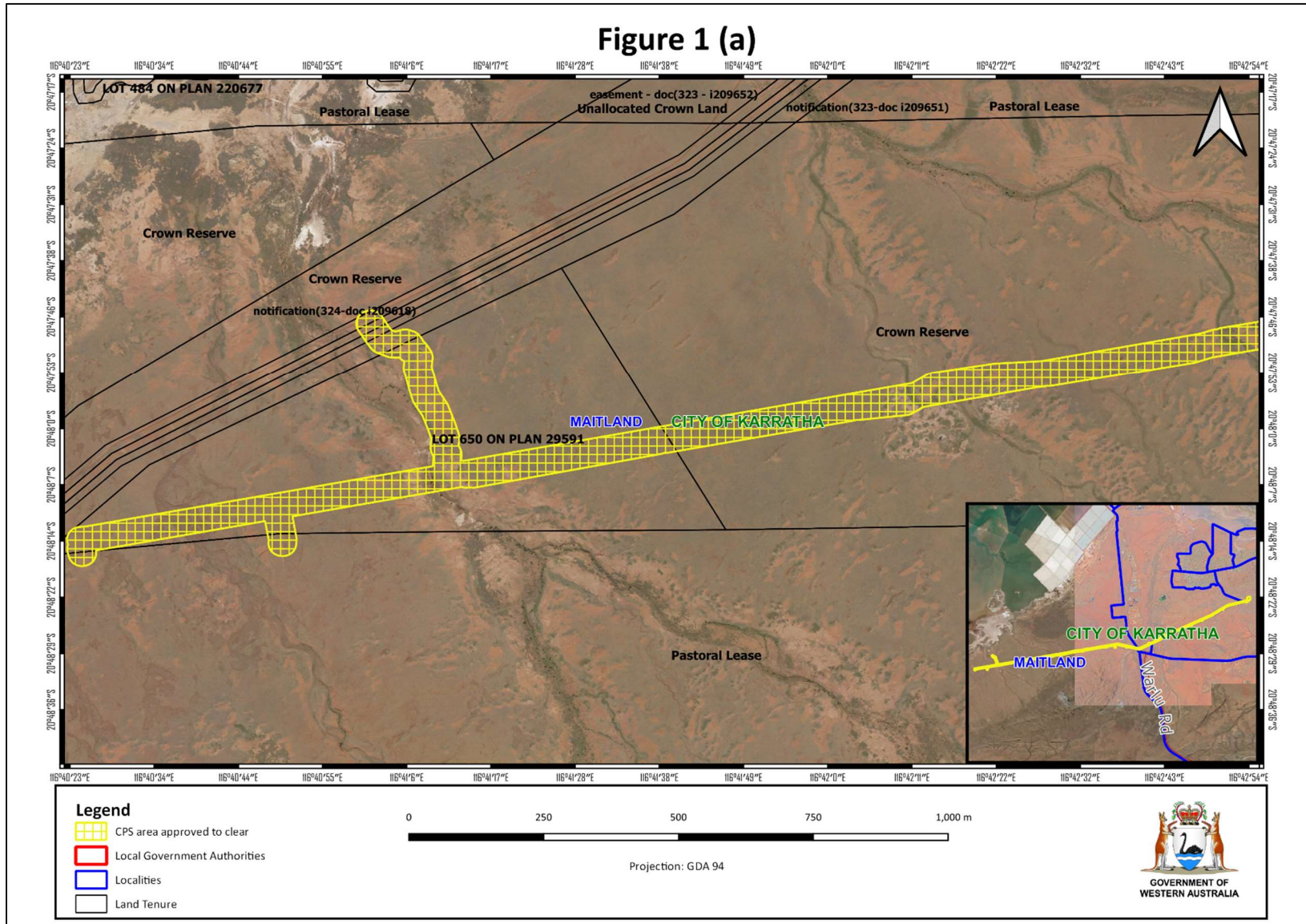


Figure 1a Map of the application area

The areas crosshatched yellow indicate the footprint where authorised clearing under the granted clearing permit may occur.

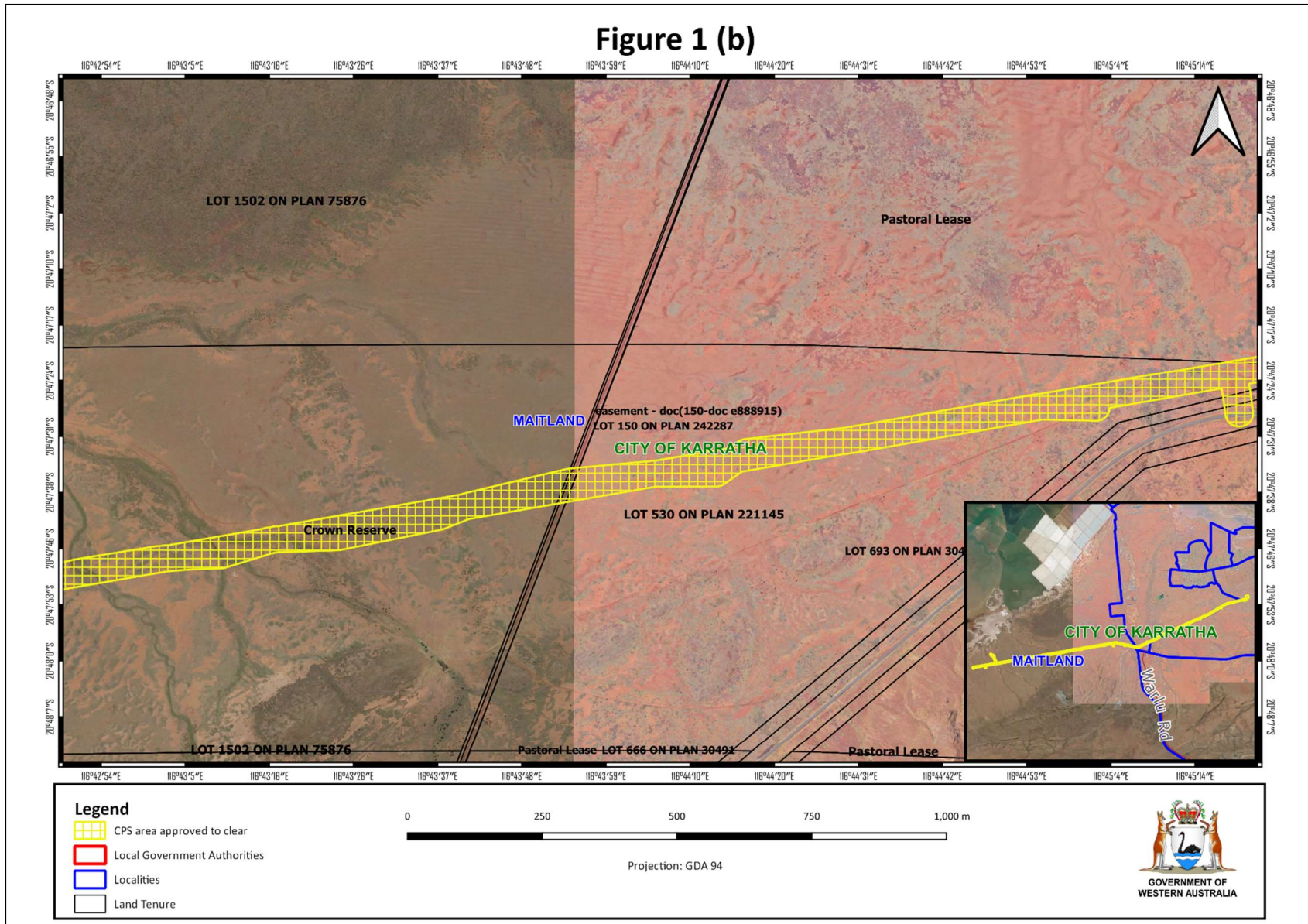


Figure 1b Map of the application area

The areas crosshatched yellow indicate the footprint where authorised clearing under the granted clearing permit may occur.

