GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 10874/1
Permit Holder:	Regional Power Corporation, trading as Horizon Power
Duration of Permit:	From 6 April 2025 to 6 April 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 installation of renewable energy infrastructure and supporting infrastructure.

2. Land on which clearing is to be done

Property	Locality	Local Government Authority
Lot 501 on Deposited Plan 409810	Upper Gascoyne	Shire of Upper Gascoyne
Lot 551 on Deposited Plan 71572	Upper Gascoyne	Shire of Upper Gascoyne
Lot 553 on Deposited Plan 71572	Upper Gascoyne	Shire of Upper Gascoyne
Smith Street road reserve (PIN: 11477822)	Upper Gascoyne	Shire of Upper Gascoyne
Lot 440 on Deposited Plan 67092	East Pilbara	Shire of East Pilbara
Lot 561 on Deposited Plan 424406	Menzies	Shire of Menzies
Lot 560 on Deposited Plan 424406	Menzies	Shire of Menzies
Mahon Street road reserve (PIN: 11428738)	Menzies	Shire of Menzies
Lot 301 on Deposited Plan 49818	Menzies	Shire of Menzies
Trafalgar Street road reserve (PIN: 3464570)	Menzies	Shire of Menzies

3. Clearing authorised

The permit holder must not clear more than 12.95 hectares of native vegetation within the area cross-hatched yellow in Figure 1, Figure 2, and Figure 3 of Schedule 1.

4. Period during which clearing is authorised

The permit holder must not clear any native vegetation after 6 April 2030.

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. 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;

(c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

7. Directional clearing

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

8. Wind erosion management

The permit holder must commence activities relating to the proposed purpose no later than three (3) months after undertaking the authorised clearing activities to reduce the potential for wind erosion.

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

(a) The permit holder must 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) At an optimal time within 12 months following completion of temporary clearing, revegetate the area(s) that are no longer required for 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 uncleared land;
(ii) ripping the ground on the contour to remove soil compaction; and
(iii) laying the vegetative material and topsoil retained under condition 8(a) on the cleared area(s).

(c) The permit holder must within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 9(b) of this permit:

(i) engage an *environmental specialist* to determine the species composition, structure and density of the area revegetated and rehabilitated; and
(ii) engage an *environmental specialist* to make a determination as to whether the composition, structure and density determined under condition 9(c)(i) of this permit will, without further revegetation, 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 9(c)(ii) is that the species composition, structure, and density determined under condition 9(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* and/or *direct seeding* native vegetation 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 9(d), the permit holder must repeat the activities required by condition 9(c) and 9(d) within 24 months of undertaking the additional planting or direct seeding of native vegetation.

(f) Where a determination is made by an environmental specialist under condition 9(c)(ii) that the composition, structure and density within areas revegetated and rehabilitated will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, that determination shall be submitted to the CEO within three months of the determination being made by the *environmental specialist*.

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	(a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 5; (f) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 6; (g) actions taken in accordance with condition 7; and (h) actions taken in accordance with condition 8.
2.	In relation to rehabilitation and revegetation of areas pursuant to condition 9 of the permit	(a) actions taken to retain vegetative material and topsoil; (b) the size of the area revegetated; (c) the date(s) on which the area revegetation was undertaken; (d) the date(s) where additional planting or direct seeding of native vegetation was undertaken; and (e) the boundaries of the area revegetated (recorded digitally as a shapefile)

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 *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
dieback	means the effect of *Phytophthora* species on native vegetation.
direct seeding	means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (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	*Environmental Protection Act 1986* (WA)
fill	means material used to increase the ground level, or to fill a depression.
local provenance	means native vegetation seeds and propagating material from natural sources within 50 kilometres 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.
rehabilitate	means actively managing an area containing native vegetation in order to improve the ecological function of that area.
revegetate	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.
temporary works	means access tracks, spoil areas, side tracks, site offices, storage areas, laydown areas, extraction sites, camps, project surveys, pre-construction activities, and similar works associated with a project activity that are temporary in nature.
weeds	means any plant – (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS

Ryan Mincham
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

14 March 2025

Schedule 1

Plan 10874/1

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

Figure 1: Map of the boundary of the area within which clearing may occur – Nullagine site

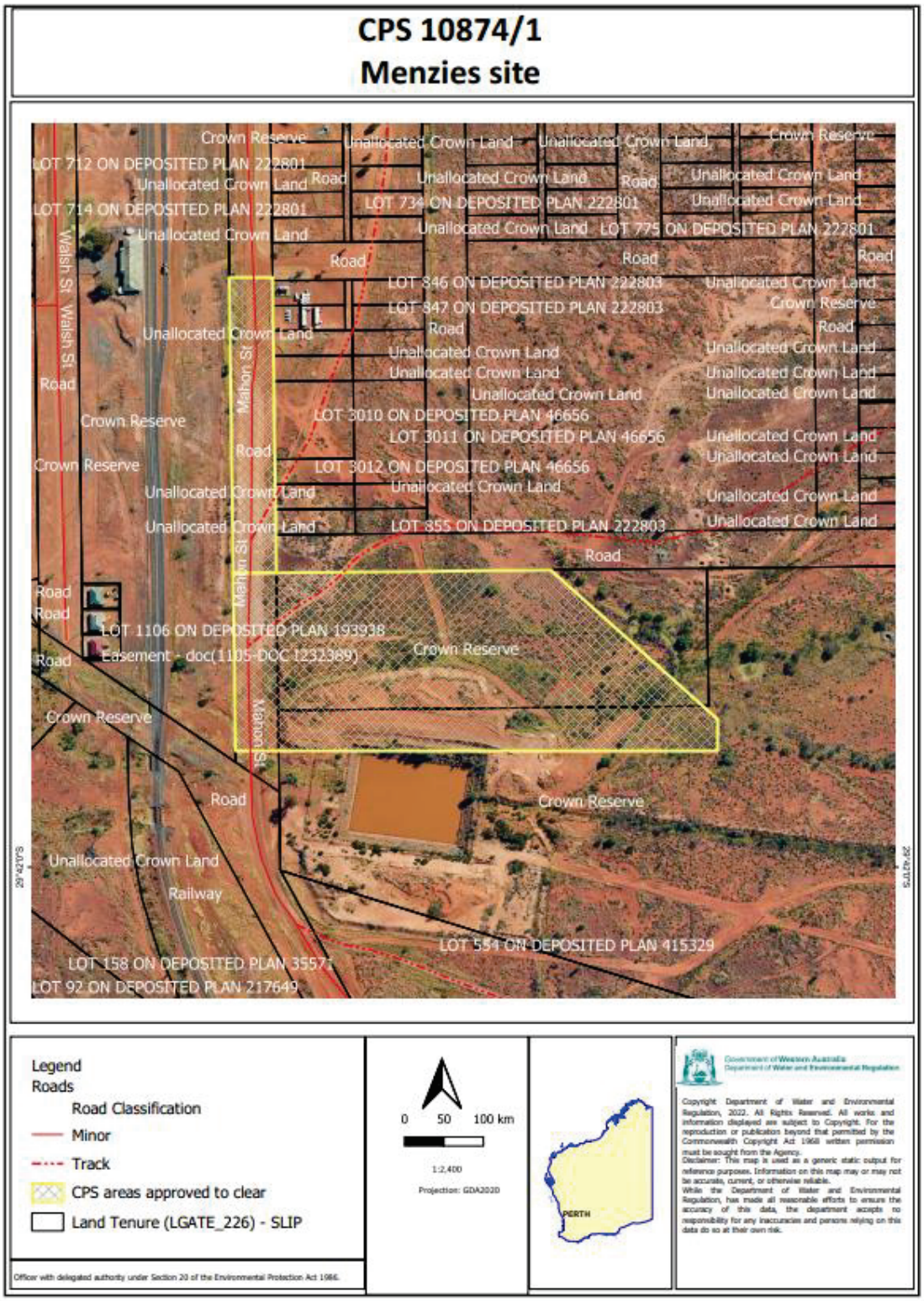

Figure 2: Map of the boundary of the area within which clearing may occur – Menzies site

