GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9468/1
Permit Holder:	Regional Power Corporation trading as Horizon Power
Duration of Permit:	From 19 May 2022 to 19 May 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 and the construction of a renewable energy facility.

2. Land on which clearing is to be done

Lot 3 on Deposited Plan 126500, Leonora

Lot 51 on Deposited Plan 59908, Leonora

3. Clearing authorised

The permit holder must not clear more than 19.85 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

PART II – MANAGEMENT CONDITIONS

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

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

(a) avoid the clearing of *native vegetation*;

(b) minimise the amount of *native vegetation* to be cleared; and

(c) reduce the impact of clearing on any environmental value.

5. Weed 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.

6. Erosion Management

The permit holder must commence the geotechnical investigations and the construction of the renewable energy facility no later than three (3) months after undertaking the authorised clearing activities to reduce the potential for wind and water erosion.

PART III - RECORD KEEPING AND REPORTING

7. 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 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 4; (f) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 5; and (g) erosion management activities undertaken in accordance with condition 6.

8. Reporting

The permit holder must provide to the *CEO* the records required under condition 7 of this permit when requested by the *CEO*.

DEFINITIONS

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

Table 2: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *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.
fill	means material used to increase the ground level, or to fill a depression.
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.
EP Act	*Environmental Protection Act 1986* (WA)
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
weeds	means any plant – (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

Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

24 April 2022

Schedule 1

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

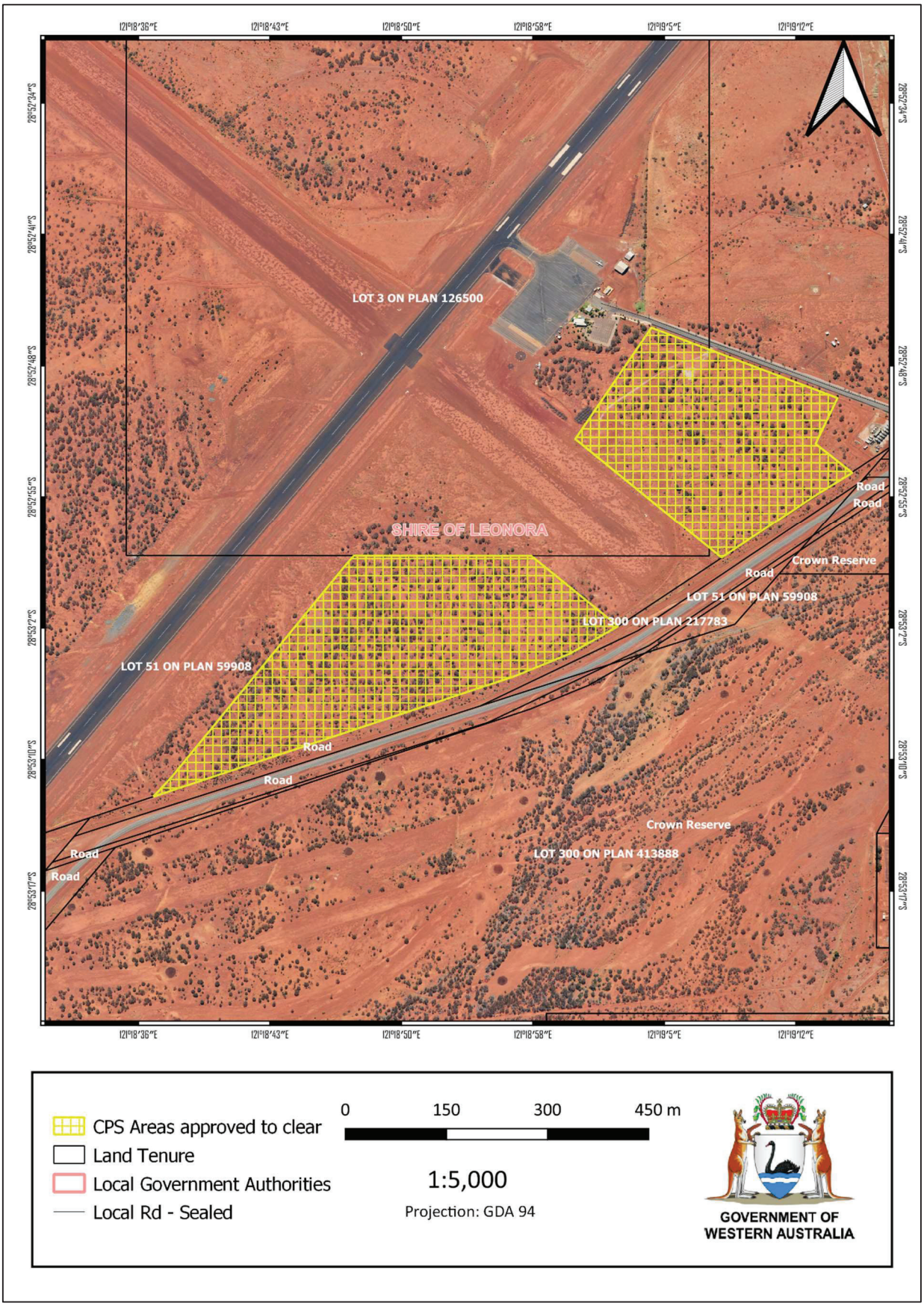

Figure 1: Map of the boundary of the area within which clearing may occur

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 9468/1
Permit type:	Purpose permit
Applicant name:	Regional Power Corporation trading as Horizon Power (Horizon Power)
Application received:	26 October 2021
Application area:	19.85 hectares of native vegetation (as revised)
Purpose of clearing:	Geotechnical investigations and the construction of a renewable energy facility to supply electricity to the town of Leonora
Method of clearing:	Mechanical removal
Property:	Lot 51 on Deposited Plan 59908 Lot 3 on Deposited Plan 126500
Location (LGA area/s):	Shire of Leonora
Localities (suburb/s):	Leonora

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within two separate areas approximately 180 meters apart. The area located on Lot 51 on Deposited Plan 59908 is approximately 7.8 hectares and area located on Lot 3 on Deposited Plan 126500 is approximately 12 hectares (Horizon Power, 2022) (see Figure 1, Section 1.5).