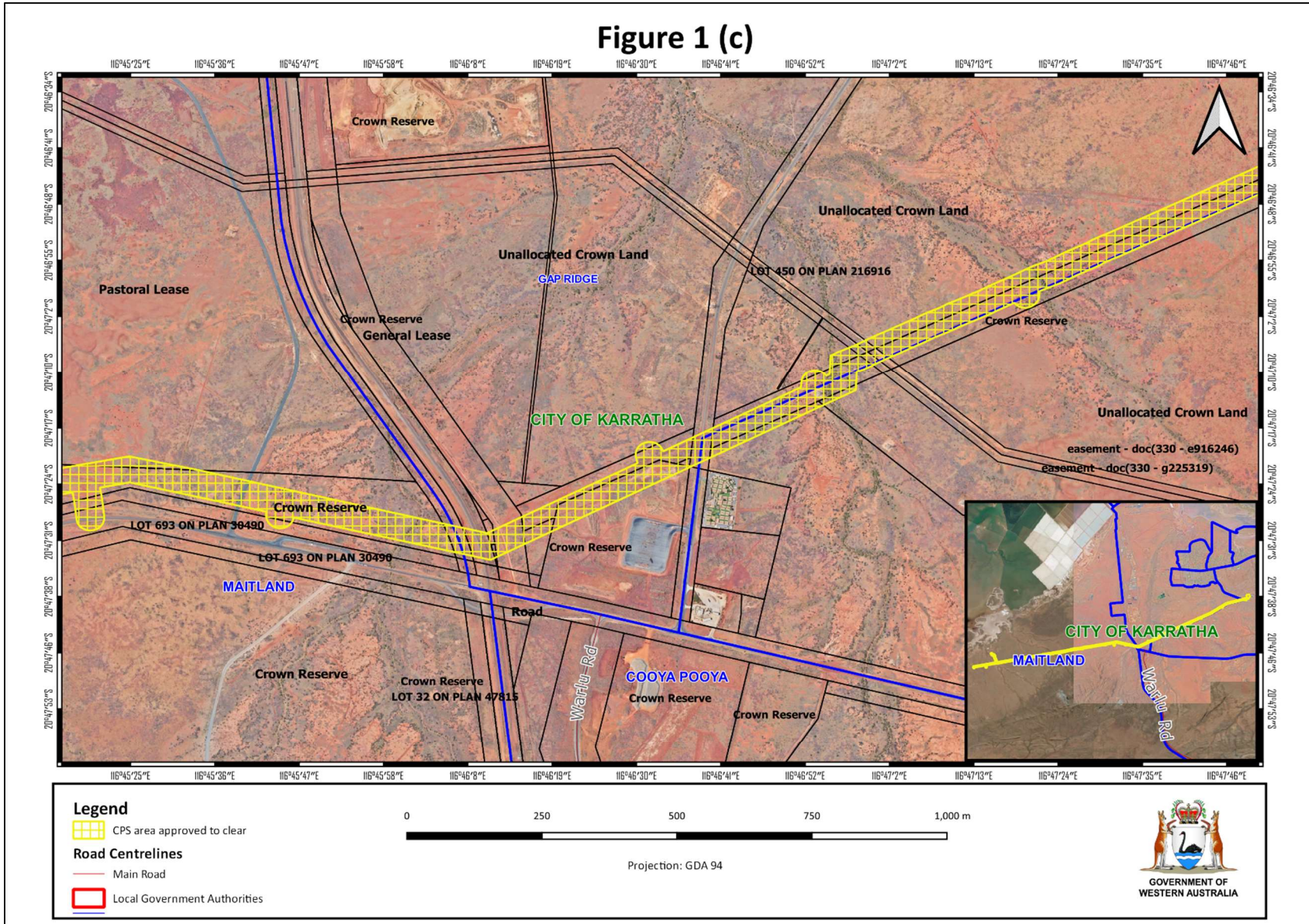


Figure 1c Map of the application area

The areas crosshatched yellow indicate the footprint where authorised clearing under the granted clearing permit may occur.

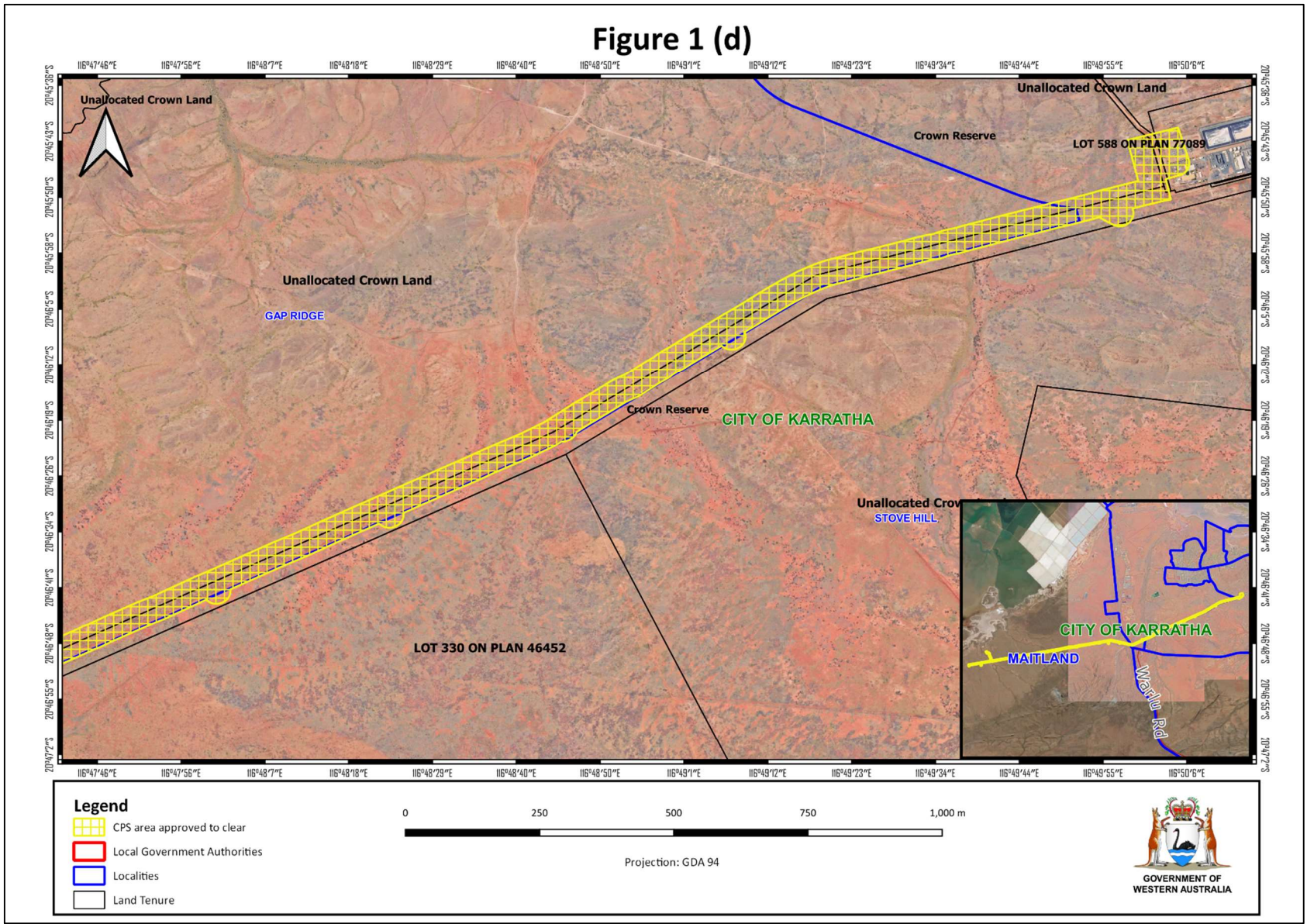


Figure 1d Map of the application area

The areas crosshatched yellow indicate the footprint where authorised clearing under the granted clearing permit may occur.



## 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)
- *Soil and Land Conservation Act 1945* (WA)

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 and mitigation measures

The following avoidance and minimisation measures have been considered by Horizon Power during the design of the proposed clearing area (Horizon Power, 2022b).

- “The geotechnical locations and access tracks have been designed to avoid vegetation clearing where possible;
- The geotechnical pit works will be undertaken within a larger area, allowing for the choice of area that is least vegetated and avoidance of rocky outcrops, rock piles and riparian vegetation once crews are in the field;
- Sparsely vegetated test locations will be utilised where possible;
- No clearing in waterways is proposed; and
- The design has been altered to align with existing tracks to minimise the clearing of native vegetation.”