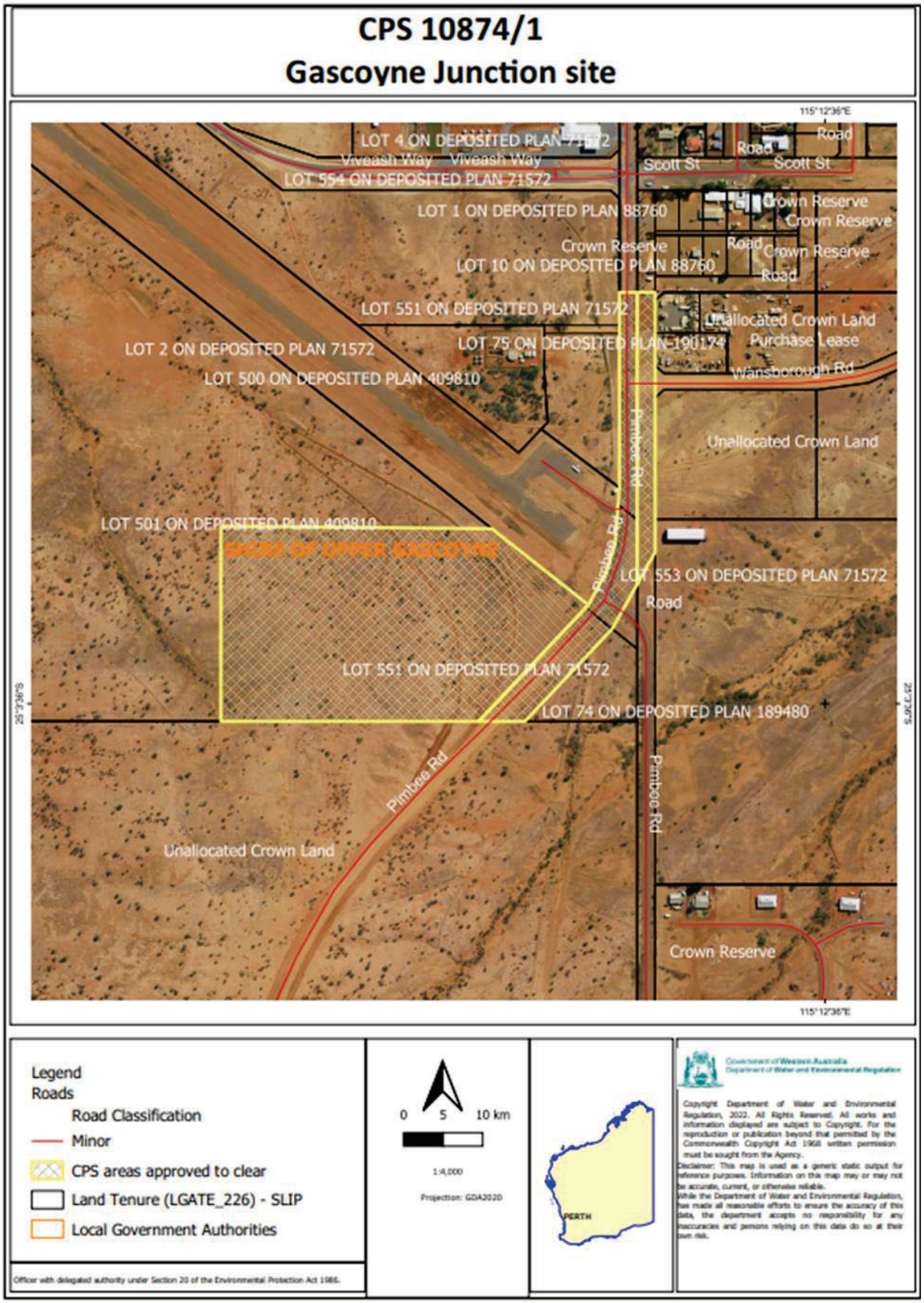

Figure 3: Map of the boundary of the area within which clearing may occur – Gascoyne Junction site

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10874/1
Permit type:	Purpose permit
Applicant name:	Regional Power Corporation, trading as Horizon Power
Application received:	5 December 2024
Application area:	12.95 hectares of native vegetation
Purpose of clearing:	Installation of renewable energy infrastructure and supporting infrastructure
Method of clearing:	Mechanical
Property / localities (suburb/s):	Multiple land parcels within Menzies, Gascoyne Junction, and Nullagine
Location (LGA area/s):	Shire of Upper Gascoyne, Shire of Menzies, Shire of Pilbara

1.2. Description of clearing activities

The vegetation proposed to be cleared is distributed across three separate areas (see Figure 1, Section 1.5). Clearing at all three sites will be required for geotechnical surveys, which will be mainly incidental clearing (driving over and parking on native vegetation) for vehicle / machinery access to test sites. Clearing will also be undertaken for stringing and winching of the connection transmission lines, laydown areas, solar infrastructure, the connection corridors and access tracks.

At Gascoyne Junction, temporary clearing of native vegetation will be required for geotechnical surveys including geotechnical testing and incidental clearing (driving over and parking on native vegetation) for vehicle / machinery access to test sites. Temporary clearing of native vegetation will also be required for stringing and winching of the connection transmission or distribution lines and a laydown area for construction. Permanent clearing of native vegetation will be required at Gascoyne Junction for connection corridors, access tracks, fire breaks and solar infrastructure.

There will be no temporary clearing at Menzies and Nullagine, as both sites will be permanently cleared of native vegetation.

1.3. Decision on application

Decision:	Granted
Decision date:	14 March 2025
Decision area:	12.95 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 biological 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 Delegated Officer also took into consideration that the project is part of a program to transition mid-west and remote towns to renewable energy (Horizon Power, 2024a).

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;
- potential land degradation in the form of wind erosion.