The clearing is for the purpose of geotechnical investigations and the construction of a renewable energy facility to supply electricity to the town of Leonora. Horizon Power stated that although two parcels of land are considered to construct a solar farm, only one will be required (Horizon Power, 2022).

The initial application was approximately five hectares in overall extent and was revised by Horizon Power during the assessment process. The revised application area included an additional parcel of land to the original application area and comprised of 14 hectares of native vegetation. The purpose of native vegetation clearing remains unchanged (Horizon Power, 2022).

1.3. Decision on application

Decision:	Granted
Decision date:	24 April 2022
Decision area:	19.85 hectares of native vegetation (revised), 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 initial application for 14 days and no submissions were received. The revised application was readvertised on 19 February 2022 for a period of 14 days and no public 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 purpose of the clearing is to improve community need by providing the Shire of Leonora with electricity and that Horizon Power is aiming to have 100 per cent renewable systems by 2030.

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; and
- potential land degradation in the form of wind and water 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 can be minimised and managed to unlikely lead to an unacceptable risk to environmental values. The applicant has suitably demonstrated avoidance and minimisation measures.

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; and
- commence construction of the facility within three months of undertaking clearing activities to minimise wind erosion.

1.5. Site map

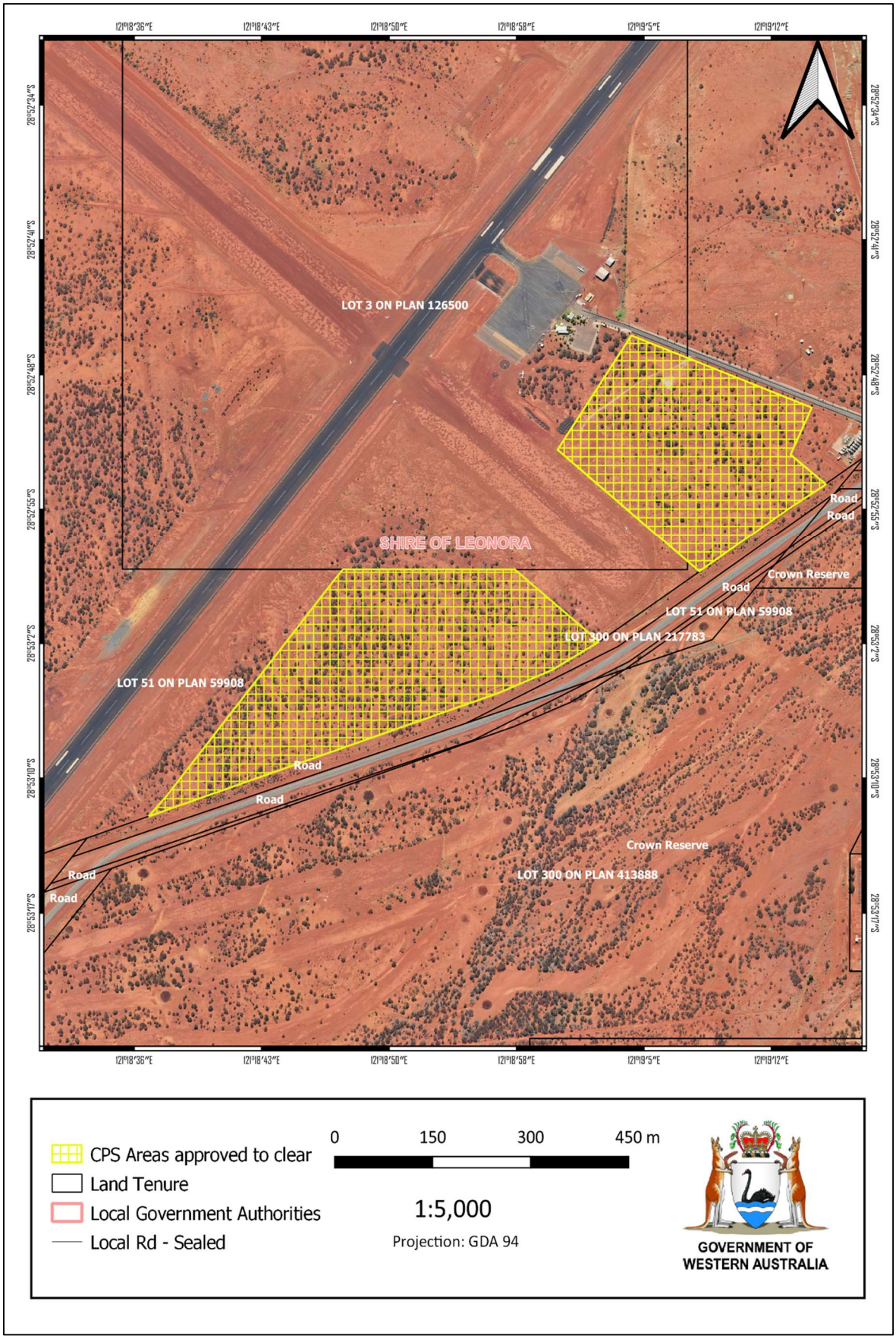

Figure 1 Map of the area approved to clear

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *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

Horizon Power propose to minimise clearing wherever possible with only removing vegetation if required with the guidance of an Environmental advisor. Horizon Power will be considering methods such as allowing vegetation to regrow underneath and around the solar panels, if technically appropriate. Considerations such as allowing regrowth will be made and discussed with the contractors who will be delivering the project (Horizon Power, 2022).

