



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9017/1
Permit Holder:	Regional Power Corporation T/A Horizon Power
Duration of Permit:	19 November 2020 – 19 November 2025

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

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of substation and underground power installation.

2. Land on which clearing is to be done

Unallocated Crown Land (PINs 694166 and 694161), Wickham and Cossack Lot 7901 on Deposited Plan 71098 (Crown Reserve R51015), Sherlock Point Samson-Roebourne Road reserve (PIN 1137935), Cossack

3. Area of Clearing

The Permit Holder must not clear more than 2.64 hectares of native vegetation within the area cross-hatched yellow on attached Plan 9017/1.

4. Application

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

5. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for the project activities described in condition 1 of this Permit to the extent the Permit Holder has the power to carry out works involving clearing for those project activities under the *Energy Operators (Powers) Act 1970* or other written laws.

PART II – MANAGEMENT CONDITIONS

6. Avoid, minimise and reduce the impacts and extent of clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

7. Weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:

- clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

PART III - RECORD KEEPING AND REPORTING

8. Record keeping

The Permit Holder must maintain the following records in relation to the clearing of native vegetation authorised under this Permit:

- (a) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
- (b) the date(s) that the area was cleared;
- (c) the size of the area cleared (in hectares);
- (d) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 6 of this Permit; and
- (e) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 7 of this Permit.

9. Reporting

The Permit Holder must produce the records required under condition 8 of this Permit when required by the *CEO*.

DEFINITIONS

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

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

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

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;

weed/s means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
- (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or
- (c) not indigenous to the area concerned.