The following measures will be implemented by Horizon power during the operation to mitigate potential impacts to environmental values (Horizon Power, 2022b).

- “Undertaking heritage survey by the Traditional Owner group;
- Heritage monitors present during ground disturbing activities;
- A Weed Management Plan will be developed prior to the works and will be implemented to mitigate the risk of weeds entering the site or spreading;
- Prior to commencing work all vehicles and machinery will be washed down to prevent the spread of weeds into the work area. Vehicle tread will be clean upon entry at the start of each day;
- Pre-existing access tracks and cleared areas will be utilised where possible;
- A preference will be given to degraded, sparse or already cleared vegetation in proximity to access tracks when selecting test locations;
- No mechanical clearing of access tracks is permitted;
- Works will be carried out systematically to facilitate minimal re-run and compaction of access tracks;
- Field crew will be provided with priority/threatened flora and fauna species information sheets to allow onsite identification and active avoidance;
- Areas which contain known significant weeds will be avoided and not cleared. If weeds are encountered during works vehicle treads will be cleaned prior to entering new areas;
- Boreholes will not be left open over night to prevent potential impacts to fauna;
- If a test pit is left open overnight, the walls will be shaped to allow fauna egress and test pits will be inspected at commencement of the day.”

Horizon Power further proposes to undertake rehabilitation of the areas cleared for geotechnical investigations by completing the following tasks (Horizon Power, 2022b).

- “Walkover of the 25 m x 25 m area for significant weed species, priority or threatened flora and fauna, or preferential habitat (i.e. rock piles). If identified, location will be moved;
- The area will be demarcated;
- Stripping of topsoil will be undertaken slowly in a one-way direction, to allow fauna to move offsite if present;
- Topsoil will be stored in a designated location on site;
- Test pits will be reinstated with shallow soils at the surface;
- Recontouring and removal of compaction (ripping or scarification) of the soil will be undertaken if applicable;
- Topsoil respread over surface;
- Where vegetation is stripped it will be respread back over disturbed areas on completion of works; and
- Upon the conclusion of drilling each test, the same access track will be used to return to the main road.”

A clearing permit supporting document was prepared and was submitted to DWER by Horizon Power with the above listed avoidance and mitigation measures (Horizon Power, 2022b). The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

### 3.2. Assessment of impacts on environmental values

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

The assessment against the clearing principles (see Appendix C) identified that the impacts of the proposed clearing present a risk to biological values, riparian vegetation 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 - Clearing Principle (a)

##### Assessment

The proposed clearing area is within the Pilbara bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA). The majority of the application area is located over the Abydos Plain-Roebourne vegetation association 589. Approximately 1.6 kilometres towards the eastern end of the application area is mapped over the Abydos Plain – Roebourne vegetation association 157. The vegetation association 589 is described as short bunch-grass savanna/grass-steppe while vegetation association 157 is described as Hummock grassland *Triodia* species (Government of Australia, 2019).

The application area is a long, linear strip of approximately 17.8 kilometres of vegetation and is part of an expansive tract of native vegetation. A detailed flora, vegetation and fauna survey was conducted by GHD Pty Ltd over four days (1 March – 4 March 2022) to describe key flora, vegetation and fauna values within the survey area and to determine the potential impact to areas of sensitivity (GHD, 2022).

The survey identified seven vegetation types over the application area (Appendix B.1, Appendix E). The vegetation within the eastern half of the survey area primarily consists of hummock grasslands of *Triodia epactia* and *T. wiseana* with scattered to open shrublands dominated by *Acacia*, *Hakea*, and *Senna* species on rocky sandy loam plains and low undulating rocky rises and slopes. The western half of the survey area is dominated by tussock grasslands on weakly gilgaied red clay loams. The vegetation identified along the minor drainage lines are *Corymbia hamersleyana* or *Eucalyptus victrix* and *Acacia coriacea*. The mapped vegetation type six (VT06) and vegetation type seven (VT07) represent the broad drainage lines, considered to be representative of riparian vegetation (GHD, 2022).

The vegetation condition (Trudgen, 1991) throughout the survey area varied from Completely Degraded (Trudgen, 1991) to Excellent (Trudgen, 1991) condition with the majority of the survey area containing vegetation of Very Good (Trudgen, 1991) condition with no to minimal signs of disturbance and contained little to no weeds (GHD, 2022). The vegetation rated to be in Poor (Trudgen, 1991) to Completely Degraded (Trudgen, 1991) condition was observed immediately adjacent to cleared areas such as linear infrastructure (roads, vehicle tracks, and rail) and contained a higher proportion of weed species (predominately *Cenchrus ciliaris*) (GHD, 2022).

##### **Flora**

According to available databases, 19 priority flora listed by Department of Biodiversity, Conservation and Attractions (DBCA) and no threatened flora listed under the EPBC Act or BC Act were identified within the 50-kilometre radius of the application area. Based on the similarities shared between the soil and vegetation types in habitats for these

flora taxa and within the application area, it was determined that that six flora species have the potential to occur over the application area. These species are *Dolichocarpa* sp. *Hamersley Station* (A.A. Mitchell PRP 1479) (P3), *Gomphrena axillaris* (P1), *Goodenia pallida* (P1), *Rhynchosia bungarensis* (P4), *Terminalia supranitifolia* (P3) and *Themeda* sp. *Hamersley Station* (M.E. Trudgen 11431) (P3). The Flora and vegetation survey recorded 121 flora taxa representing 34 families and 73 genera within the survey area which included 116 native taxa and five introduced taxa. None of the introduced taxa were identified as a weed of national significance. None of the above listed priority taxa or any other priority taxa identified from the local area have been previously mapped over the application area, and none were identified during the flora and vegetation survey (GHD, 2022).

The proposed temporary clearing for geotechnical investigations is unlikely to impact the conservation status of priority flora identified within the local area. In addition, the applicant has committed to re-contour and respread areas cleared for the geotechnical investigations to promote regeneration of native vegetation (Horizon Power, 2022b).

### **Ecological Communities**

The desktop assessment has identified that a small section to the centre of the application area is mapped as the Roebourne Plains coastal grasslands with gilgai microrelief on deep cracking clays (Roebourne Plains gilgai grasslands) P1 PEC. During the flora and vegetation survey, the presence/absence of this PEC was assessed, and it was determined that the vegetation did not represent the Roebourne Plains gilgai grasslands as the soils consisted of weak gilgai clay plains and not strongly gilgaied self-mulching cracking clays (GHD, 2022).

One of the seven vegetation types described and mapped by GHD (2022) corresponded with the Horseflat Land System of the Roebourne Plains PEC. The Horseflat Land System of the Roebourne Plains are extensive, weakly gilgaied clay plains dominated by tussock grasslands on mostly alluvial nongilgaied, red clay loams or heavy clay loams. The perennial tussock grasses include *Eragrostis xerophila* (Roebourne Plains grass) and other *Eragrostis*, *Eriachne* and *Dichanthium* species. The community also supports a suite of annual grasses including sorghum and rare *Astrebla* species. The community extends from Cape Preston to Balla surrounding the towns of Karratha and Roebourne (DBCA, 2021). The vegetation type two (VT02), representing the Horseflat Land System, has been mapped over approximately 75 hectares by GHD (2022) in the western section of the application area and is in Good (Trudgen, 1991) to Very Good (Trudgen, 1991) condition. The mapped VT02 comprise of *Eragrostis xerophila*, *Aristida latifolia* and *Chrysopogon fallax* tussock grassland over *Neptunia dimorphantha*, *Indigofera trita* subsp. *trita* and *Sida fibulifera* scattered herbs on weak gilgai cracking clay plains (GHD, 2022).

The Horseflat Land System of the Roebourne Plains is a widely distributed P3 PEC within the local area. It therefore, cannot be completely avoided. The proposed geotechnical investigation test pits intersect areas where VT02 is the dominant ecological community within the landscape (GHD, 2022). It is noted that over 75,700 hectares of the Horseflat Land System have been mapped in the local area of a 50-kilometre radius of the application area. The delegated officer has decided that the impact to Horseflat Land System will not be significant due to the small area of clearing in relation to its occurrence in the local area along with the revegetation of cleared areas. A condition will be imposed on the permit to avoid and minimise clearing where possible.