Horizon Power also states that there are no alternatives to clearing for the construction of the solar farm. The parcels of land being considered were selected due to that part of Leonora being aesthetically compromised by the airport and airstrip (Horizon Power, 2022).

Based on the above, 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 the impacts of the proposed clearing are limited and able to be managed to be environmentally acceptable with standard avoid and minimise, hygiene, and erosion management conditions.

3.2.1. Biological values - Clearing Principles (a, b, c)

Assessment

The proposed clearing area is part of an expansive tract of native vegetation surrounded by existing mining and infrastructure activities. The vegetation identified within the application area was generally representative of existing broad scale vegetation types. The vegetation condition within the application area ranges from Very Good to Good (Trudgen, 1991) condition. Some evidence of disturbances was present which included access and vehicle tracks, weeds and rubbish. One weed specie, **Cenchrus ciliaris* (Buffel grass) was recorded within multiple locations of the southern boundary of the application area (360 Environmental, 2021; Appendix G). Two different vegetation types (VY) (P1 and P2 as described in the survey) were identified over the proposed application area (360 Environmental, 2021).

- VT1: *Acacia caesaneura* and *Acacia mulganeura* low woodland over *Eremophila forrestii* subsp. *forrestii* mid sparse shrubland over *Eragrostis eriopoda* low sparse tussock grassland.
- VT2: Mixed *Acacia* spp. low open woodland over *Eragrostis eriopoda* low sparse tussock grassland.

No threatened or priority flora taxa or ecological communities were recorded within the application area during the biological survey (360 Environmental, 2021). According to available databases, no threatened flora, and two priority three flora taxa have been recorded within the local area (20-kilometre radius). None of these occur within the application area. *Angianthus prostrates* has been recorded approximately 16 kilometres from the application area within different soil and vegetation type to those mapped within the application area. The vegetation within the application area is unlikely to comprise significant habitat for this species. *Acacia* sp. Marshall Pool (G. Cockerton 3024) was recorded approximately 0.70 kilometres from the application area in 1970, within similar mapped soil and vegetation types. This species is known to occur within serpentinite ridges and rocky hills in association with basalt (Western Australian Herbarium, 1998). Aerial imagery and photographs that are provided within the biological survey by 360 Environmental (2021) indicate these habitat characteristics are not consistent with those present over the application area. Given the habitat preferences, the historical nature of the record and the identified disturbances, the application area is not likely to comprise significant habitat for this species. The survey undertaken by 360 Environmental (2021) did not identify any threatened or priority flora species within the application area.

The desktop assessment has identified that no Threatened Ecological Communities (TECs) have been recorded within the local area and none are likely to occur. The nearest mapped conservation significant ecological community is the 'Melita calcrete groundwater assemblage type on Raeside palaeodrainage on Melita (Sons of Gwalia) Station', a Priority one, Priority Ecological Community (PEC) mapped approximately five kilometres southwest from the application area. This community is characterised as unique assemblages of invertebrates identified in groundwater calcretes (DBCA, 2020). Noting this PEC is associated with groundwater environments and the absence of a watercourse in the application area, the proposed clearing is not likely to impact this community.

One fauna habitat over the application area was identified, the mulga woodland which is described as sparse understory of *Eremophila forrestii* subsp. *forrestii* mid sparse shrubland over *Eragrostis eriopoda*, low sparse tussock grassland and is analogous with the vegetation type (360 Environmental, 2021). Seven conservation significant fauna species were recorded in the local area, primarily comprising avian migratory species associated with aquatic habitats and sandy beaches backed by sand dunes. Noting the absence of wetlands or watercourses within the application area, the proposed clearing is not likely to have a significant impact on the identified migratory species' habitat. *Falco peregrinus* (peregrine falcon) which is a raptor overfly bird species may be a transient visitor to the application area. However, clearing of the native vegetation within the application area is unlikely to impact on the survival of the Peregrine falcon due to their distribution, wide range of habitat preference and high mobility (Barrett et al, 2003). Vegetation of similar habitat value is present adjacent and within the local area.

Given weeds were recorded from multiple locations within the application area (360, Environmental, 2021), the proposed clearing has the potential to increase the spread of weeds into adjacent native vegetation. The implementation of weed management strategies during the clearing activities will mitigate the impacts to adjacent vegetation.

Conclusion

Based on the above assessment, the Delegated officer has determined that the proposed clearing is not likely to impact conservation significant flora, fauna or ecological communities and is therefore not an area of high biodiversity. Adjacent native vegetation is susceptible to weed invasion which the clearing process may exacerbate, thereby reducing the condition of adjacent remnant vegetation.

Conditions

To address impacts to the adjacent native vegetation, weed management measures will be required as a condition on the clearing permit.

3.2.2. Land and water resources - Clearing Principles (g)

Assessment

The application area is situated within the Gundockerta land system (279Gu) and the Rainbow land system (279Rb).