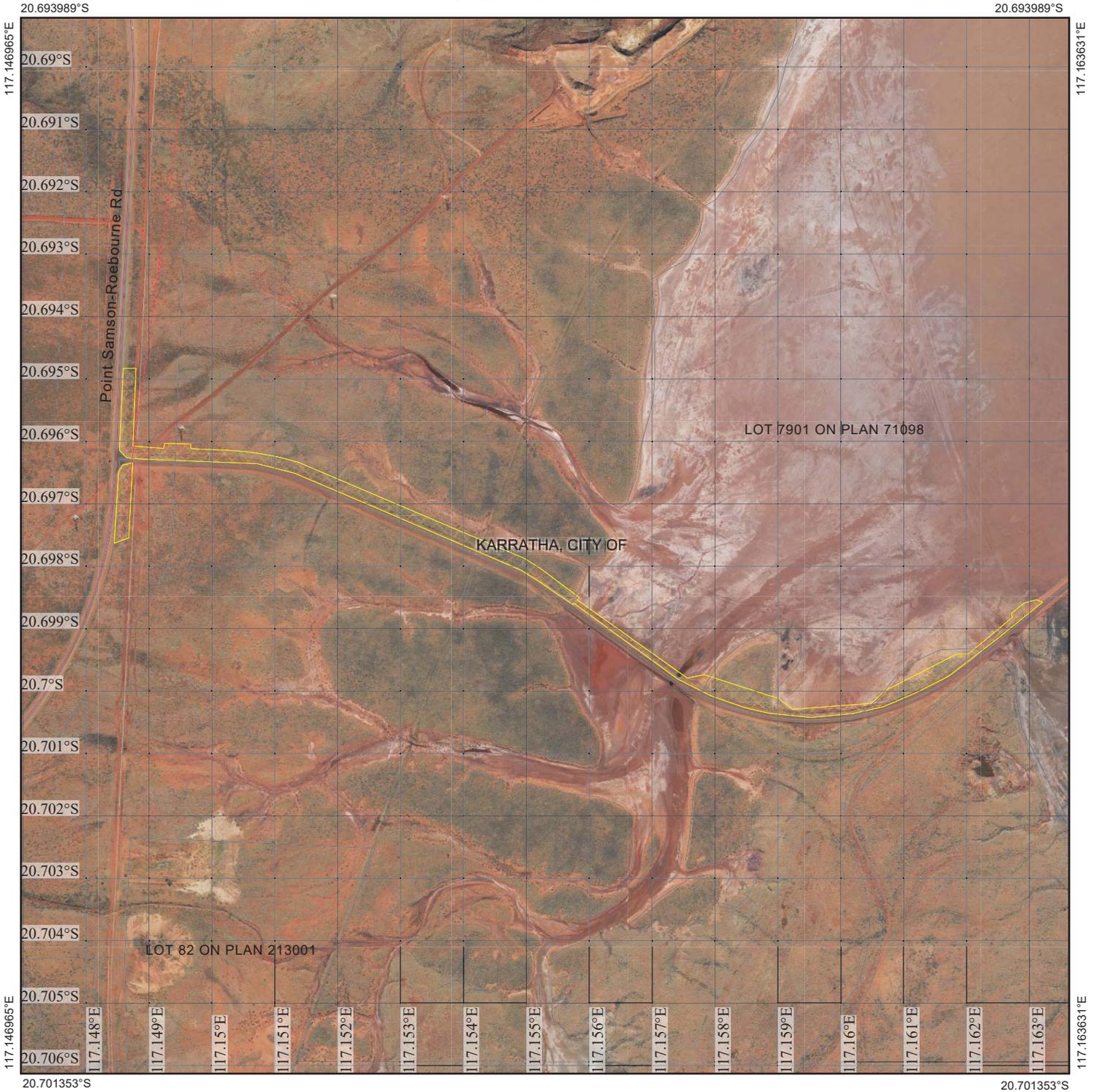


Meenu Vitarana
A/MANAGER
NATIVE VEGETATION REGULATION

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

26 October 2020

Plan 9017/1



Legend

-  Imagery
-  Clearing Instruments Activities
-  Local Government Authority



0 500m

1:9,196

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

Meenu Vitarana

2020.10.26 10:24:21

+08'00'

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986



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Clearing Permit Decision Report

1. Application details and outcome

1.1. Permit application details

Permit number:	CPS 9017/1
Permit type:	Purpose Permit
Applicant name:	Regional Power Corporation T/A Horizon Power
Application received:	18 August 2020
Application area:	2.64 hectare
Purpose of clearing:	Substation and underground power installation
Method of clearing:	Mechanical
Property:	Unallocated Crown Land (PINs 694166 and 694161), Lot 7901 on Deposited Plan 71098 (Crown Reserve R 51015) and Point Samson-Roebourne Road reserve (PIN 1137935), Cossack, Sherlock and Wickham

1.2. Description of clearing activities

The application area comprises a linear strip of native vegetation which spans around 1.7 kilometres (km) along Cossack Road and around 300 metres (m) along Point Samson-Roebourne Road.

The applicant notes that the works are required to restore power to a distribution feeder remotely, after it was damaged during Tropical Cyclone Damien. This works would also allow future remote power restorations without having to send personnel out to repair infrastructure during cyclonic conditions.

The underground cabling will require a 0.5 m trench for installation. A larger footprint area comprising 20 metres width has been applied for to allow for flexibility during installation and incidental damage from machinery, however it is expected that a much smaller area than 2.64 hectares would be cleared.

1.3. Decision on application and key considerations

Decision:	Granted
Decision date:	23 October 2020
Decision area:	2.64 hectares (ha) of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Water and Environmental Regulation (DWER) on 18 August 2020. DWER advertised the application for public comment and no submissions were received.

In undertaking their assessment, and in accordance with section 51O of the EP Act, the Delegated Officer has considered the Clearing Principles in Schedule 5 of the EP Act (see Appendix D), relevant planning instruments, and any other matters deemed relevant to the assessment (see Section 3 and 4).

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise the potential impacts of the proposed clearing (see section 3.1). The delegated officer also considered that the works are necessary to restore power to a damaged distribution feeder and allow the ongoing restoration of the feeder to occur remotely without having to send personnel out to repair during cyclone conditions.

In determining to grant a clearing permit subject to conditions, the Delegated Officer found that the proposed clearing is not likely to lead to an unacceptable risk to the environment.