### **Fauna**

Four broad fauna habitat types (excluding cleared areas) have been identified within the survey area. The habitat types range from tussock grasslands on weak gilgai claypans, mixed *Acacia* shrublands over *Triodia* hummock grasslands on sandy clay loam plains, *Triodia* hummock grasslands on low undulating rocky rises and slopes, and broad drainage lines (GHD, 2022).

The potential impact to fauna as a result of the proposed clearing is further discussed in section 3.2.2 of the report.

### **Conclusion**

The native vegetation proposed to be cleared comprise of vegetation types and flora taxa typical to the region. Noting the size and context of the proposed clearing, and the avoidance and minimisation strategies provided by the applicant (Horizon Power, 2022b, Section 2.1), potential impacts are unlikely to affect priority flora. Whilst the native vegetation is not considered to comprise a high level of biological diversity compared to surrounding areas, the P3 Horseflat Land System of the Roebourne Plains (vegetation type VT02) PEC will be impacted where avoidance is not possible. These impacts are considered minimal in consideration of the distribution and abundance of adjacent habitat. Horizon Power has proposed to rehabilitate the temporary cleared areas as a mitigation measure (Horizon Power, 2022b).

It is noted that weeds have the potential to out-compete native flora and vegetation and reduce the biodiversity of an area. Potential impacts to biodiversity as a result of the introduction and spread of weeds may be minimised by the implementation of a weed management condition.

### Conditions

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

- Revegetate temporary cleared areas by returning vegetative material and topsoil removed by clearing.
- Implement weed management measures to mitigate impacts to adjacent vegetation.

### **3.2.2. Biological values (fauna) - Clearing Principle (b)**

#### Assessment

The fauna survey identified four fauna habitat types over the application area which are listed below. A detailed description of the fauna habitats are included in Appendix E. Approximately 16.6 hectares of the application area is cleared and offers little or no value to fauna as habitat (GHD, 2022).

- Low undulating rocky rises and slopes, this habitat type aligns with vegetation type one – 18.27 hectares
- Broad drainage lines, this habitat type align with vegetation type six and seven – 9.60 hectares
- Hummock grasslands on sandy clay loam plains, this habitat type align with vegetation type four and vegetation type five – 50.7 hectares
- Grassland Clayplans, this habitat type aligns with vegetation type two and three – 94.20 hectares

According to available databases, 61 conservation significant fauna species have been recorded within a 50-kilometre radius of the application area, including 16 threatened species, 34 species protected under international agreements, two other specially protected species and nine priority species. The conservation significant fauna species include 43 birds, 11 mammals and seven reptiles. Majority of the birds identified from the local area are avian migratory birds associated with aquatic habitats and breed in northern latitudes. Noting the absence of wetlands or major watercourses within the application area, the proposed clearing is not likely to have a significant impact on the identified migratory birds or any other aquatic species identified from the local area.

DWER's likelihood of occurrence assessment identified that four conservation significant fauna species identified from the local area had the potential to occur over the application area. The GHD (2020) fauna survey has identified that the proposed clearing will involve clearing of native vegetation that is potential habitat for Oriental plover, Peregrine falcon and the Northern short-tailed mouse.

The *Falco peregrinus* (Peregrine falcon), identified from the local area may regularly overfly the application area. According to the Australian Museum, the Peregrine falcon 'is found in most habitats, from rainforests to the arid zone, and at most altitudes, from the coast to alpine areas. It requires abundant prey and secure nest sites and prefers coastal and inland cliffs or open woodlands near water and may even be found nesting on high city buildings. This species is widespread and highly mobile and is found in various habitats (Australian Museum, 2019). Given the breeding sites for the species is on rocky ledges, cliffs or tall trees, and the species preferred breeding habitat is absent over the application area, it is not likely that the application area will provide core habitat for the Peregrine falcon.

The *Dasyurus hallucatus* (Northern quoll) was identified 0.01 kilometres from the application area. The Northern quoll is associated with rocky areas and eucalyptus forests and require den resources such as hollow logs, rock crevices, caves and hollow trees (DAWE, n.d). Given the above description, it is unlikely the application area will provide core habitat for the Northern quoll however, it is likely this species will utilise the application area for foraging and dispersal. The fauna survey did not locate individuals of Northern quoll or identify evidence of use by this species over the application area (GHD, 2022).

The *Leggadina lakedownensis* (Northern short-tailed mouse, Lakeland downs mouse, kerakenga) is a P4 mammal and is associated with habitats from the monsoon tropical coast to semiarid climates, including spinifex and tussock grasslands, samphire and sedgelands, *Acacia* shrublands, tropical *Eucalyptus* and *Melaleuca* woodlands and stony ranges. Most habitats, however, are seasonally inundated on red or white sandy-clay soils. The *Leggadina lakedownensis* are nocturnal, largely solitary, and individuals spend the day in simple, single-chambered burrows. It was determined by the fauna survey that the application area provides suitable habitat for the *Leggadina lakedownensis* however, no evidence of the species or any individuals were identified during the fauna survey (GHD, 2022). A directional clearing condition will be imposed on the permit to avoid potential death of individuals during clearing or driving over of the application area.

The *Liasis olivaceus barroni* (Pilbara olive python) was identified from the local area with the closest record to the application area identified 13.37 kilometres from the application area. The Pilbara olive python inhabits areas associated with open water, such as swamps and rock pools, often in gorges and rocky environments along the

Fortesque River (DAWE, n.d). Based on this description, it is unlikely that the application area will provide core habitat for the Pilbara olive python. However, it is likely this species may occur opportunistically over the application area.

The *Notoscincus butleri* (Lined soil-crevice skink (Dampier)) was not considered as having a likelihood of occurrence over the application area however, there has been a record of this species identified 0.88 kilometres from the application area. The Lined soil-crevice skink is a poorly recorded species, habitat preference and ecology are poorly known but this species is thought to occur in spinifex-dominated areas near creeks and river margins (GHD, 2022). Given no major creeks or rivers occur over the application area, it is unlikely that the application area will be considered suitable habitat for the Lined soil-crevice skink.

Based on the fauna survey, no conservation significant fauna species or evidence of their presence were recorded during the fauna survey (GHD, 2022). No species of conservation significance are likely to be solely dependent on the habitats present within the application area however, it is likely that the above listed species identified from the local area may occasionally use the application area for temporary refuge and dispersal between other areas of habitat. Noting the proposed clearing is for geotechnical investigations including driving over native vegetation and the linear, selective clearing (Horizon Power, 2022b), the proposed clearing is not likely to significantly impact on the native vegetation that comprises the whole or a part of, or is necessary for the maintenance of a significant habitat for fauna.

Horizon Power has advised that to prevent fauna from becoming trapped or killed, any excavations boreholes will be safely covered at the end of each day and backfilled upon completion. If a test pit is left open overnight, the walls will be shaped to allow fauna to aggress, and the test pits will be inspected at commencement of the day (Horizon Power, 2022b). Given fauna species may be utilising the application area during the clearing activities, fauna management measures such as undertaking clearing in a slow, progressive manner towards adjacent vegetation may mitigate any potential impact to fauna.

During the fauna survey, GHD (2022) has determined that the habitat types within the survey area are well connected and form part of a largely contiguous landscape. The fauna habitats of the survey area are part of a much larger area of similar habitats within the local area and surrounding region. Apart from the existing main road (Madison Road) and railway, fauna movement is largely unrestricted. Madison Road and the railway provides the only barrier to fauna moving east-west through the landscape (GHD, 2022).

#### Conclusion:

Based on the above assessment, the fauna habitats identified over the application area will remain well-connected and part of a larger contiguous landscape of similar habitats within the local area and surrounding region. The proposed clearing may result in injury to fauna individuals if present during the clearing activities and if the boreholes or test pits are left open. The delegated officer has determined that the proposed clearing is not likely to result in a significant residual impact on conservation significant fauna given the avoidance and mitigation measures provided by the applicant (Section 3.1) are implemented during the clearing activities and the conditions imposed on the clearing permit.

#### Conditions:

To address the potential impacts to fauna and fauna habitat from the proposed clearing, the following management measures will be required as conditions on the clearing permit.