The Gundockerta System is described as extensive, gently undulating plains generally with abundant stony mantles, and less extensive lower alluvial plains with narrow central zones receiving more concentrated run-on, relief usually less than 15 metres. Saline plains and adjacent alluvial tracts area are susceptible to water erosion where the stony mantle is absent and/or vegetation cover is reduced. The vegetation of this land system is highly preferred for grazing by introduced and native mammals, rendering it susceptible to overgrazing and consequent degradation (Pringle et al, 1994).

Rainbow System described as hardpan plains supporting mulga tall shrublands (DPIRD, 2019). Alluvial plains are typically subject to sheet flow and are often characterised by the fine ironstone gravel mantles and sparse, generally narrow, and concentrated drainage tracts. The Rainbow land system is generally not susceptible to soil erosion; however, impedance of sheet flow can initiate soil erosion (Pringle et al., 1994).

The application area is not mapped within an area prone to acid sulfate soils. The potential for acidification is low. Based on the above description of the soil landscape within the proposed application area, the mapped soils are somewhat susceptible to wind and water erosion. Given the condition of the vegetation ranges from Good to Very Good (Trudgen, 1991) condition, clearing of this intact vegetation may result in increased risk of wind and water erosion.

The cleared area will be replaced with a renewable energy facility to supply electricity to the town of Leonora. Construction of the above-mentioned facility will involve appropriate designs which would include erosion management practices. To reduce increased wind and water erosion, the applicant will be required to undertake work immediately after the completion of clearing activities to avoid any significant impacts from wind and water erosion. During the clearing and construction of the renewable energy facility, methodologies such as dust control and drainage control will ameliorate any potential land degradation. Based on the scale of the proposed clearing and the standard methodologies proposed, clearing is unlikely to cause appreciable land degradation during operations.

Conclusion

Based on the above assessment, it is considered that the impacts of the proposed clearing can be managed by applying appropriate measures to minimise and mitigate risks associated with wind and water erosion. Clearing is unlikely to cause appreciable land degradation.

Conditions

To address the above impacts, commencement of construction within three months of clearing to mitigate the risk of wind and water erosion will be required as a condition on the clearing permit.

3.3. Relevant planning instruments and other matters

The Shire of Leonora advised DWER that local government approvals are not required, and that the proposed clearing is consistent with the Shire's Local Planning Scheme. The Shire did not have any objections to the proposed clearing and advised DWER that the Shire has been meeting and communicating with Horizon Power over this proposal and is fully aware of the proposed work (Shire of Leonora, 2022).

The application area intersects an area classified as 'possibly contaminated, investigation required' under the *Contaminated Sites Act 2003*. Advice for the application was sought from the DWER Science and planning – Contaminated Sites branch. Advice received for the application concludes that the site is suitable for the current industrial land use. DWER Contaminated Sites (2022) did not have objections to the proposed native vegetation clearing within the application area from a contamination perspective given a health and safety plan is implemented during the proposed clearing activities (DWER, 2022).

DWER requested further information from Horizon Power in the case of an unexpected contamination being intercepted during the clearance works. Horizon Power responded advising DWER that "as part of the proposed lease with the Shire of Leonora, Horizon Power will be required to undertake a baseline contamination sites investigation of Lot 51. Should the investigation find contamination to be present within the construction footprint that may present a risk to site workers, then Horizon Power will commission a site management plan prior to the commencement of construction".

The application area is located within the Goldfields Groundwater Area, a proclaimed groundwater area under the *Rights in Water and Irrigation Act 1914* (RiWI Act). The application area is not located within any RiWI Act surface water areas or irrigation districts, *Country Areas Water Supply Act 1947* (CAWS Act) clearing control catchments, or Public Drinking Water Source Areas. The proposed clearing will not obstruct, interfere or destroy the beds or banks of any watercourse nor will the proposal include abstracting groundwater.

Three Aboriginal Sites of Significance are mapped within the application area, including:

- Leonora (Storage Cache): (Place ID 1925, Status – Stored Data/Not a site)
- Women's Place: (Place ID 24133, Status – Registered Site)
- WLN01 Creek: (Place ID 20014, Status- Registered Site)

It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Additional information provided by applicant

Information	Description
Biological Survey prepared by 360 Environmental for Horizon Power (360 Environmental, 2021)	Biological survey which includes flora and vegetation, targeted flora and vertebrate fauna.
Assessment against the ten clearing principles (Horizon Power, 2021)	Horizon Power has assessed the proposed clearing activity against the ten clearing principles, taking into account the current extent and condition of the native vegetation within the survey area.
Further information submitted in regard to management of contamination if present during clearing activities.	DWER requested that Horizon Power provide health and safety mitigation measures in case an unexpected contamination is intercepted. Horizon Power has submitted a response stating that a baseline contaminated sites investigation will be undertaken and if the investigation find contamination, Horizon Power will commission a site management plan.

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 the assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix C.