1.5. Site map

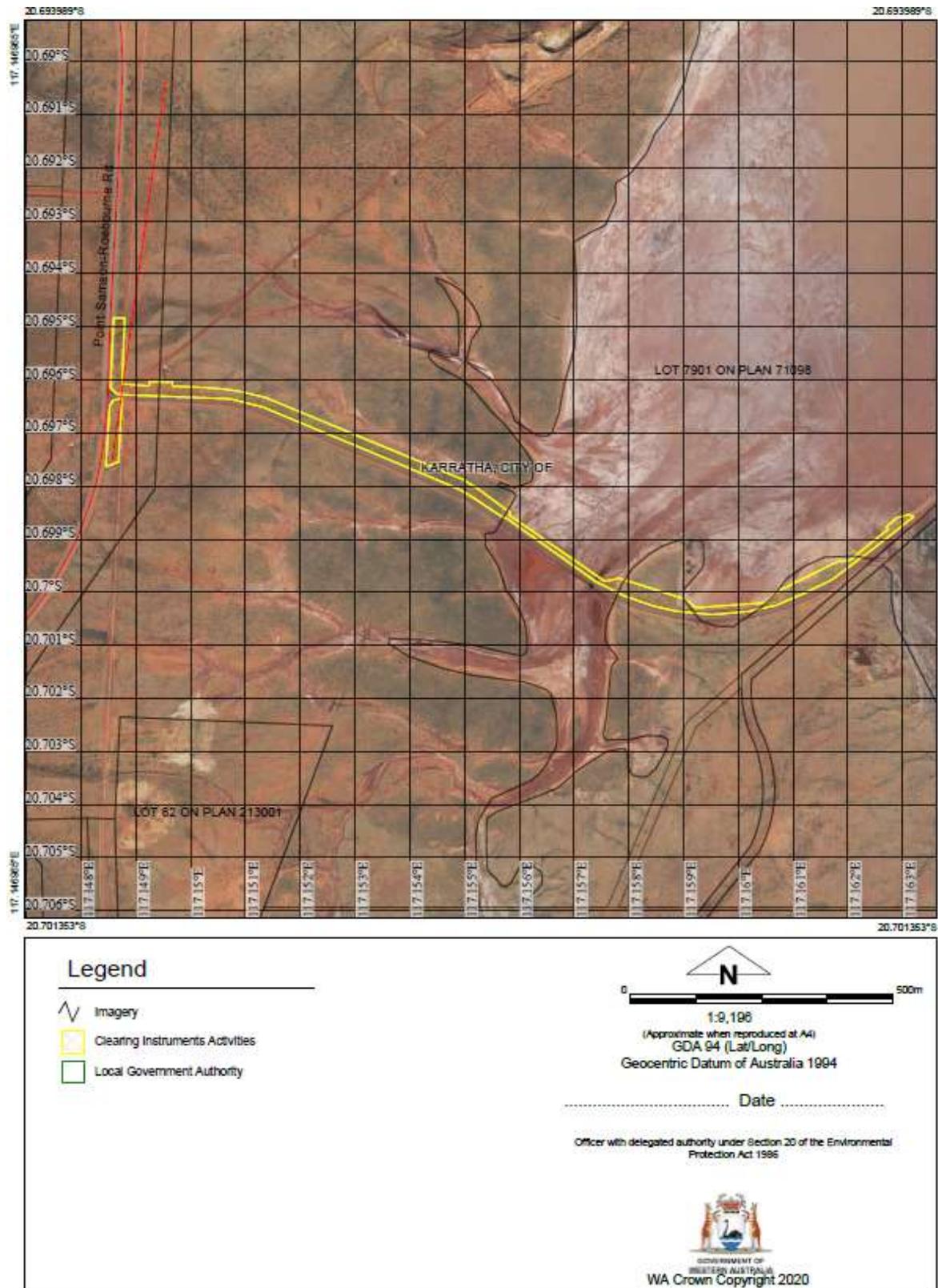


Figure 1. Map of the application area.

The area cross-hatched yellow indicates the area authorised to be cleared under the granted clearing permit.

2. Legislative context

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

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

1. the precautionary principle;
2. the principle of intergenerational equity;
3. the principle of the conservation of biological diversity and ecological integrity; and
4. the polluter pays principle

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant has advised that an alternative of installing an overhead line along Cossack Rd was discounted due to potential future cyclone issues, also noting that undergrounding power minimises vegetation clearing requirements for fire protection (Horizon Power, 2020a).