- conduct clearing in a slow progressive manner in a single direction towards adjacent native vegetation to allow fauna to move into adjacent native vegetation ahead of the clearing activity.
- cover any boreholes at the end of each day and backfill all boreholes and test pits upon completion.

### **3.2.3. Land and water resources (riparian vegetation) - Clearing Principle (f)**

#### Assessment:

No permanent watercourses or wetlands are located within the area proposed to be cleared however, a number of seasonal drainage lines intercept the application area. Drainage lines in this region are dry for most of the year, only flowing briefly immediately following significant rainfall.

The flora and vegetation survey has considered that vegetation type six (VT06) and vegetation type seven (VT07) align with drainage lines and are considered riparian vegetation. The VT06 is described as *Eucalyptus victrix* low open forest over *Acacia coriacea* tall shrubland over *Carissa lanceolata* open shrubland over *\*Cenchrus ciliaris*, *Chrysopogon fallax* and *Themeda triandra* tussock grassland along alluvial broad drainage lines. The VT07 is described as *Corymbia hamersleyana* low open forest to scattered trees over *Acacia coriacea* tall shrubland to

scattered shrubs over *Vachellia farnesiana* and *Carissa lanceolata* low shrubs over *Cenchrus ciliaris* and *Chrysopogon fallax* tussock grassland on brown sandy loam on minor/broad drainage lines.

Horizon Power has advised DWER that the proposed geotechnical test locations will avoid areas of drainage lines where riparian vegetation is present. The VT06 and VT07 vegetation types will be avoided by the clearing proposed and therefore, the clearing will not include clearing of native vegetation associated with a watercourse (Horizon Power, 2022b).

Conclusion:

Given that Horizon Power will avoid clearing of native vegetation and no impacts to riparian vegetation will occur from the proposed clearing, no significant impacts to riparian vegetation will occur.

Conditions:

To ensure Horizon Power avoids clearing of riparian vegetation identified from the flora and vegetation survey (GHD, 2022), a condition is imposed on the permit to restrict clearing of VT06 and VT07.

### **3.2.4. Land and water resources (land degradation) - Clearing Principle (g)**

Assessment:

The application area is situated over two land systems: The Horseflat land system and the Ruth land system. Majority of the application area (extending for approximately 15 kilometres) from west to east falls within the Horseflat land system and the eastern end of the application area (approximately two kilometres) falls within the Ruth land system (DPIRD, 2019).

The Horseflat land system is described as gilgaied clay plains supporting tussock grasslands and minor grassy snakewood shrublands. Some parts of this land system are moderately to highly susceptible to erosion if vegetation is depleted, other flat units with clay soils and stony mantles are inherently resistant (DPIRD, 2019).

The Ruth land system is characterised by hills and ridges of volcanic and other rocks supporting hard spinifex (occasionally soft spinifex) grasslands. This land system is not susceptible to erosion (DPIRD, 2019).

Based on the above, the proposed clearing may cause wind erosion and surface water flow in some portions of the application area. However, given the proposed clearing is for the purpose of geotechnical investigations, and the extent of clearing will be limited to boreholes and test pits, it is not likely that the proposed clearing will cause appreciable land degradation in the form of wind and water erosion. In addition, as horizon power has proposed to rehabilitate the temporary cleared areas (Horizon Power, 2022b), this will reduce any long-term impacts from erosion.

The current surface water hydrology regime will be maintained. No increased incidence of flooding or erosion along drainage lines mapped over the application area is likely to occur due to the limited extent of clearing over the length of the application area with minimal sheet flow over a short time-scale, and adequate surrounding native vegetation to allow water to infiltrate.

The Acid Sulfate Soils (ASS) risk mapping indicates that the drainage lines mapped within the application area is located within an area identified as representing a moderate to low risk of ASS occurring within three metres of the natural soil surface. Due to the nature of the clearing and, in particular, that groundwater is unlikely to be intercepted, the risk of an increase in soil acidity due to the clearing activity is considered low. It is recommended that Horizon Power refer to DWER acid sulfate soil guidelines to assist with the management of ground disturbing works (DWER, 2022).

Conclusion:

Noting the landform of the application area, the extent and nature of the proposed clearing, the surrounding environment of native vegetation and the commitment by Horizon Power to rehabilitate the temporary cleared areas, the proposed clearing is not likely to cause appreciable land degradation.

Conditions:

No land degradation conditions are required on the clearing permit.

### 3.3. Relevant planning instruments and other matters

The City of Karratha (the city) advised DWER that local government approvals are not required, and that the proposed clearing is consistent with the City's Local Planning Scheme given the clearance being of a temporary nature for geotechnical investigations and over a relatively small footprint. The city advised that any future decision that may arise from these investigations to proceed with locating infrastructure in this area, the city requests Horizon Power consult with the city to review any potential land use conflicts in further detail (City of Karratha, 2022).

The application area is located within the Pilbara Surface water area and the Pilbara Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* (RiWI Act) (DWER-037, DWER-034). There are no mapped rivers proclaimed under the RiWI Act in the vicinity, and the application area is not located within any *Country Areas Water Supply Act 1947* (CAWS Act) Clearing Control Catchments, or Public Drinking Water Source Areas (DWER-033).

Advice was obtained from DWER Northwest Region and Pilbara Licencing in relation to potential water quality impacts under the RiWI Act. The advice received is that Horizon Power do not hold any water licences over the project area. Under the RiWI Act, bores drilled into a non-artesian aquifer for the purpose of monitoring water level and/or water quality are exempt from licensing. A 26D and 5C licence would be required if Horizon Power intends to drill bores with the intent to take water. The clearing permit application area crosses a number of minor watercourses. A section 17 Permit to disturb the bed and banks of watercourse would be required if they intend on constructing creek crossings to support vehicle access. A permit would not be required if only driving across a creekbed (DWER, 2022). Horizon Power will not be taking water nor will be constructing creek crossings.

Aboriginal sites of significance have been mapped within the application area. 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

Information	Description
Supporting Document (Horizon Power, 2022b)	Horizon Power has compiled a document which provide a background description of the project and avoidance and mitigation measures considered by Horizon Power.
Flora and Fauna survey (GHD, 2022)	Horizon Power has commissioned GHD Pty Ltd to undertake a flora, vegetation and fauna survey of the Karratha to Maitland section of the proposed transmission line. The survey was undertaken over four days (1 March 2022 – 4 March 2022) (GHD, 2022)

## Appendix B. Site characteristics

### B.1. Site characteristics

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

Characteristic	Details
Local context	<p>The area proposed to be cleared is an approximately 17 kilometre long, linear strip of native vegetation in the extensive land use zone of Western Australia. The application area is located within the Pilbara IBRA Bioregion of Thackway and Cresswell (1995) and extend from Maitland to Stove hill.</p> <p>Aerial imagery indicates the local area (50-kilometre radius from the centre of the area proposed to be cleared) retains over 90 per cent of the original native vegetation cover.</p>
Ecological linkage	No formal ecological linkages are mapped over the application area or occur in the vicinity of the application area.
Conservation areas	The application area does not intersect with any DBCA managed lands. A DBCA land of interest is mapped nine kilometres to the west of the application area and the Murujuga National Park is mapped approximately 14 kilometres to the north of the application area.
Vegetation description	<p>Photographs supplied by the applicant and the flora and vegetation survey (GHD, 2022) indicate the vegetation within the proposed clearing area consists of seven vegetation types.</p> <ul style="list-style-type: none"> <li>• VT01: <i>Acacia inaequilatera</i>, <i>Acacia bivenosa</i> and <i>Hakea lorea</i> subsp. <i>lorea</i> open shrubland to scattered shrubs over <i>Eremophila longifolia</i>, <i>Senna</i> spp. and <i>Solanum horridum</i> sparse shrubland over <i>Cymbopogon ambiguus</i>, <i>Themeda triandra</i> and <i>Cenchrus ciliaris</i> open tussock grassland over <i>Triodia wiseana</i> and <i>Triodia epactia</i> hummock grassland on low undulating rocky rises and slopes.</li> <li>• VT02: <i>Eragrostis xerophila</i>, <i>Aristida latifolia</i> and <i>Chrysopogon fallax</i> tussock grassland over <i>Neptunia dimorphantha</i>, <i>Indigofera trita</i> subsp. <i>trita</i> and <i>Sida fibulifera</i> scattered herbs on weak gilgai cracking clay plains. Other common species include <i>Salsola australis</i>, <i>*Cenchrus ciliaris</i>, <i>Operculina aequisejala</i>, <i>Heliotropium cunninghamii</i> and <i>Stemodia kingii</i>.</li> <li>• VT03: <i>Acacia xiphophylla</i> open shrubland over <i>Triodia epactia</i> and <i>T. wiseana</i> very open hummock grassland with <i>Eragrostis xerophila</i>, <i>Chrysopogon fallax</i> and <i>Themeda triandra</i> very open tussock grassland on sandy claypan with some patches of cracking clays.</li> <li>• VT04: <i>Acacia bivenosa</i> open shrubland over <i>Triodia wiseana</i> open hummock grassland on sandy clay loam plain with some rocky outcropping.</li> <li>• VT05: <i>Acacia ancistrocarpa</i>, <i>A. bivenosa</i> and <i>A. inaequilatera</i> open shrubland over <i>Triodia wiseana</i> and <i>T. epactia</i> open hummock grassland on sandy clay loam plains.</li> </ul>