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 and long-term impacts on environmental values. Any impacts 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
- staged clearing to minimise wind erosion
- 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 for rehabilitation of temporarily cleared areas

1.5. Site maps

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

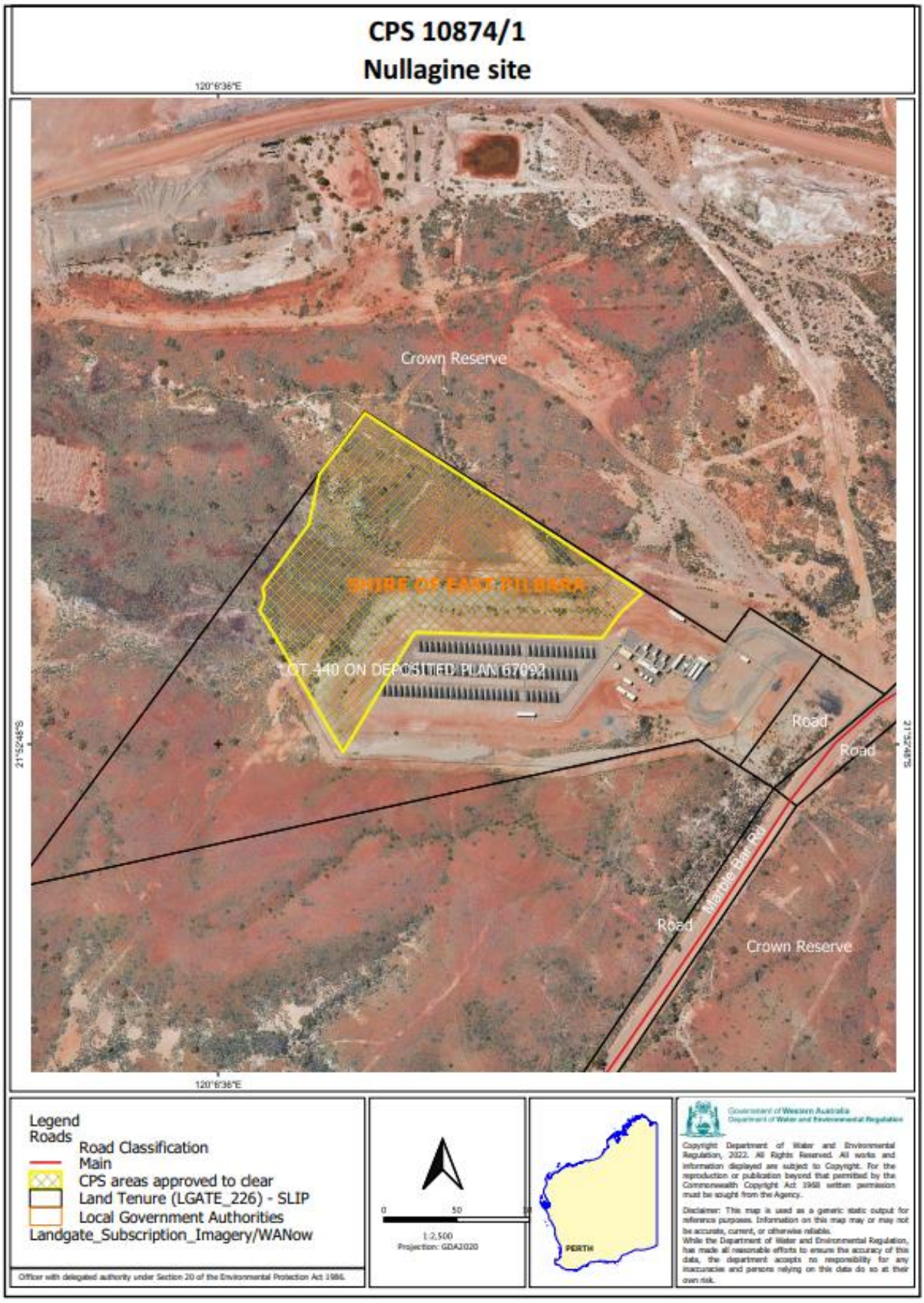

Figure 1 Map of the application area – Nullagine site

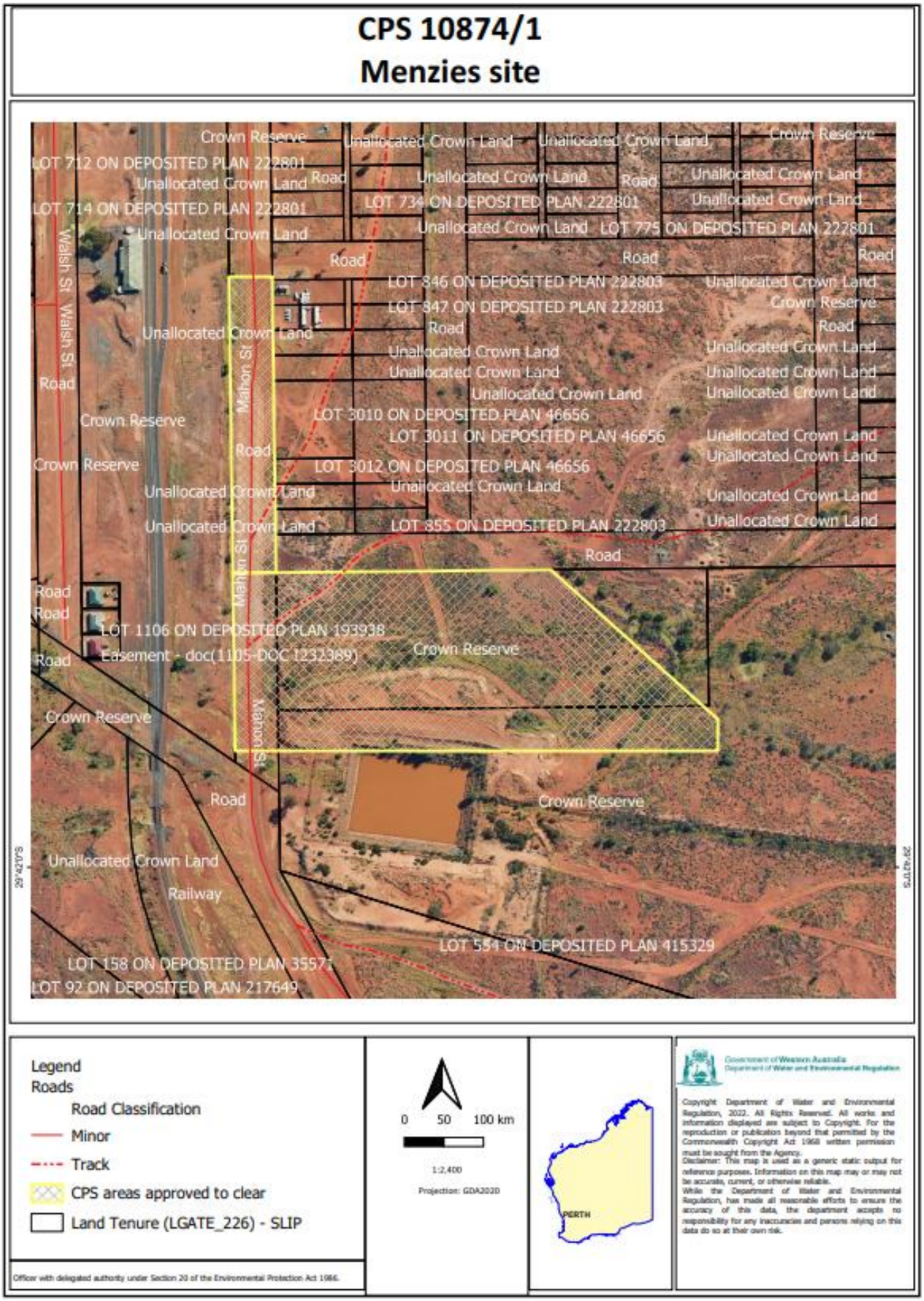

Figure 2 Map of the application area – Menzies site

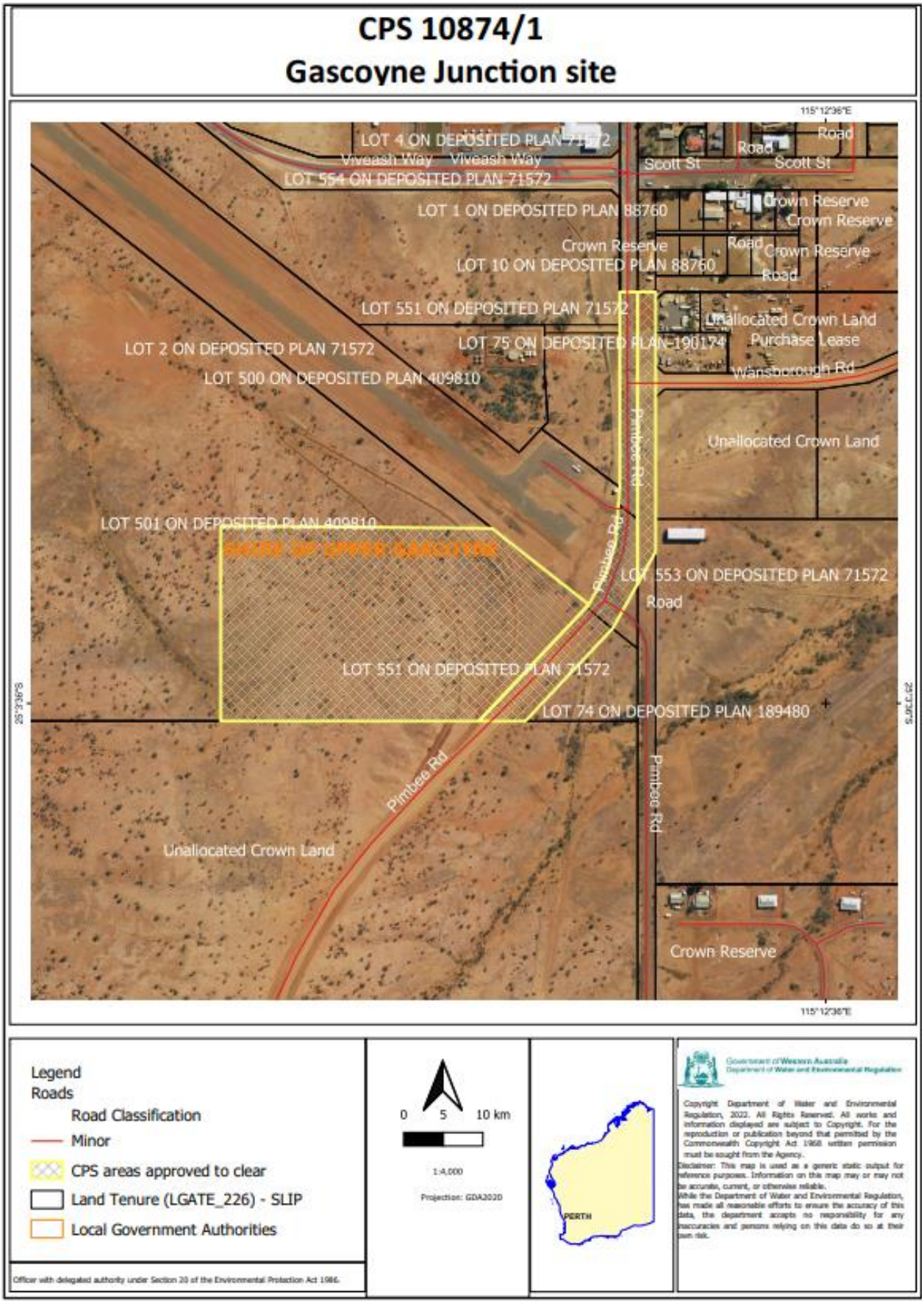

Figure 3 Map of the application area – Gascoyne Junction site

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.

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

Avoidance measures:

- initial avoidance and minimisation was undertaken during site selection, including placement of the proposed infrastructure adjacent to the existing assets to reduce the clearing associated with additional transmission infrastructure. A large area was surveyed to allow for further refinement during site selection, to remove environmental constraints from the development envelope.
- the vegetation type VT09 (see Appendix A.1) was identified in the Menzies survey area and is associated with a minor drainage line. The development envelope was modified to avoid this vegetation type/fauna habitat. As this minor drainage line is located outside of the development envelope, no impacts from the proposed clearing are expected.
- the Nullagine development envelope has been modified to avoid the following environmental sensitivities that were recorded in the survey area (GHD, 2023):
    - Two Priority flora species - *Acacia aphanoclada* (Priority 1) and *Solanum* sp. Mosquito Creek (A.A. Mitchell et al. AAM 10795) (Priority 1)
    - a Declared Pest flora species - *Calotropis procera*
    - a Western Pebble-mound Mouse mound

Mitigation measures:

A Construction Environmental Management Plan (CEMP) has been developed for the project with the following key management measures:

- avoidance areas will be clearly demarcated prior to geotechnical investigations commencing
- where possible, pre-existing access tracks will be used, and vehicles and machinery will exit the development envelope along the same route used for access.
- mechanical clearing for the development of formal access tracks is not proposed during geotechnical works.