The applicant notes that the location of the underground line (adjacent to the road) has been stipulated by the City of Karratha as this area will become a future road reserve and contain other services. The applicant further notes that several sections of the proposed underground line are already cleared or disturbed given proximity to the existing Cossack Road. The applicant notes that vegetation will be allowed to regrow naturally if not maintained as a cleared area for future road requirements by the City of Karratha (Horizon Power, 2020a).

The applicant notes that horizontal boring will be utilised along the section of salt flats (approximately 540 metres in length) and would not require clearing. This section has been included in the clearing permit only as a contingency if horizontal boring cannot be used for any reason (Horizon Power, 2020a).

3.2. Assessment of environmental impacts

In assessing the application in accordance with section 51O of the EP Act, the Delegated Officer has examined the application and site characteristics (Appendix A) and considered whether the clearing poses a risk to environmental values. The assessment against the Clearing Principles is contained in Appendix B.

This assessment did not identify any matters likely to greatly impact on the area's environmental values. Therefore, the limited impact of the clearing is acceptable and no further detailed consideration of the environmental values is necessary.

3.3. Relevant planning instruments and other matters

The City of Karratha provided comment on the proposed clearing and advised that "the City supports works relating to the provision of power supply infrastructure that will enable and improve power supply to the townsite of Cossack. The City also supports the undergrounding of power at this location. Should the works be considered a 'public work' under the Public Works Act, the works would be exempt from requiring development approval. For clarification on this the Dept should consult with Horizon Power" (City of Karratha, 2020).

The applicant has advised that it is undertaking the works through the exercise of powers conferred by Sections 28 and 49 of the *Energy Operators (Powers) Act 1979* and as such it does not require landowner permission. The relevant parties will be notified of the works through a formal Notice of Entry (Horizon Power, 2020a).

In accordance with the Native Title Act 1993, the Ngarluma Corporation and Ngarluma and Wirlu-Murra Yindjibarndi native title claimants were invited to comment on the proposed clearing. To date no comments have been received.

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.

Appendix A – Site characteristics and analysis

The information provided below describes the key characteristics of the application area and is based on the best information available to DWER. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix B.

1. Site characteristics

Site characteristic	Details
Local context	<p>The 2.64ha application area comprises a linear strip of around 1.7km largely adjacent to Cossack Road, and a smaller linear portion of 300m adjacent to Point Samson-Roebourne Road, just outside of Wickham (see Figure 1, Section 1.5).</p> <p>Aerial imagery indicates the local area (50 km radius of the application area) retains around 90% of the original native vegetation cover (considering the coastal watermark).</p>
Vegetation description	<p>Based on broad scale pre-European vegetation mapping of Western Australia, the application area is covered by two vegetation associations (Shepherd et al. 2001):</p> <ul style="list-style-type: none"> • Beard Vegetation Association (BVA) 589 (Abydos Plain), described as short bunch-grass savanna / grass-steppe (65% of the application area); and • BVA 127, described as tidal mud flat (35% of the application area). <p>Photographs of the application area indicate that it is consistent with these mapped vegetation types.</p>
Vegetation condition	<p>Photographs supplied by the applicant indicate the vegetation within the application area is in a poor to very good (Trudgen, 1991) condition, described as:</p> <ul style="list-style-type: none"> • Poor - Still retains basic vegetation structure or ability to regenerate it after obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds; to • 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. <p>The applicant notes the vegetation has been subject to low levels of clearing mainly associated with the existing roads and access tracks (Horizon Power, 2020b). The vegetation in a poor condition appears limited to these areas. The remaining vegetation (majority) is in a very good condition with a moderate ground cover of native species in the area aligning with BVA 589 and a typically sparsely vegetated area associated with BVA 127.</p> <p>The full Trudgen condition rating scale is provided in Appendix C, below. Representative photos are available in Appendix D.</p>
Soil description	<p>The application area is mapped as three land systems:</p> <ul style="list-style-type: none"> • Cheerawarra Land System, described as sandy coastal plains and saline clay plains supporting soft and hard spinifex grasslands and minor tussock grasslands (70% of the application area). • Ruth Land System, described as hills and ridges of volcanic and other rocks supporting shrubby hard spinifex and occasionally soft spinifex grasslands (20% of the application area). • Littoral Land System, described as bare coastal mudflats, samphire flats, sandy islands, coastal dunes and beaches, supporting samphire low shrublands, sparse acacia shrublands and mangrove forests (10% of the application area).