Characteristic	Details
	<ul style="list-style-type: none"> <li>• VT06: <i>Eucalyptus victrix</i> low open forest over <i>Acacia coriacea</i> tall shrubland over <i>Carissa lanceolata</i> open shrubland over *<i>Cenchrus ciliaris</i>, <i>Chrysopogon fallax</i> and <i>Themeda triandra</i> tussock grassland along alluvial broad drainage lines.</li> <li>• VT07: <i>Corymbia hamersleyana</i> low open forest to scattered trees over <i>Acacia coriacea</i> tall shrubland to scattered shrubs over *<i>Vachellia farnesiana</i> and <i>Carissa lanceolata</i> low shrubs over *<i>Cenchrus ciliaris</i> and <i>Chrysopogon fallax</i> tussock grassland on brown sandy loam on minor/broad drainage lines.</li> </ul> <p>Representative photos and the full survey descriptions and maps are available in Appendix E.</p> <p>The mapped vegetation types over the application area are:</p> <ul style="list-style-type: none"> <li>• Beard, Abydos plain – Roebourne (589), which is described as short bunch-grass savanna and grass-steppe (Shepherd et al, 2001).</li> <li>• Beard, Abydos plain – Roebourne (157) which is described as grass-steppe comprising hummock grassland, <i>Triodia</i> spp. (Shepherd et al, 2001).</li> </ul> <p>The mapped vegetation types retain approximately 99 per cent of the original extent (Government of Western Australia, 2019).</p>
Vegetation condition	<p>Photographs supplied by the applicant and the flora and vegetation survey (GHD, 2022) indicate the vegetation within the survey area varied from Completely Degraded to Excellent (Trudgen, 1991) condition. Majority of the vegetation over the survey area was mapped as Very Good (Trudgen, 1991) condition (GHD, 2022).</p> <p>The full Trudgen (1991) condition rating scale is provided in Appendix D.</p> <p>Representative photos and the full survey descriptions and mapping are available in Appendix E.</p>
Climate and landform	<p>The Pilbara region of Western Australia experience a semi-arid climate. Temperatures are warm to hot all year and rainfall is generally low, occurring in the late summer months. The mean annual rainfall over the Pilbara region is 292.4 millimetres (GHD, 2022).</p> <p>The Pilbara Province lies over the Pilbara Craton, which consists of two different tectonic components. The two broad geological sequences are the ancient Archaean granite-greenstone terrain and the younger volcano-sedimentary sequence of the Hamersley Basin (DPIRD, 2019).</p> <p>The Horseflat land system has a quaternary alluvium geology and Ruth land system has an archaean and proterozoic intermediate and basic volcanic rocks; also, quartz, minor chert, jaspilite, shale and siltstone geology (DPIRD, 2019).</p>
Soil description	<p>The application area is mapped over two soil landscape units.</p> <ul style="list-style-type: none"> <li>• Horseflat System (281HF), described as gilgaied clay plains supporting Roebourne Plains grass grasslands and minor grassy snakewood shrublands (DPIRD, 2019).</li> <li>• Ruth System (281Rt), described as hills and ridges of volcanic and other rocks supporting shrubby hard spinifex and occasionally soft spinifex grasslands (DPIRD, 2019).</li> </ul>
Land degradation risk	<p>Land degradation risk of the soil over the application area in regard to erosion is that surface water is largely reliant on weather and waterways generally only flow for parts of the year, in response to larger cyclonic or rainfall events. Water erosion may occur as sheetflow in broad inter-drainage areas on alluvial plains, near the baselines of hills and ridges with the risk of soil erosion during rainfall events (DPIRD, 2019).</p>

Characteristic	Details
	Along the minor drainage lines within the application area are mapped as having a moderate to low risk of Acid Sulphate Soils.
Waterbodies	<p>The application area falls within the Coastal hydrographic catchment and the Port Hedland Coast basin (DPIRD-069). No internationally (Ramsar) or nationally important wetlands located within a 50-kilometre radius of the application area (DBCA-010).</p> <p>The desktop assessment and aerial imagery indicated that there are several non-perennial drainage lines that intersect the application area however, no major rivers intercept, or are within the vicinity of the application area.</p>
Hydrogeography	<p>The area proposed to be cleared is within the proclaimed Pilbara Groundwater and Surface water areas under the RiWI Act (DWER-034, DWER-037).</p> <p>The application area does not occur within a Public Drinking Water Source Areas (DWER-034) or an area subject to the <i>Country Areas Water Supply Act 1947</i>.</p> <p>Groundwater salinity level (Total Dissolved Solids) is mapped as 1,000-3,000 milligrams per litre (fresh to brackish) (DWER-026).</p>
Flora	<p>Nineteen conservation significant flora species were recorded within the 50-kilometre radius local area. Nearest records are P4 <i>Rhynchosia bungarensis</i> and P3 <i>Terminalia supranitifolia</i> mapped 0.84 kilometres from the application area. The local area did not identify any threatened flora species.</p> <p>The flora analysis table B.3 below provides an analysis of the flora species identified within the local area during the desktop assessment.</p> <p>No conservation significant flora taxa have been recorded within the application area during the flora and vegetation survey (GHD, 2022).</p>
Ecological communities	<p>No Threatened Ecological Communities are mapped over the application area. The P1 PEC Roebourne Plains coastal grasslands with gilgai microrelief on deep cracking clays (Roebourne Plains gilgai grasslands) is mapped over a small section of the application area.</p> <p>The flora and vegetation survey has identified the mapped VT02 is representative of the P3 PEC, Horseflat land system of the Roebourne Plains (GHD, 2022).</p>
Fauna	<p>The desktop assessment identified 61 conservation significant fauna species within a 50-kilometre radius of the application area, including 16 threatened species, 34 species protected under international agreements, two other specially protected species and nine priority species. The conservation significant fauna species include 43 birds, 11 mammals and seven reptiles.</p> <p>The closest fauna record is the endangered Northern quoll (<i>Dasyurus hallucatus</i>) identified 0.01 kilometres from the application area. The fauna table B.4. below provides an analysis of the fauna species identified within the local area.</p> <p>No records of conservation significant fauna species were identified during the fauna survey (GHD, 2022).</p>

## B.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Pilbara	17,808,657.04	17,731,764.88	99.57	1,801,714.98	10.12
Vegetation complex					
Beard vegetation association 589*	728,768.20	724,695.82	99.44	15,304.39	2.10
Beard vegetation association 157*	199,832.17	198,409.23	99.29	11,584.76	5.80

\*Government of Western Australia (2019)