- areas of degraded, sparsely vegetated and/or previously cleared areas will be preferentially selected for the location of test pit and laydown areas.
- works will be undertaken systematically to minimise re-run and compaction of access tracks.
- standard weed and hygiene management practices which will be applied to these works.
- mechanical clearing will be undertaken slowly and in a one-way direction to allow fauna to move offsite if present.

Applicant has further committed to the following management measures (Horizon Power, 2024):

- no clearing is permitted outside the development envelope
- clearing areas are to be checked by an Environmental Specialist or Site Supervisor prior to clearing to ensure no more than 12.95 hectares of clearing is undertaken for the Project
- clearing will be minimised through placement of assets and access tracks in existing cleared locations where possible
- the clearing locations are to be demarcated prior to clearing activities
- a pre-clearing toolbox will be held so all staff are aware of their responsibilities under the permit
- clearing of native vegetation will be undertaken in a slow, progressive manner in one direction to allow fauna to move away from the clearing area

- vehicles and equipment will remain on designated vehicle tracks where possible and avoid driving over, or parking on native vegetation.
- vehicles and machinery will arrive clean and weed control will be undertaken at the site post-construction as required.

The Applicant has further committed to restoration of the excavated fill and compaction (where applicable) by stockpiling the topsoil separately to other excavated materials and restoring the excavated materials back into the test pits on completion of the test pit works. Topsoil from the test pit will be respread over the surface. Recontouring of soil within the test pit and laydown areas will be undertaken to prevent soil compaction. It is noted that temporarily cleared areas will be revegetated, and the permanently cleared areas will not be bare earth but will be kept slashed for effective operation of the solar arrays (Horizon Power, 2024). Revegetation of temporary cleared areas and wind erosion management will be conditioned in the permit.

The Delegated Officer was satisfied that the applicant has undertaken reasonable measures 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 the impacts of the proposed clearing are limited and able to be managed to be environmentally acceptable with standard avoid and minimise, hygiene, staged clearing, erosion management and revegetation conditions.