Characteristic	Details
Local context	The area proposed to be cleared totals an area of 19.85 hectares of native vegetation comprising of two individual areas in the extensive land use zone of Western Australia. The area proposed to be cleared occurs within the Murchison bioregion and the Eastern Murchison (MUR01) subregion. The application area is surrounded by existing mining activities. Spatial data indicates the local area (20 kilometres radius from the centre of the area proposed to be cleared) retains approximately 98.90 per cent of the original native vegetation cover.
Ecological linkage	The proposed clearing area does not form part of a significant mapped ecological linkage within the local area. The vegetation within the application is contiguous with adjacent remnant vegetation.
Conservation areas	The area proposed to be cleared is not mapped within an Environmental Sensitive Area (ESA). No conservation covenants, regional parks and Department of Biodiversity Conservation and Attraction (DBCA) areas of interest and legislated land are mapped within the 20-kilometre radius around the application area.
Vegetation description	The biological survey indicates the vegetation within the proposed clearing area consists of two types of vegetation (VT) (360 Environmental, 2021). • VT1: *Acacia caesaneura* and *Acacia mulganeura* low woodland over *Eremophila forrestii* subsp. *forrestii* mid sparse shrubland over *Eragrostis eriopoda* low sparse tussock grassland. • VT2: Mixed Acacia spp. low open woodland over *Eragrostis eriopoda* low sparse tussock grassland. The full survey descriptions, representative photos and maps are available in Appendix E. This is consistent with the mapped Beard vegetation associations (Laverton 18 and Laverton 28), with both associations described as Mulga *Acacia aneura* and associated species. The structure of these vegetation associations is described as low woodland, open low woodland and sparse woodland of Mulga (Shepherd et al, 2001). Laverton vegetation associations (18 and 28) are well represented at the State, regional and sub-regional levels, having over 98 per cent of the pre-European extent remaining.
Vegetation condition	The biological survey (360 Environmental, 2021) indicates the vegetation within the proposed clearing area ranges from Very Good to Good (Trudgen, 2021) condition. The full Trudgen (1991) condition rating scale is provided in Appendix D. Representative photos and mapping by 360 Environmental are available in Appendix E.
Climate and landform	The long-term mean minimum temperature for Leonora WA weather station ranges from 6.3˚C (July) to 22.0˚C (January) (1991 to 2021) and the long-term mean maximum temperature ranges from 18.8˚C (July) to 36.8˚C (January) (360 Environmental, 2021). The average annual rainfall for the application area is approximately 236.7 millimetres (360 Environmental, 2021).

Characteristic	Details
	The application is situated within the Eastern Murchison of the Murchison bioregion. The application area is mapped on two different landforms • Gundockerta System (279Gu) described as Extensive gently undulating plains generally with abundant stony mantles, and less extensive lower alluvial plains with narrow central zones receiving more concentrated run-on, relief usually less than 15 metres (DPIRD, 2019). • Rainbow System (279Rb) described as Hardpan plains supporting mulga tall shrublands (DPIRD, 2019).
Soil description	The soil within the application area is described as clay, loam and sand with a brown, orange colour (360 Environmental, 2021).
Land degradation risk	Gundockerta landform system maybe susceptible to wind erosion and water erosion, particularly in areas where perennial shrub cover is substantially reduced and/or soil surface is disturbed (DPIRD, 2019). The Rainbow land system is generally not susceptible to soil erosion however, impedance of sheet flow can initiate soil erosion (DPIRD, 2019).
Waterbodies	The application area is located within the Raeside-Ponton Salt Lake basin sub-catchment and within the Western plateau division. The desktop assessment and aerial imagery indicated that there are no watercourses or wetlands that intersect the application area. The survey by 360 Environmental (2021) identified a minor drainage line, located 130 metres south of the survey area.
Hydrogeography	The application area falls within the Goldfield Groundwater Area proclaimed under the RiWI Act (DWER-034). Applicant has no intention to abstract groundwater and therefore will not impact groundwater. The application area does not fall within surface water area proclaimed under the RiWI Act and does not fall within an area subject to the *Country Areas Water Supply Act 1917*, nor does it occur within a Public Drinking Water Source Area (DWER-033). Groundwater salinity level (Total Dissolved Solids) is mapped as 3000-7000 milligrams per litre (brackish to saline) (DWER-026).
Flora	During the desktop assessment, two conservation significant flora taxa have been recorded within the local area. Nearest record is 0.7 kilometres from the application area (*Acacia* sp. Marshall Pool (G. Cockerton 3024)) which is a priority three species, however, this record is mapped within a built road and may no longer be relevant. The targeted flora survey did not identify any threatened or priority species within the survey area (360 Environmental. 2021).
Ecological communities	No State or Commonwealth listed TECs or DBCA listed PECs were mapped within the application area. According to available databases, one PEC (Priority 1) occurs approximately 5.1 kilometres to the southwest of the application area (Melita calcrete groundwater assemblage type on Raeside palaeodrainage on Melita (Sons of Gwalia) station – Priority 1).
Fauna	During the desktop assessment, seven conservation significant fauna species were identified within the local area. All identified species were bird species including four migratory birds, one priority four bird and one other specially protected bird listed under the BC Act. No species of conservation significance or, evidence of these species were sighted within the survey area (360 Environmental, 2021). However, the application area is likely to be used by the identified species as a fly over, landing or hunt area.

B.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	% remaining	Current extent in all DBCA managed land (ha)	% current extent in all DBCA managed land (proportion of pre-European extent)
IBRA bioregion*					
Murchison	28,120,587	28,044,823	99.73	2,185,987.96	7.78
Vegetation complex*					
Laverton (vegetation association 18)	12,403,172	12,363,252	99.68	614,964.13	4.96
Laverton (vegetation association 28)	224,291.84	220,583.71	98.35	-	-
Local area					
20 kilometre radius from application area	127,557	126,158	98.90	-	-

*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 (360 Environmental, 2021), impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)
Acacia sp. Marshall Pool	P3	Y	Y	0.7	1
Angianthus prostratus	P3	N	N	16.1	1

P = Priority

B.4. Fauna analysis table

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

Species name	Common name	Conservation status	Distance (km)	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Comments
Actitis hypoleucos	Common Sandpiper	MI	10.20	N	10.20	7	Migratory Shorebird
Calidris acuminata	Sharp-tailed sandpiper	MI	10.20	N	10.20	1	Migratory Shorebird
Falco peregrinus	peregrine falcon	OS	1.46	Y	1.46	2	Raptor - Overfly