Waterbodies	The Eastern (520m) portion of the application area is mapped as saline coastal flats subject to inundation. Aerial imagery indicates that these flats are sparsely vegetated. Two minor non-perennial watercourses occur 20m north and 50m south of the application area. Groundwater salinity within the application area is mapped as 1000-3000 milligrams per litre total dissolved solids (marginal to moderate).
Conservation areas	The closest conservation area is Murujuga National Park, located 37km west.
Climate and topography	The area experiences a semi-arid climate with a tropical savanna climate influence which experiences 400mm rainfall per annum with the majority occurring in late summer/early autumn. The application area occurs on a coastal plain with relatively flat low-lying topography.

2. Flora, fauna and ecosystem analysis

2(a) Threatened and Priority Flora

There are 18 priority flora species recorded within the local area. Eight of these species have been recorded on the same mapped landform as the application area, as shown below. It is considered that suitable habitat exists/may exist for three of these species. No threatened flora species have been recorded in the local area.

Table 1: Priority flora within the local area recorded on the same mapped soil type as the application area.

Species	Cons Code	Records in local area	Total number of known records and description	Closest record	Application area habitat suitability
<i>Gomphrena</i> sp. Martins Well (K.F. Kenneally 6116)	Priority (P)1	2	2 – both records 44km east	44km East	Potential
<i>Tephrosia rosea</i> var. Port Hedland (A.S. George 1114)	P1	11	36 - 380km east-west range with all records in the local area on the Wickham peninsula	5km North	No
<i>Abutilon</i> sp. Pritzelianum (S. van Leeuwen 5095)	P3	1	47 - majority of records 140km east, just south of Port Hedland	3km North	Yes
<i>Euphorbia stevenii</i>	P3	2	14 - 1,400km range, all records more than 40km south.	47km South	Yes
<i>Stackhousia clementii</i>	P3	2	21 - 1,300km range	40km West	No
<i>Terminalia supranitifolia</i>	P3	35	49 - majority of records on the Dampier peninsula	47km West	No
<i>Vigna triodiophila</i>	P3	1	16 - 200km range, majority of local area records on the Dampier Peninsula	15km West	No
<i>Rhynchosia bungarensis</i>	P4	34	81 - 600km range	40km West	No

Note: Threatened and priority status retrieved from Species Profile and Threats Database (Department of the Environment, 2020), and FloraBase (Western Australian Herbarium 1998-).

2(b) Conservation Significant Fauna

There are records of 56 fauna of conservation significance within the local area, excluding aquatic species. Of these, 46 are migratory bird species and the application area may provide suitable habitat for these species. A further 11 conservation significant mammal/reptile species have been recorded in the local area (shown in Table 2 below). The application area provides potentially suitable habitat for six of these species.

Table 2. Conservation Significant Fauna records within the local area.

Common Name	Scientific name	Status	Application area habitat suitability
Northern quoll	<i>Dasyurus hallucatus</i>	EN	Potential (foraging only)
Nevin's slider	<i>Lerista neviniae</i>	EN	No
Banded hare-wallaby	<i>Lagostrophus fasciatus fasciatus</i>	VU	No
Ghost bat	<i>Macroderma gigas</i>	VU	Potential (foraging only)
Pilbara olive python	<i>Liasis olivaceus barroni</i>	VU	Potential
North-western free-tailed bat	<i>Mormopterus cobourgiensis</i>	P1	No
Airlie Island ctenotus	<i>Ctenotus angusticeps</i>	P3	No
Water-rat	<i>Hydromys chrysogaster</i>	P4	Potential
Northern short-tailed mouse	<i>Leggadina lakedownensis</i>	P4	Potential
Western pebble-mound mouse	<i>Pseudomys chapmani</i>	P4	No
Lined soil-crevis skink	<i>Notoscincus butleri</i>	P4	Potential

2(c) Threatened and Priority Ecological Communities

Ecological Community	Distance of closest record to application area (kilometres)
Horseflat Land System of the Roebourne Plains (P3)	1.2km South
Stony Chenopod association of the Roebourne Plains area (P1)	5.7km South

The application area is not likely to be representative of the above PEC's.