## B.3. 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	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Did survey identify? [Y, N, N/A]
<i>Abutilon</i> sp. Pritzelianum (S. van Leeuwen 5095)	P3	N	34.47	1	N
<i>Atriplex lindleyi</i> subsp. <i>conduplicata</i>	P3	N	13.58	1	N
<i>Dolichocarpa</i> sp. Hamersley Station (A.A. Mitchell PRP 1479)	P3	Y	1.01	3	N
<i>Eragrostis surreyana</i>	P3	N	21.57	3	N
<i>Eriochloa fatmensis</i>	P3	N	35.85	1	N
<i>Glycine falcata</i>	P3	N	24.99	1	N
<i>Gomphrena axillaris</i>	P1	Y	3.77	1	N
<i>Gomphrena cucullata</i>	P3	N	11.31	2	N
<i>Gomphrena leptophylla</i>	P3	N	11.31	1	N
<i>Goodenia pallida</i>	P1	Y	18.28	1	N
<i>Helichrysum oligochaetum</i>	P1	N	37.67	1	N
<i>Rhynchosia bungarensis</i>	P4	Y	0.84	28	N
<i>Solanum albotellatum</i>	P3	N	24.99	1	N
<i>Stackhousia clementii</i>	P3	N	7.06	4	N
<i>Tephrosia rosea</i> var. Port Hedland (A.S. George 1114)	P1	N	30.02	4	N
<i>Terminalia supranitifolia</i>	P3	Y	0.84	40	N
<i>Themeda</i> sp. Hamersley Station (M.E. Trudgen 11431)	P3	Y	6.50	2	N
<i>Trianthema</i> sp. Python Pool (G.R. Guerin & M.E. Trudgen GG 1023)	P2	N	18.79	2	N
<i>Vigna triodiophila</i>	P3	N	14.51	15	N

## B.4. Fauna analysis table

Given the distance from the coast and the absence of a major watercourse over the application area, species classified as migratory shorebirds, terns and species aquatic in nature have been excluded from being further considered and are not included within the fauna analysis table below.

Species scientific name	Species common name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Year of the most recent record	Did surveys identify? [Y, N, N/A]
<b>BIRDS</b>							
<i>Calidris canutus</i>	Red knot	EN	N	2.65	7	2016	N
<i>Calidris ferruginea</i>	curlew sandpiper	CR	N	3.01	22	2017	N
<i>Calidris tenuirostris</i>	Great knot	CR	N	3.25	14	2017	N
<i>Charadrius leschenaultii</i>	Greater sand plover, large sand plover	VU	N	3.01	34	2017	N
<i>Charadrius mongolus</i>	Lesser Sand Plover	EN	N	6.72	9	2017	N
<i>Falco hypoleucos</i>	grey falcon	VU	N	37.79	1	2018	N
<i>Falco peregrinus</i>	Peregrine falcon	OS	Y	6.70	8	2012	N
<i>Numenius madagascariensis</i>	Eastern curlew	CR	N	2.65	31	2017	N
<i>Tringa brevipes</i>	Grey-tailed tattler	P4	N	2.41	47	2017	N
<b>MAMMALS</b>							
<i>Dasyurus hallucatus</i>	Northern quoll	EN	Y - visitor	0.01	82	2018	N
<i>Lagorchestes conspicillatus leichardti</i>	spectacled hare-wallaby (mainland)	P4	N	35.78	1	1979	N
<i>Lagostrophus fasciatus fasciatus</i>	banded hare-wallaby, memine	VU	N	37.31	1	1909	N
<i>Leggadina lakedownensis</i>	northern short-tailed mouse, Lakeland Downs mouse, kerakenga	P4	Y	3.17	16	2011	N
<i>Macroderma gigas</i>	Ghost bat	VU	N	13.71	9	2018	N
<i>Mormopterus cobourgiensis</i>	north-western free-tailed bat	P1	N	13.71	7	2009	N
<i>Pseudomys chapmani</i>	western pebble-mound mouse, ngadji	P4	N	5.27	10	2015	N
<i>Rhinonictis aurantia</i> (Pilbara)	Pilbara leaf-nosed bat	VU	N	8.71	2	1985	N
<b>REPTILE</b>							
<i>Ctenotus angusticeps</i>	Airlie Island Ctenotus, Northwestern coastal Ctenotus	P3	N	8.41	6	2012	N
<i>Lerista neviniae</i>	Nevin's slider	EN	N	29.83	55	2018	N
<i>Lerista quadrivincula</i>	four-lined slider (Karratha)	P1	N	24.86	3	1980	N
<i>Liasis olivaceus barroni</i>	Pilbara olive python	VU	Y - visitor	13.37	21	2019	N
<i>Notoscincus butleri</i>	Lined soil-crevice skink (Dampier)	P4	N	0.88	65	2015	N

## B.5. Ecological community analysis table

Community name	Conservation status	Distance of closest record to application area (km)	Did surveys identify? [Y, N, N/A]	Corresponding vegetation type
Roebourne Plains gilgai grasslands	P1	Within	N	-
Horseflat Land System of the Roebourne Plains	P3	1.9	Y	VT02

## 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> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains vegetation representative of the P3 PEC, Horseflat land system of the Roebourne Plains (GHD, 2022), however clearing is not likely to be significant.</p> <p>The application area does not include conservation significant flora species. No sign of conservation significant fauna individuals or evidence of use were determined during the survey.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (b):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared is unlikely to provide core habitat for conservation significant fauna species however, it is likely fauna species may utilise the application area for foraging and dispersing and are transient visitors over the application area.</p>	May be at variance	Yes <i>Refer to Section 3.2.2, above.</i>
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared is unlikely to contain habitat for threatened flora species listed under the BC Act. No threatened flora species were identified from the local area and the flora and vegetation survey did not identify any threatened flora species within the application area.</p>	Not at variance	No
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>No Threatened Ecological Communities (TEC) have been mapped within 50 kilometres of the application area. No vegetation types identified within the application area are representative of any TECs (GHD 2022).</p>	Not 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 national objectives and targets for biodiversity conservation in Australia has a target to prevent the clearance of ecological communities with an extent below 30 per cent of that present prior to the year 1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). The two vegetation associations (589 and 157) identified within the application area exceed the 30 per cent threshold, with both vegetation associations retaining over 99 per cent of their original</p>	Not at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>vegetation cover (Appendix B.2). Over 90 percent of the original native vegetation has been retained within 50 kilometres of the application area.</p>		
<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 have an impact on the environmental values of conservation areas mapped within the local area.</p>	Not 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>No significant mapped rivers or drainage lines intercept, or are within the vicinity of, the application area. However, there are numerous minor drainage lines that intersect the application area. Horizon power has advised that, clearing of riparian vegetation or riverine environments will be avoided from vehicle access and test pits.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.3, above.</i>
<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 have a low susceptibility for land degradation. Noting the extent and the linear nature of the of the application area, the proposed clearing is not likely to have an appreciable impact on land degradation.</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.4, above.</i>
<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 no major water courses, wetlands and Public Drinking Water Sources Areas are recorded within the application area, the proposed clearing is unlikely to impact surface or ground water quality.</p> <p>The application area is located within the Pilbara Surface Water Area and the Pilbara Groundwater Area proclaimed under the RIWI Act. The applicant has no intention to abstract groundwater.</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>Surface water is largely reliant on weather and surface water in waterways is generally only present or flowing for parts of the year, in response to larger cyclonic or rainfall events. The application area is not located within an area subject to flooding or inundation.</p> <p>Noting the extent and the linear nature of the proposed clearing along with the standard erosion management employed by Horizon Power, the proposed clearing of native vegetation is not likely to cause or exacerbate, the 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 a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from 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 and photographs of the vegetation (GHD, 2022)



### Vegetation types:

Table 7 Vegetation types recorded within the survey area

Vegetation type code	Vegetation type description	Sample locations	Total extent (ha)	GHD (2020) vegetation type	Photograph
VT01	<b>Triodia Grassland</b> <i>Acacia inaequilatera</i> , <i>Acacia bivenosa</i> and <i>Hakea lorea</i> subsp. <i>lorea</i> open shrubland to scattered shrubs over <i>Eremophila longifolia</i> , <i>Senna</i> spp. and <i>Solanum horridum</i> sparse shrubland over <i>Cymbopogon ambiguus</i> , <i>Themeda triandra</i> and <i>Cenchrus ciliaris</i> open tussock grassland over <i>Triodia wiseana</i> and <i>Triodia epactia</i> hummock grassland on low undulating rocky rises and slopes.	HPK2 HPK16 HPK17	18.27	VT09	
VT02	<b>Eragrostis Tussock Grassland</b> <i>Eragrostis xerophila</i> , <i>Aristida latifolia</i> and <i>Chrysopogon fallax</i> tussock grassland over <i>Neptunia dimorphantha</i> , <i>Indigofera trita</i> subsp. <i>trita</i> and <i>Sida fibulifera</i> scattered herbs on weak gilgai cracking clay plains. Other common species include <i>Salsola australis</i> , <i>Cenchrus ciliaris</i> , <i>Operculina aequisejala</i> , <i>Heliotropium cunninghamii</i> and <i>Stemodia kingii</i> .  Representative of Priority 3 PEC Horseflat land system of the Roebourne Plains.	HPK1 HPK9 HPK15 HPK18	75.13	VT11	