Species name	Common name	Conservation status	Distance (km)	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Comments
Pluvialis fulva	Pacific golden plover	MI	10.20	N	10.20	1	Migratory Shorebird
Thinornis rubricollis	Hooded plover, hooded dotterel	P4	11.84	N	11.84	1	Migratory Shorebird
Tringa glareola	Wood sandpiper	MI	0.65	N	0.65	2	Migratory Shorebird
Tringa nebularia	Common greenshank, greenshank	MI	10.20	N	10.20	7	Migratory Shorebird

OS = Other specially protected species; MI = Migratory; P = Priority

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 area proposed to be cleared does not contain locally significant flora and fauna habitat for species identified within the 20 kilometres radius of the application area. Two priority flora and one conservation significant ecological community have been recorded within the local area. The application area does not fall within a PEC nor does it fall within a TEC. Evidence of weeds were identified during the biological survey (360 Environmental, 2021).	Not likely to be at variance	Yes *Refer to Section 3.2.1, above.*
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 area proposed to be cleared does not contain foraging, roosting, breeding and significant habitat for conservation significant fauna identified through the desktop assessment. Six of the seven identified conservation significant fauna species within the local area are migratory shorebirds, and the peregrine falcon is a raptor overfly bird with a large home range. Considering the mobile nature of the fauna species identified, the proposed clearing is unlikely to impact conservation fauna species identified within the local area. The biological survey included a fauna assessment within the survey area and did not identify any species of conservation value and did not identify evidence (tracks, scats, nest, diggings, burrows, or direct sightings) of presence of conservation significant fauna species (360 Environmental, 2021).	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 flora species listed under the BC Act. No threatened flora taxa have been recorded within the local area or identified during the biological survey.	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 that indicate a TEC. No TECs were identified during the survey (360 Environmental, 2021).	Not 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 the mapped vegetation type and native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia (Commonwealth of Australia, 2021). The vegetation mapped within the application area and local area retain more than 98 per cent of the original vegetation cover.	Not at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.		
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: No conservation areas are mapped within the local area and given the distance to the nearest conservation area (over 20 kilometres), the proposed clearing is not likely to have an impact on the environmental values of any conservation areas.	Not likely to be at variance	No
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: Given no major water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality. A minor drainage line is located 130 metres to the south of survey area (360 Environmental, 2021). The proposed clearing will not involve clearing of riparian vegetation.	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 mapped soils are not susceptible to waterlogging, subsurface acidification, nutrient export and salinity (DPIRD, 2019). Given the large area of clearing, a risk of water and wind erosion remains. However, with managements practices that will be implemented by the applicant during construction and conditions imposed on the clearing permit, the proposed clearing is not likely to have an appreciable impact on land degradation.	May be at variance	Yes *Refer to Section 3.2.2, above.*
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: There are no rivers, surface water areas, wetlands or Public Drinking Water Sources Areas in the vicinity of the application area. The application area is located within the Goldfields Groundwater Area proclaimed under the RiWI Act 1914, and groundwater salinity is mapped at 3,000-7,000 milligrams per litre total dissolved salts. The absence of waterbodies, watercourses or drainage lines within the application area, or within the immediate vicinity of the application area, indicates that the proposed clearing is not likely to cause any deterioration in quality of surface or groundwater.	Not 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: Flooding intensity data is not available given the location of the proposed clearing. The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding. Given no water courses and wetlands are recorded within the application area, the proposed clearing is not likely to contribute to waterlogging.	Not 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 Environmental Protection Authority (EPA) technical guidance – Flora and Vegetation survey, which is a vegetation condition scale adapted by using the vegetation condition names and descriptions from Trudgen (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 / photographs of the vegetation (360 Environmental, 2021)