3.3. Relevant planning instruments and other matters

The Nullagine site falls within the Nullagine Water Reserve PDWSA. The DWER - Water Source Protection Planning (WSPP) branch advised that the proposed works at Lot 440 on Deposited Plan 67092, Nullagine, are entirely within Nullagine Water Reserve PDWSA P1 area and are compatible with the current PDWSA policy and guidelines (DWER, 2025).

The Nullagine site of the application area falls within the Pilbara Surface Water Area, as proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). The DWER – North-West region Planning advice (2025b) indicates that the proposed clearing occurs in the Priority 1 (P1) area of the Nullagine Water Reserve, proclaimed under the *Country Areas Water Supply (CAWS) Act 1947*. Clearing may result in direct sediment input to watercourses and provide a flow path for contaminated surface water to enter an aquifer, rivers, and river pools in the area. The proponent should adhere to the departments' Water Quality Protection Guidelines and Water Quality Protection Notes when operating in the reserve. The proposal occurs within the proclaimed Pilbara surface water and groundwater areas and is therefore subject to licensing requirements under the *Rights in Water and Irrigation (RiWI) Act 1914*. The proposal does not require any approval under the RiWI Act. If the proponent intends to use groundwater or surface water for any purpose, they will need to apply for a 5C licence to take water, and a 26D licence if new water supply bores are needed.

Applicant has committed to obtaining a groundwater licence if required, by incorporating the commitment in the revised CEMP.

The Gascoyne Junction site falls within the Gascoyne River and Tributaries Surface Water Area and Gascoyne Groundwater Area, as proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act). The applicant has indicated that dewatering may be required at the Gascoyne Junction site. The DWER - Mid West Gascoyne Region Planning branch advised that should the applicant require access to groundwater for dewatering or consumptive purposes, a permit will be required to construct a well (CAW) and then a licence to take groundwater (GWL). Given the distance from the Gascoyne River and the ephemeral nature of the waterways in this area, it is not expected that the clearing will have a negative impact on water quality. However, minor drainage lines are present on Lot 501, so clearing should be undertaken to protect sediment loads entering these drainage lines during rainfall events until the site is stabilised (DWER, 2025a).

The Delegated Officer notes that the Nullagine site is owned by Horizon Power, the Menzies site is under a Management Order to Horizon Power and the Gascoyne Junction site land access is pending resolution (Horizon Power, 2024). The Applicant has committed to not undertake any clearing at the Gascoyne Junction site until after the sale of the land is finalised.

Under the relevant planning instruments and other matters, the Delegated Officer also considered that Horizon Power is undertaking geotechnical works through the exercise of powers conferred by sections 28, 46 and 49 of the *Energy Operators (Powers) Act* 1979 (the Act).

The Menzies site and the Nullagine site of the proposed clearing are located within the boundaries of a registered areas of significance. 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
Revised CEMP to reflect the commitment to obtain groundwater licence if required	See section 3.3

Appendix B. Site characteristics

B.1. Site characteristics

Characteristic	Details
Local context	Gascoyne Junction site: The Gascoyne Junction survey area is located south of the township. It follows Pimbee Road for approximately 600 metres. Menzies site: The Menzies site is located directly east of Menzies townsite, along Mahon Street and east of Mahon Street. Nullagine site: The Nullagine site is located on the north-western side of Marble Bar Road in Nullagine. Aerial imagery indicates the local area (50-kilometre radius from the centre of the three sites proposed to be cleared) retains approximately 99 per cent of the original native vegetation cover.
Ecological linkage	No significant ecological linkages were identified within the areas proposed to be cleared.
Conservation areas	No conservation areas occur within the areas proposed to be cleared.
Vegetation description	The vegetation survey (GHD, 2023) indicates the vegetation within the proposed clearing area consists of: Gascoyne Junction site: VT13 - *Acacia victoriae, Acacia tetragonophylla* and *Hakea recurva* isolated shrubs over *Rhagodia eremaea, Atriplex? codonocarpa* and *Maireana* sp. isolated chenopod shrubs on brown loamy clay on low undulating rise with quartz. This is consistent with the vegetation type 'Lower Riverine Plains – North' which is described as scrub, open scrub or sparse scrub wattle, teatree & other species *Acacia* spp. *Melaleuca* spp. Menzies site: VT08 - *Maireana pyramidata, Atriplex bunburyana, Maireana planifolia* and *Sclerolaena diacantha* open chenopod shrubland over, **Cenchrus ciliaris, *Carrichtera annua* and *Sclerolaena alata* sparse grassland and forbland on orange clay flats This is inconsistent with the vegetation type 'Barlee' which is described as low woodland, open low woodland or sparse woodland of Mulga *Acacia aneura* and associated species. Nullagine site: VT01- Isolated Snappy Gum over *Triodia: Eucalyptus leucophloia* subsp. *leucophloia* isolated trees over *Acacia bivenosa, Senna symonii* and *Acacia hilliana* isolated shrubs over and *Triodia* spp. tussock grassland This is consistent with the mapped vegetation type 'Abydos Plain – Chichester' which is described as hummock grassland with sparse shrubs *Triodia* spp. *Acacia* spp. Representative photos and survey descriptions and maps are available in Appendix E. The mapped vegetation types retain approximately 99 per cent of the original extent (Government of Western Australia, 2019)

<table>
<tr><th>Characteristic</th><th>Details</th></tr>
<tr><td>Vegetation condition</td><td>The vegetation survey (GHD, 2023) indicates the vegetation within the proposed clearing area is in the following (Trudgen, 1991) condition,
<table>
<tr><th>sites</th><th>Vegetation condition</th></tr>
<tr><td>Gascoyne Junction</td><td>‘Good’ to ‘Degraded’</td></tr>
<tr><td>Menzies</td><td>‘Good’</td></tr>
<tr><td>Nullagine</td><td>‘Excellent’ to ‘Degraded’</td></tr>
</table>
The full Trudgen (1991) condition rating scale is provided in Appendix D. Representative photos are available in 0E.</td></tr>
<tr><td>Climate and landform</td><td><u>Nullagine</u>
The Pilbara region is characterised by very hot summers, mild winters and low and variable rain. The mean maximum temperature ranges from 40.8 °C in January to 27.1 °C in July. The mean minimum temperature ranges from 12.2 °C in July to 26.5 °C in January. Rainfall data from Noreena Downs shows the mean annual rainfall in the area as 328.1 millimetres (GHD, 2023).

<u>Menzies</u>
The Murchison region is characterised by an arid climate, with mainly Winter rainfall. Temperature data from Leonora Aero indicates the mean maximum temperature ranges from 36.9 °C in January to 19.3 °C in July. The mean minimum temperature ranges from 22.7°C in January to 6.1°C in July. Rainfall data from Menzies shows the mean annual rainfall in the area as 249.9 millimetres (GHD, 2023).