Appendix B – Assessment against the Clearing Principles

Assessment against the Clearing Principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p>The application area provides suitable habitat for three priority flora species. Noting the distance and locality of the closest record of <i>Gomphrena</i> sp. Martins Well (K.F. Kenneally 6116) and <i>Euphorbia stevenii</i>, and linearity of the proposed clearing, these species are unlikely to occur. <i>Abutilon</i> sp. Pritzelianum (S. van Leeuwen 5095) is known from 47 records, of which only one occurs within the</p>	Not likely to be at variance	No

Assessment against the Clearing Principles	Variance level	Is further consideration required?
<p>local area, with most records 140km east, just south of Port Hedland. Noting this, the proposed clearing is unlikely to impact on this species.</p> <p>The application area is not representative of any known threatened or priority ecological communities and is not likely to contain significant fauna habitat.</p> <p>Given the above and noting the mapped vegetation types within the application area are common within the region, the application area is not likely to comprise a high level of biodiversity.</p>		
<p>Principle (b): <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p>Photographs of the application area do not show any significant fauna habitat features such as hills, rocky breakaways, or large trees (Horizon Power, 2020).</p> <p>The coastal saline flats may provide suitable foraging habitat for migratory bird species, however these flats are extensive, and the minimal extent of clearing via horizontal drilling within the periphery of the flat is unlikely to impact on significant habitat for migratory birds.</p> <p>The savanna shrubland within the application area many provide foraging habitat for the six conservation significant fauna species listed within table 2. While these species may be transient visitors, they are unlikely to rely on the application area, given the extent of similar habitat within the surrounding area further from Cossack Road.</p> <p>Given the above, the application area is not likely to provide significant habitat for fauna.</p>	Not likely to be at variance	No
<p>Principle (c): <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p>No threatened flora species have been recorded in the local area and the application area is unlikely to include any threatened flora species.</p>	Not likely to be at variance	No
<p>Principle (d): <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.”</i></p> <p>The application area is not considered to be representative of any threatened or priority ecological communities.</p>	Not likely to be at variance	No
Environmental values: significant remnant vegetation and conservation areas		
<p>Principle (e): <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p>The local area retains around 90% native vegetation and is not considered to be within an extensively cleared landscape. The application area does not contribute to landscape linkage values.</p> <p>The application area is not considered a significant remnant, noting it is unlikely to contain a high level of biological diversity and comprises a linear portion of vegetation adjacent to a road within an extensively vegetated landscape.</p>	Not likely to be at variance	No

Assessment against the Clearing Principles	Variance level	Is further consideration required?
<p>Principle (f): <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p>A portion of the application area occurs within an extensive coastal saline flat (subject to inundation) that may include (sparse) riparian samphire species. Horizontal drilling is proposed within this vegetation type which will limit clearing, however there may be some incidental clearing.</p> <p>Given the above, the proposed clearing may be at variance to this Principle. The proposed clearing is not likely to significantly impact on the greater extent of riparian vegetation in the local area, noting it comprises a small area within an extensive flat. Further, it is unlikely to significantly impact on the hydrological regime given the flat is largely bare.</p>	May be at variance	No
Environmental values: land and water resources		
<p>Principle (g): <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p>Noting the size and linearity of application area, and that the surrounding areas are extensively vegetated, the proposed clearing is unlikely to result in appreciable land degradation.</p>	Not likely to be at variance	No
<p>Principle (h): <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p>Murujuga National Park is the nearest conservation area, which occurs 37km west. The proposed clearing is not likely to impact on this conservation area.</p>	Not likely to be at variance	No
<p>Principle (i): <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p>The application area intersects a coastal saline flat and is within close proximity to two minor watercourses. Noting the extent of clearing proposed, it is not likely to impact on surface water quality within these areas. The proposed clearing is unlikely to result in a perceptible rise in groundwater salinity levels, given the application area is surrounded by extensive native vegetation.</p>	Not likely to be at variance	No
<p>Principle (j): <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p>Given the extent and linearity of clearing, it is unlikely to cause flooding.</p>	Not likely to be at variance	No