Vegetation type code	Vegetation type description	Sample locations	Total extent (ha)	GHD (2020) vegetation type	Photograph
VT03	<i>Acacia xiphophylla</i> open shrubland over <i>Triodia epactia</i> and <i>T. wiseana</i> very open hummock grassland with <i>Eragrostis xerophila</i> , <i>Chrysopogon fallax</i> and <i>Themeda triandra</i> very open tussock grassland on sandy claypan with some patches of cracking clays.	HPK3 HPK6 HPK8	19.07	VT15	
VT04	<i>Acacia bivenosa</i> open shrubland over <i>Triodia wiseana</i> open hummock grassland on sandy clay loam plain with some rocky outcropping.	HPK11 HPK12 HPK13	45.04	VT09	



Vegetation type code	Vegetation type description	Sample locations	Total extent (ha)	GHD (2020) vegetation type	Photograph
VT05	<i>Acacia ancistrocarpa</i> , <i>A. bivenosa</i> and <i>A. inaequilatera</i> open shrubland over <i>Triodia wiseana</i> and <i>T. epactia</i> open hummock grassland on sandy clay loam plains.	HPK4 HPK14 HPK19	5.66	VT10	
VT06	<i>Eucalyptus victrix</i> low open forest over <i>Acacia coriacea</i> tall shrubland over <i>Carissa lanceolata</i> open shrubland over * <i>Cenchrus ciliaris</i> , <i>Chrysopogon fallax</i> and <i>Themeda triandra</i> tussock grassland along alluvial broad drainage lines.	HPK5	0.23	VT17	


Vegetation type code	Vegetation type description	Sample locations	Total extent (ha)	GHD (2020) vegetation type	Photograph
VT07	<i>Corymbia hamersleyana</i> low open forest to scattered trees over <i>Acacia coriacea</i> tall shrubland to scattered shrubs over * <i>Vachellia farnesiana</i> and <i>Carissa lanceolata</i> low shrubs over * <i>Cenchrus ciliaris</i> and <i>Chrysopogon fallax</i> tussock grassland on brown sandy loam on minor/broad drainage lines.	HPK7 HPK10	9.36	VT14	
Cleared areas/road verge/salt pan	Cleared areas/road verge/salt pan	-	16.66	Cleared	Photo not available

Figure 1: Vegetation types mapped within the survey area.

## Vegetation condition



Table 8 Extent of vegetation condition mapped within the survey area

Vegetation Condition (EPA 2016)	Total extent (ha)
Excellent	16.22
Very Good	114.87
Good	21.30
Poor	12.00
Degraded	0.96
Completely Degraded	7.37
Cleared	16.66
Total	189.41

Figure 2: Vegetation condition mapped over the survey area.

## Fauna habitat

Table 9 Fauna habitat types within the survey area

Fauna habitat	Area (ha)	Representative photograph
<p><b>Low undulating rocky rises and slopes.</b></p> <p>This habitat type is associated with stony/rocky plains and low undulating rises and consists of scattered shrubs of <i>Acacia</i>, <i>Hakea</i> and <i>Senna</i> species over a <i>Triodia</i> hummock grassland.</p> <p>The hummock grasslands provide refuge for reptiles (such as snakes, skinks, goannas and dragons), small mammals and ground dwelling birds. The open shrublands provide refuge and a food source for native birds. Rocky outcrops contain small crevices which provide refuge for reptile species and small mammals.</p> <p>This habitat type aligns with VT01.</p>	18.27	
<p><b>Broad drainage lines</b></p> <p>The minor drainage lines are dominated by open woodlands to scattered trees of <i>Corymbia hamersleyana</i>, <i>Acacia coriacea</i> and occasional <i>Eucalyptus victrix</i>. Mixed <i>Acacia</i> shrublands dominated the mid layer over an open hummock and tussock grassland of <i>Triodia epactia</i>, <i>T. wiseana</i> and <i>Cenchrus ciliaris</i>.</p> <p>Creeklines are considered to be important ecological corridors to other broader habitats within the local area and provide a source of water during periods of heavy rainfall. Trees and shrubs provide shelter and food resources to a number of native fauna species, in particular birds.</p> <p>This habitat type aligns with VT06 and VT07.</p>	9.60	



Fauna habitat	Area (ha)	Representative photograph
<p><b>Hummock grasslands on sandy clay loam plains</b></p> <p>This habitat type occurs on the plains. The vegetation is dominated by open shrublands of <i>Acacia</i> species (<i>Acacia bivenosa</i>, <i>A. ancistrocarpa</i>, <i>A. inaequilatera</i>, <i>A. pyrifolia</i>) over an open hummock and tussock grassland of <i>Triodia epactia</i>, <i>T. wiseana</i> and <i>Cenchrus ciliaris</i>. This habitat type is generally in very good condition with vehicle tracks and weed invasion impacting some areas. The hummock grasslands provide refuge for reptiles (such as snakes, skinks, goannas and dragons), small mammals and ground dwelling birds. The <i>Acacia</i> shrublands provide refuge and a food source for native birds.</p> <p>This habitat type aligns with VT04 and VT05.</p>	50.7	
<p><b>Grassland Claypans</b></p> <p>The grassland claypans habitat type consists of a low open tussock grassland of <i>Eragrostis xerophila</i> grassland with isolated patches of <i>Acacia xiphophylla</i> shrubs and <i>Triodia epactia</i> hummock grasses on weak gilgai clay plains. The area has been subject to varying degrees of degradation from historical clearing in adjacent areas, weed invasion and cattle grazing.</p> <p>The gilgai grassland provides suitable habitat for the Short-tailed mouse (Priority 4) who favours cracking clay and adjacent habitats.</p> <p>This habitat type aligns with VT02 and VT03.</p>	94.20	

Figure 3: Fauna habitats mapped over the survey area.



Figure 4: Representation of the location of the PEC, Horseflat Land System of the Roebourne Plains (light blue).

## 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)

### F.2. References

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Property	Locality
Lot 150 On Plan 242287 <i>(General Lease)</i>	Maitland
Lot 1502 On Plan 75876 <i>Pastoral Lease</i>	
Lot 324 On Plan 42631 <i>Crown Reserve 9701</i>	
Lot 530 On Plan 221145 <i>Crown Reserve 9701</i>	
Lot 650 On Plan 29591 <i>Crown Reserve 9701</i>	
Lot 651 On Plan 29591 <i>Crown Reserve 9701</i>	
Lot 693 On Plan 30490	
Lot 2656 On Plan 215106 <i>Crown Reserve 37349</i>	Stove Hill
Lot 330 on Plan 46452	
Lot 4217 On Plan 217002 <i>Crown Reserve 41013</i>	
Lot 501 On Plan 400632 <i>Unallocated Crown Land</i>	
Lot 588 on Plan 77089	
Unallocated Crown Land (PIN 705585)	
Lot 331 on Plan 46452	Stove Hill, Gap Ridge
Lot 589 On Plan 77089 <i>Crown Reserve 36991</i>	
Unnamed Road (PIN 11441929)	
Lot 215 on Plan 216769	Gap Ridge
Lot 285 On Plan 242018 <i>Crown Reserve 36991</i>	
Lot 32 On Plan 47815 <i>General Lease</i>	
Lot 4659 on Plan 221145 <i>Crown Reserve 9701</i>	
Lot 559 On Plan 407846 <i>Unallocated Crown Land</i>	
Lot 590 On Plan 77089 <i>Crown Reserve 36991</i>	
Lot 591 on Plan 77089 <i>Crown Reserve 36991</i>	
Lot 603 on Plan 66690 <i>Crown Reserve 53433</i>	
Lot 931 On Plan 76543 <i>Unallocated Crown Land</i>	
Unnamed Road (PIN 11733157)	
Lot 450 on Plan 216916	Maitland, Gap Ridge, Stove Hill, Cooya Pooya
	Stove Hill, Gap Ridge, Baynton