<u>Gascoyne Junction</u>
The Carnarvon bioregion is characterised by a seasonal arid climate tending towards biomodal rainfall. Temperature data from Gascoyne Junction station indicates the mean maximum temperature ranges from 40.7 °C in January to 23.4 °C in July. The mean minimum temperature ranges from 9.6 °C in July to 24.4 °C in February. Rainfall data shows the mean annual rainfall in the area as 216.5 mm (GHD, 2023).</td></tr>
<tr><td>Soil description</td><td>The soil is mapped as:
Land system mapped for Nullagine survey area
<table>
<tr><th>Land system</th><th>Description</th><th>Geology</th><th>Geomorphology</th></tr>
<tr><td>Mosquito</td><td>Gently undulating stony plains and prominent ridges and hills (relief up to 100 m) of schist and other metamorphic rocks, largely restricted to a large single area to the east of Nullagine.</td><td>Archaean schist, greywacke, gabbro and minor conglomerate.</td><td>Formed by erosional surfaces; stony plains and pediments with prominent ridges and hills with steep upper slopes and short more gently inclined foot slopes, moderately spaced tributary flow lines and channels. Relief up to 100 m.</td></tr>
</table>
Land system mapped for Menzies survey area
<table>
<tr><th>Land system</th><th>Description</th></tr>
<tr><td>Moriarty system (265Mo)</td><td>Low greenstone rises and stony plains supporting chenopod shrublands with patchy eucalypt overstoreys</td></tr>
</table>
Land system mapped for Gascoyne Junction survey area
<table>
<tr><th>Land system</th><th>Description</th><th>Geology</th><th>Geomorphology</th></tr>
<tr><td>Sandiman</td><td>Undulating stony uplands with low breakaways, slopes and ridges, supporting very scattered shrublands of mulga and other acacias.</td><td>Permian greywacke, sandstone and siltstone, locally with tillitic shale, mainly of the Sakmarian Series.</td><td>Mainly erosional surfaces, extensively mantled by cobbles and pebbles: residual plateaux, summits and ridges, trellised drainage into narrow floors with incised channels and, locally, to narrow plains with gilgaied surfaces.</td></tr>
</table></td></tr>
<tr><td>Land degradation risk</td><td><u>Nullagine site:</u> The Nullagine site is within the Mosquito Land System which mostly has low susceptibility to erosion except for some drainage floors which are moderately susceptible if vegetative cover is lost (Horizon Power, 2024a).</td></tr>
</table>

Characteristic	Details
	Menzies site: This site is within the Moriarty Land System which has alluvial plains and narrow drainage tracts that are moderately susceptible to water erosion, particularly if perennial shrub cover is substantially reduced or the soil surface is disturbed. (Horizon Power, 2024a). Gascoyne Junction site: This site is within the Sandiman Land System, which has mainly erosional surfaces and is likely to be susceptible to erosion if disturbed (Horizon Power, 2024a).
Waterbodies	Nullagine site: Based on the mapped datasets, two non-perennial watercourses intersect the application area. Menzies site: Non-perennial, minor drainage lines are mapped as intersecting the application area and fall into the earth dam adjacent to the site. Gascoyne Junction site: No waterlines intersect this site.
Hydrogeography	The Nullagine site falls within the Pilbara Surface Water Area, as proclaimed under the *Rights in Water and Irrigation Act 1914 (*RIWI Act).
Flora	Nullagine site: The desktop assessment identified 25 conservation significant flora species within the local area, with five Priority flora species found on the same soil and vegetation type as the application area. The GHD field survey (2023) identified two Priority 1 flora species in the Nullagine survey area i.e. *Acacia aphanoclada* and *Solanum* sp. Mosquito Creek (A.A. Mitchell et al. AAM 10795). The Applicant has modified the application area to avoid any direct impacts to the abovementioned species. Menzies site: The desktop assessment identified 30 conservation significant flora species within the local area, with the closest flora record being a Priority 3 species *Hysterobaeckea ochropetala* subsp. c*ometes,* located approximately 0.58 kilometres from the application area. The GHD field survey (2023) did not identify any conservation significant flora records within the Menzies survey area. Gascoyne Junction site: The desktop assessment identified 18 conservation significant flora species within the local area, with the closest record being Priority 3 species *Grevillea subterlineata* located approximately 0.9 kilometres from the application area. The GHD survey (2023) did not identify any conservation significant flora species within the Gascoyne Junction survey area.
Ecological communities	The Nullagine site is mapped within the Priority 3 ecological community 'Stony saline clay plains of the Mosquito Land System'. The GHD survey (2023) confirmed that the dominant vegetation and landforms recorded within the Nullagine survey area do not align with this community. No Threatened Ecological Communities (TEC) were identified within any of the three survey sites.
Fauna	Nullagine site: The desktop assessment identified 16 conservation significant fauna species within the local area with the closest record of a migratory bird species, *Calidris acuminata*, located 0.91 kilometres from the application area. A targeted assessment was undertaken for Greater Bilby at this site with no evidence found (GHD, 2023). The Western Pebble-mound Mouse (P4) was recorded via a recently active mound on the southern boundary of the Nullagine survey area.

Characteristic	Details
	Menzies site: The desktop assessment identified 10 conservation significant fauna species within the local area with the closest record of a Priority 1 reptile species, *Aspidites ramsayi* (southwest subpopulation), located 0.09 kilometres from the application area. A targeted survey for Northern Shield-backed Trapdoor Spider (*Idiosoma clypeatum*) was undertaken in the Menzies survey area, with no burrows identified (GHD, 2023), Gascoyne Junction site: The desktop assessment identified 8 conservation significant fauna species within the local area, with the closest record of a migratory bird species, *Plegadis falcinellus,* located 1.3 kilometres from the application area. The GHD survey (2023) recorded disturbances on site, including severe drought and grazing. There is surrounding clearing and disturbance from industry as well. Very few fauna species were recorded during the survey, with a long-domed bird nest found in one of the tall shrubs, which may have been a finch, wren or thornbill nest.

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The flora, vegetation and fauna habitat values of the three sites are well represented outside the application area and the surrounding vegetation typically comprises similar or better condition vegetation. The native vegetation within the application area is not considered to comprise high levels of biological diversity compared to the surrounding region, and as such, the proposed clearing is not considered to be at variance with this principle.	Not likely to be at variance	No
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The habitat types identified during the GHD survey (2023) are not confined to the survey areas and are considered well represented in the local and regional area. As such, the proposed clearing does not represent a significant habitat for fauna.	Not likely to be at variance	No
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: The area proposed to be cleared is unlikely to contain habitat for threatened flora species listed under the BC Act.	Not likely to be at variance	No
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: The area proposed to be cleared does not contain species indicative of a threatened ecological community.	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The extent of native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia.	Not at variance	No
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: Given no conservation areas are present within close vicinity of the application areas, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.	Not likely to be at variance	No .