Appendix C – Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Measuring Vegetation Condition for the 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, 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 aggressive weed 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 D – Photographs of the vegetation



Photograph 1: Cossack road facing south west (SW). Lat: -20.698649° Long 117.163099°



Photograph 2: Cossack road facing SW. Lat -20.698719 Long 117.162897



Photograph 3: Cossack road facing SW. Lat: -20.698866, Long 117.162783. Installation via horizontal boring (no open trenching)



Photograph 4: Cossack road facing SW. Lat -20.698719 Long 117.162897. Installation via horizontal boring (no open trenching)



Photograph 5: Cossack road facing SW. Lat: -20.699486° Long 117.162091°



Photograph 6: Cossack road facing SW. Lat -20.699688 Long 117.161819



Photograph 7: Cossack road facing SW. Lat: -20.69939, Long 117.161402.



Photograph 8: Cossack road facing SW. Lat -20.700107 Long 117.161081.



Photograph 9: Cossack road facing SW. Lat: -20.700171° Long 117.160781. Installation via horizontal boring (no open trenching) across tidal flat.



Photograph 10: Cossack road facing west. Lat -20.700261 Long 117.160023. Installation via horizontal boring.



Photograph 11: Cossack road facing west. Lat: -20.700319, Long 117.159164. End of one horizontal boring section.



Photograph 12: Cossack road facing NW. Lat -20.699773 Long 117.15728. Installation via horizontal boring.



Photograph 13: Cossack road facing NW. Lat: -20.699326° Long 117.156930°. Installation via horizontal boring.



Photograph 14: Cossack road facing NW. Lat -20.698543° Long 117.155610°.



Figure 1-20. Photographs provided by the applicant (Horizon Power, 2020b).

Appendix E – References and databases

1. GIS datasets

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

- Contours (DPIRD-073)
- DBCA Legislated Lands and Waters (DBCA-011)
- Groundwater Salinity Statewide (DWER-026)
- IBRA Vegetation Statistics
- Soil and Landscape Mapping – Land Systems
- Hydrography, Linear
- Hydrography, Hierarchy

Restricted GIS Databases used:

- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

2. References

- City of Karratha (2020) Direct interest Comment for Clearing Permit Application CPS 9017/1. Received 16/10/2020. DWER Ref A1943502).
- Department of Water and Environmental Regulation (2019). *Native vegetation clearing permits Application, assessment, and management requirements under Part V Division 2 of the Environmental Protection Act 1986*. Department of Water and Environmental Regulation, Western Australia.
- Department of Water and Environmental Regulation (DWER) (2014). *A guide to the assessment of applications to clear native vegetation Under Part V Division 2 of the Environmental Protection Act 1986*. Department of Water and Environmental Regulation, Western Australia.
- Government of Western Australia. (2019). 2018 State-wide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Horizon Power (2020a) Clearing Permit Application. Cossack and Point Samson - Roebourne Road Undergrounding Project. Received by DWER 18 August 2020 (DWER Ref: A1924887).
- Horizon Power (2020b) Cossack and Point Samson - Roebourne Road Undergrounding Project – Native Vegetation Clearing Permit Application Supporting Document. Received by DWER 21 September 2020 (DWER Ref: A1942109).
- Payne and Schoknecht (2011) Land Systems of the Kimberley Region, Western Australian Technical Bulletin No. 98, Department of Agriculture and Food. Government of Western Australia, September 2011.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Trudgen, ME 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.
- Western Australian Herbarium (WAH) (1998-). FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <https://florabase.dpaw.wa.gov.au/> Accessed October 2020.