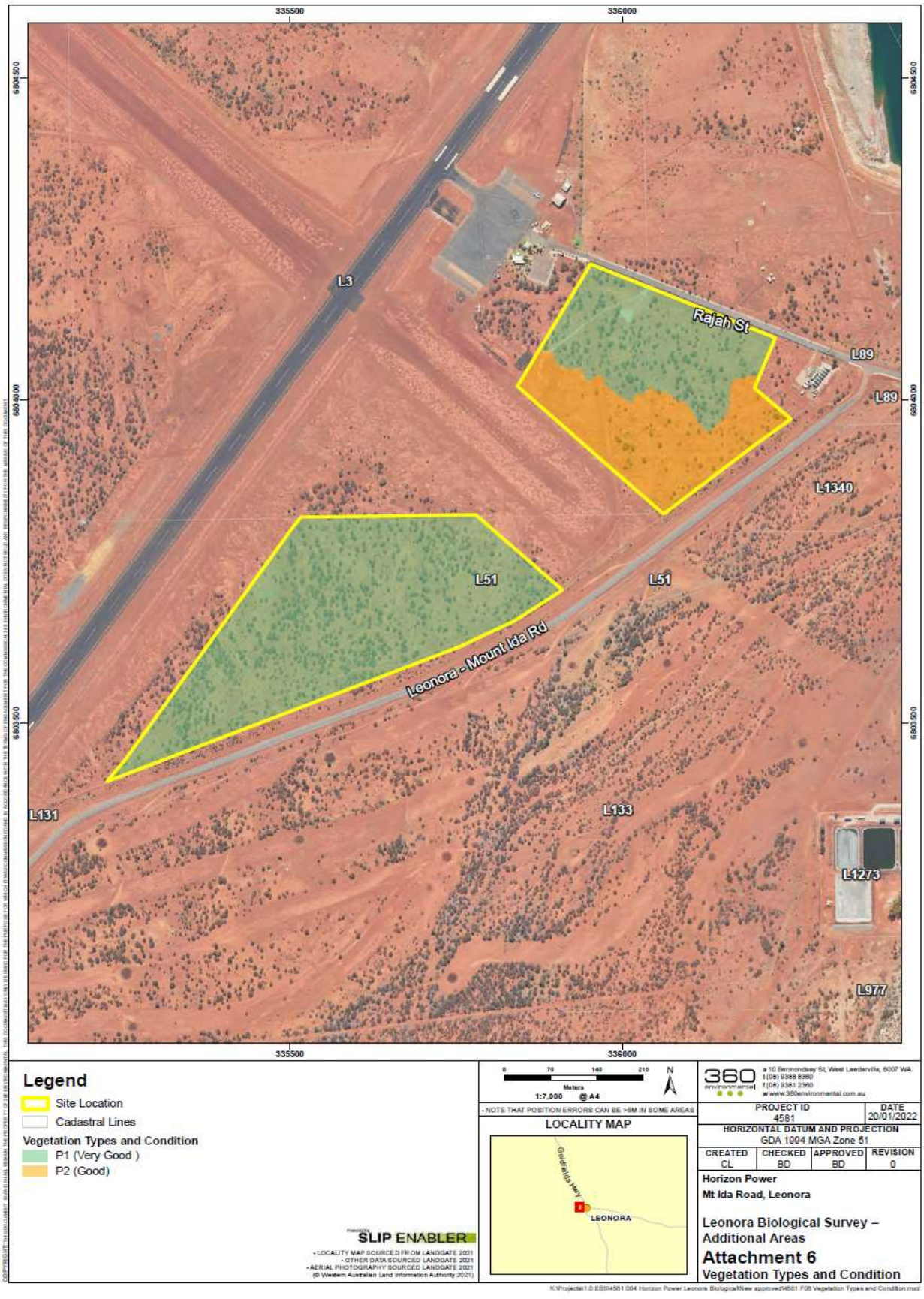

Figure 2: Vegetation condition (360 Environmental, 2021).

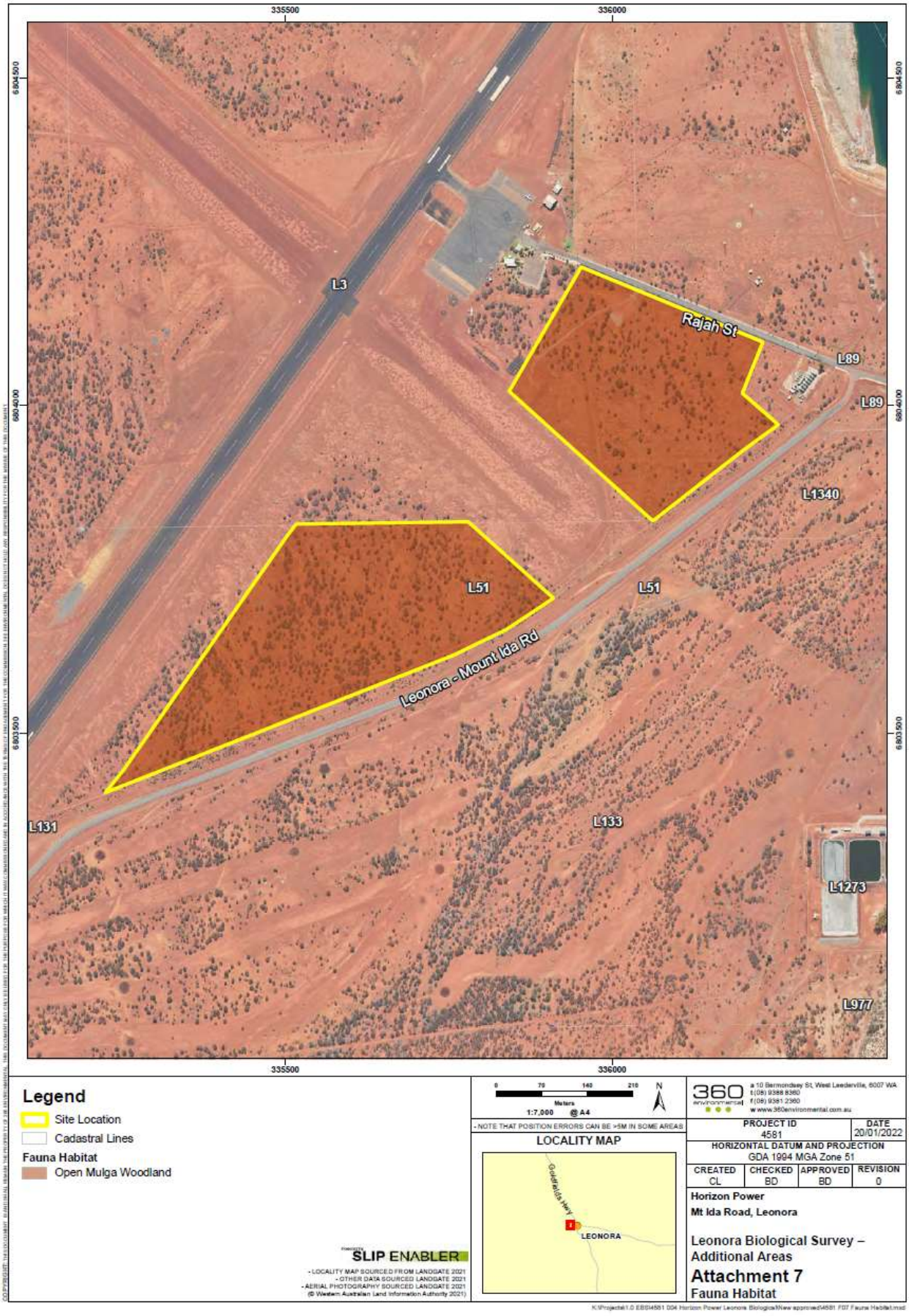

Figure 3: Vegetation Type (360 Environmental, 2021).