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: Two minor watercourses intersect the Nullagine site (Appendix B.1), however, the mapping indicates these watercourses to be present within the already cleared areas, therefore the clearing of vegetation is not likely to impact the on or off-site hydrology. A minor drainage line is located outside of the Menzies application area (Horizon Power, 2024a).	Not at variance	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The Nullagine site has low susceptibility to erosion except for some drainage floors which are moderately susceptible if vegetative cover is lost. Permanent clearing will not be bare earth but will be kept slashed for effective operation of the solar arrays (Horizon Power, 2024). The Menzies site is moderately susceptible to water erosion, particularly if perennial shrub cover is substantially reduced or the soil surface is disturbed. Permanent clearing will not be bare earth but will be kept slashed for effective operation of the solar arrays (Horizon Power, 2024). The Gascoyne Junction site is likely to be susceptible to erosion if disturbed. This site will have some areas temporarily cleared and some permanently cleared. Temporary clearing will be revegetated, and permanent clearing will not be bare earth but will be kept slashed for effective operation of the solar arrays (Horizon Power, 2024). Based on the above, the proposed clearing is not likely to have an appreciable impact on land degradation.	May be at variance	No
Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."* Assessment: Two minor watercourses intersect the Nullagine site (Appendix B.1), however, the mapping indicates these watercourses to be present within the already cleared areas, therefore the clearing of vegetation is unlikely to impact surface or groundwater quality.	Not likely to be at variance	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: Given the abundance of vegetation within the surrounding region, with over 99% pre-European vegetation remaining, the proposed clearing is not expected to increase the risk of flooding. It is noted that two watercourses intersect the Nullagine, however, the mapping indicates these watercourses to be present within the already cleared areas, therefore, the proposed clearing is unlikely to contribute to waterlogging.	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

Nullagine site:

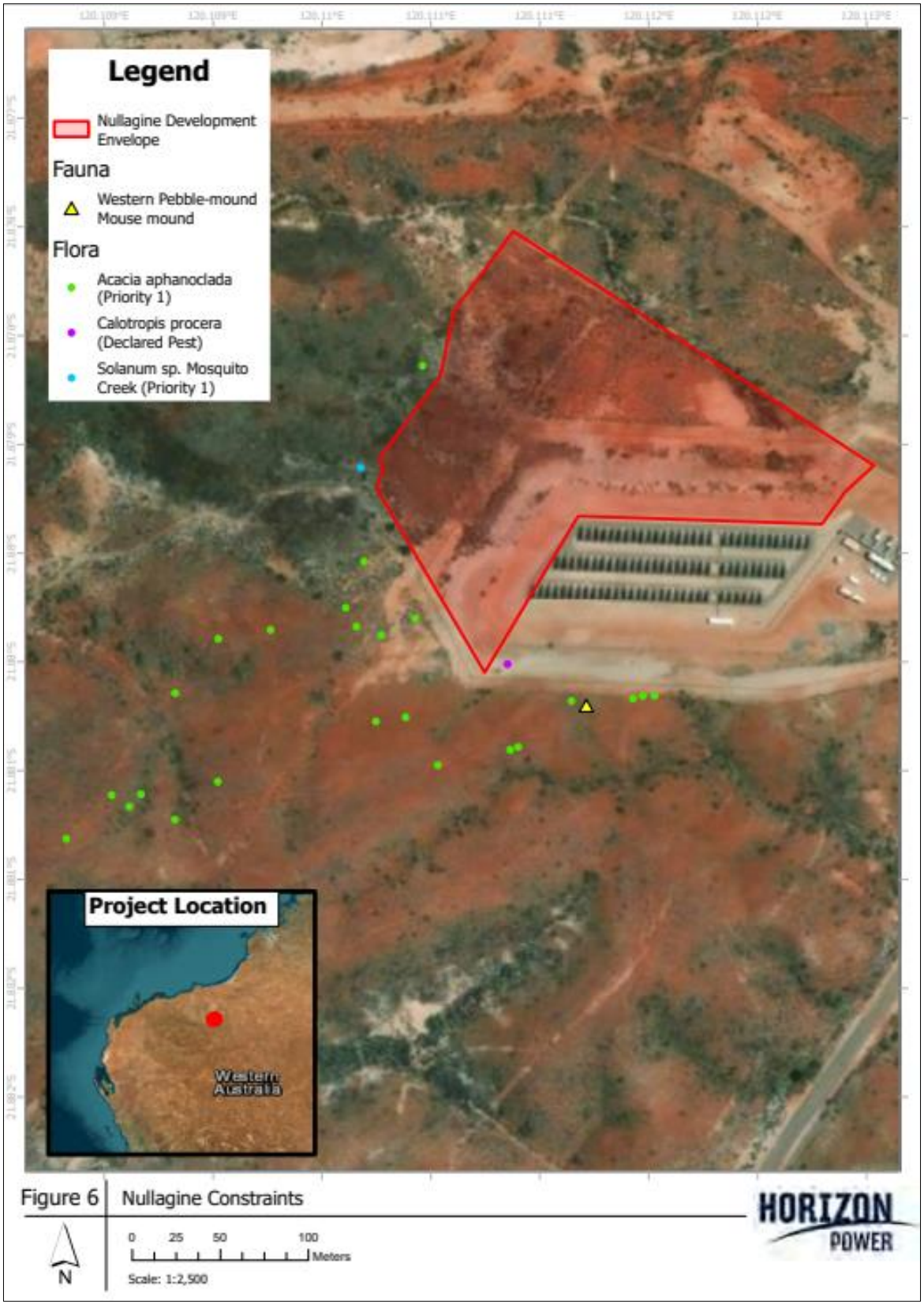

Figure 4: Environmental values near Nullagine site

Figure 5: Vegetation condition within the Nullagine survey area

Menzies site:

Figure 6: Environmental values near Menzies site

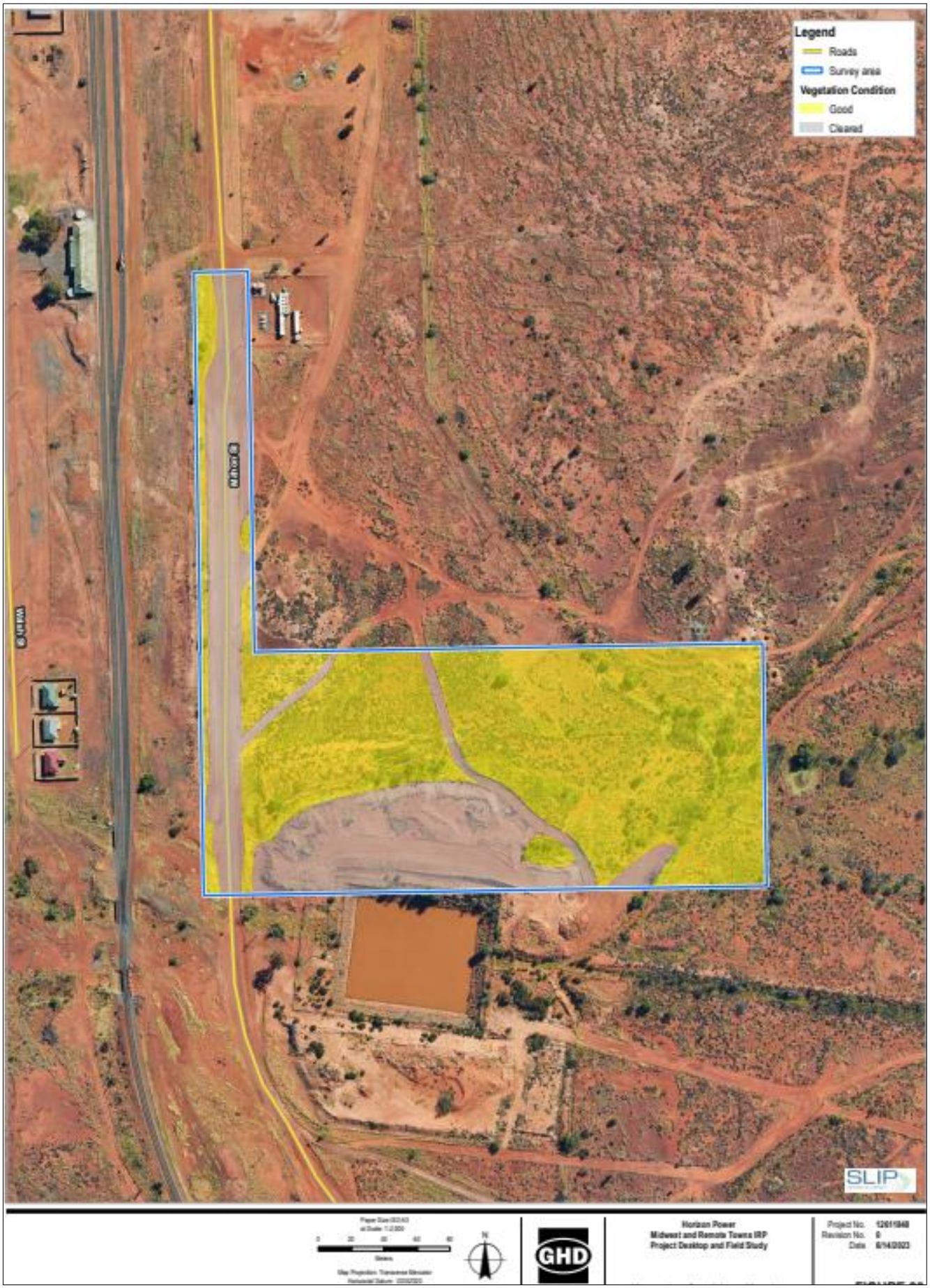

Figure 7: Vegetation condition within the Menzies survey area

Gascoyne Junction site:

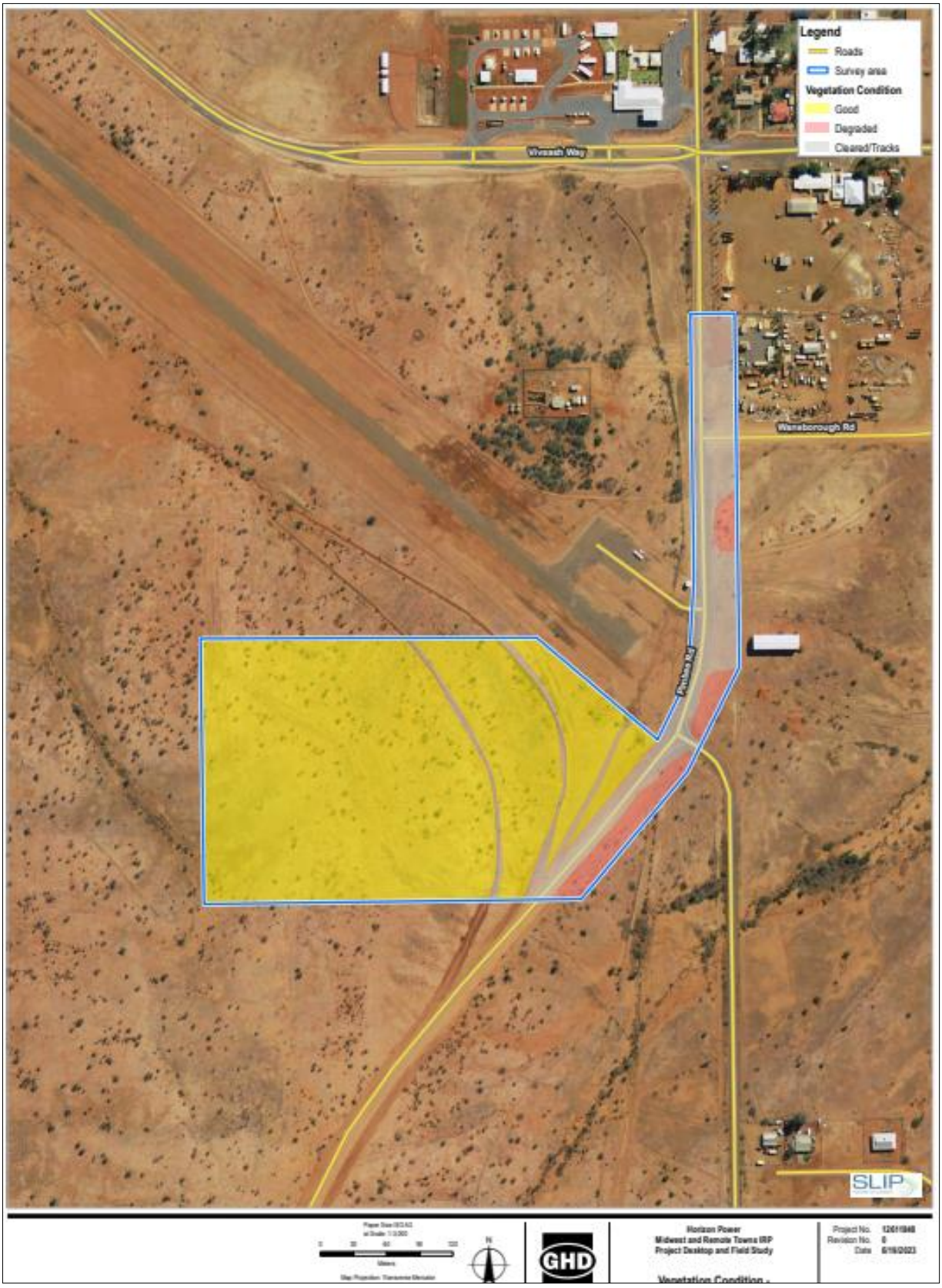

Figure 8: Vegetation condition within the Gascoyne Junction survey area

Vegetation types within the three sites:

Vegetation type	Vegetation Type Description	Extent (ha) and proportion of individual survey area (%)	Sampling sites	Photograph
VT01- Isolated Snappy Gum over *Triodia*	*Eucalyptus leucophloia* subsp. *leucophloia* isolated trees over *Acacia bivenosa, Senna symonii* and *A. hilliana* isolated shrubs over *Triodia brizoides, T epactia* and *T pungens* tussock grassland on stony low undulating hills.	4.00 ha (66.01%) (Nullagine)	Nul_01, Nul_02 & Nul_03 (Nullagine)	
VT08	*Maireana pyramidata, Atriplex bunburyana, Maireana planifolia* and *Sclerolaena diacantha* open chenopod shurbland over, **Cenchrus ciliaris*, **Carrichtera annua* and *Sclerolaena alata* sparse grassland and forbland on orange clay flats.	3.42 ha (59.04%) (Menzies)	GAS01, GAS02, GAS03	

Vegetation type	Vegetation Type Description	Extent (ha) and proportion of individual survey area (%)	Sampling sites	Photograph
VT13	*Acacia victoriae, Acacia tetragonophylla* and *Hakea recurva* isolated shrubs over *Rhagodia eremaea, Atriplex ?codonocarpa* and *Maireana* sp. Isolated chenopod shrubs over *Eragrostis dielsii, Eragrostis xerophila* and *Aristida contorta* isolated tussock grasses over *Streptoglossa liatroides, Salsola australis* and *Scaevola* sp. open forbland on brown loamy clay on low undulating rise with quartz.	8.70 ha (80.69%) (Gascoyne Junction)	GJ01, GJ02, GJ03	

Appendix F. Sources of information

F.1 GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- 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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