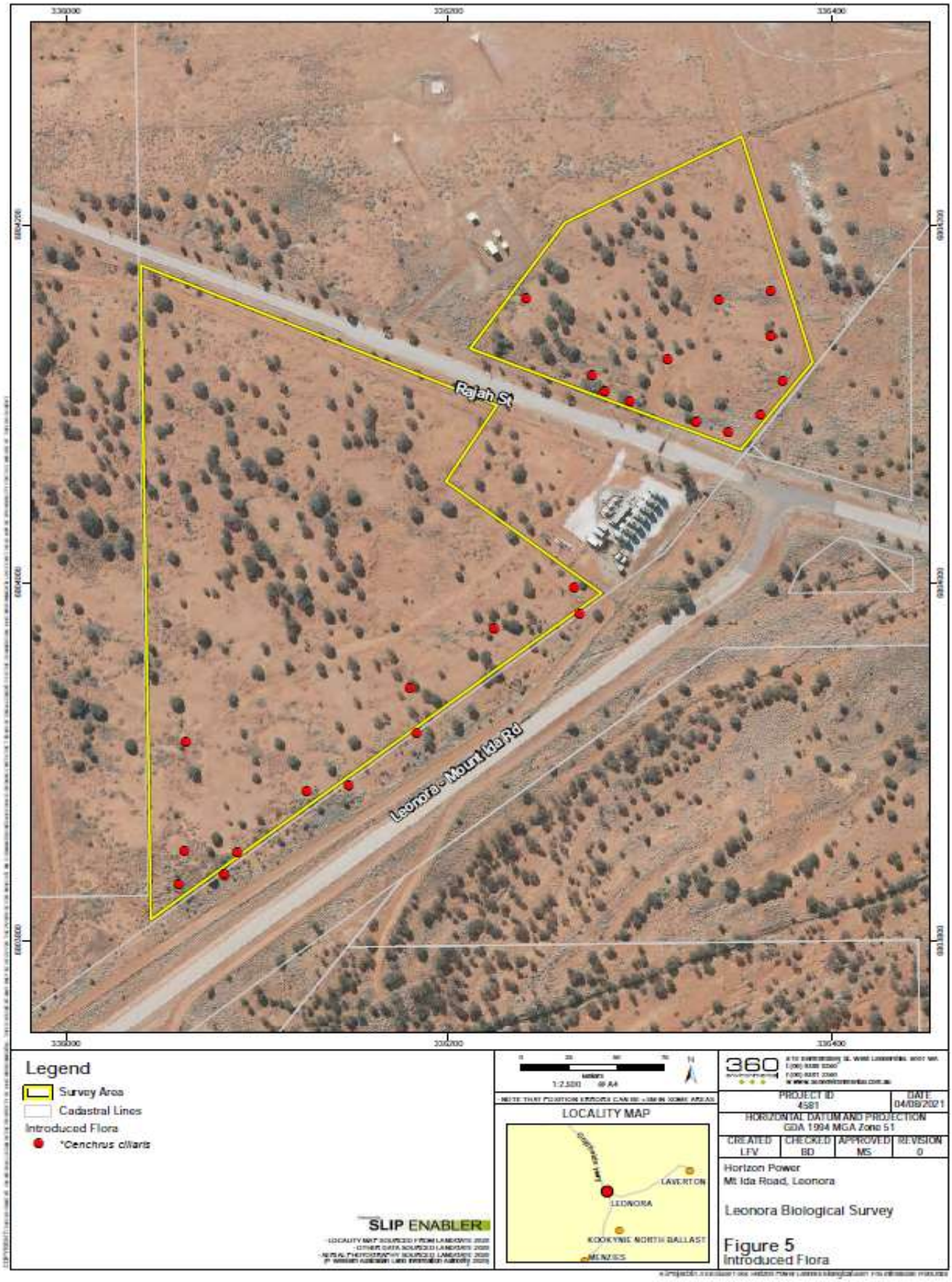

Figure 3: Location of *Cenchrus ciliaris within the original application area (Include some areas of the revised application area (360 Environmental, 2021)

Vegetation Type and Description	Vegetation Condition	Extent*	
		Area A	Area B
P1: *Acacia caesaneura* and *Acacia mulganeura* low woodland over *Eremophila forrestii* subsp. *forrestii* mid sparse shrubland over *Eragrostis eriopoda* low sparse tussock grassland	Very Good	4.7 ha	12.0 ha 100%
P2: Mixed *Acacia* spp. low open woodland over *Eragrostis eriopoda* low sparse tussock grassland	Good	4.4 ha	Absent

* Small discrepancies in vegetation types extent (i.e. not adding up to exact area extent of the Survey Areas) are due to rounding

Figure 4: Vegetation type and condition within survey area (360 Environmental, 2021).

Figures 5 and 6: Photograph of the application area

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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