



# Burrup Common User Transmission Infrastructure

EPBC Referral Supporting Document

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**HORIZON**  
POWER

## Document control

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## 1. Introduction

Horizon Power is a Western Australian (WA) Government Trading Enterprise (GTE) and the state's regional and remote energy provider. Horizon Power operates under the *Electricity Corporations Act 2005* and is governed by a Board of Directors accountable to the Minister for Energy.

Horizon Power is proposing to expand the North West Interconnected System (NWIS) electricity network, by constructing an approximately 7 kilometre (km) long 132 kilovolt (kV) overhead transmission line between the Dampier substation and the Burrup Strategic Industrial Area (SIA) (the Proposed Action). The Burrup SIA is not currently connected via transmission infrastructure to the NWIS.

The Proposed Action will provide common user transmission infrastructure, owned and operated by Horizon Power. As a result, the Proposed Action will also provide opportunities for tenants on the Burrup to access the higher efficiency generation portfolio, including proposed renewable energy resources available on the NWIS. The Proposed Action is considered the first step to providing enabling infrastructure to the Burrup SIA to support the transition towards State and Federal Government emission reduction targets.

Horizon Power is referring the Proposed Action to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the *Environment Protection and Biodiversity Act 1999* (EPBC Act) due to potential impacts to a National Heritage Place and listed threatened species. The Proposed Action has not previously been referred to DCCEEW.

The purpose of this document is to provide additional information to support the decision on assessment of the Proposed Action. This document has been framed to align to the questions asked in the EPBC Business Portal's new EPBC referral form, where it is considered that additional information beyond the character limit was required to appropriately assess the Action.

## 2. EPBC Form Section 1.2.4: Stakeholder Consultation

Horizon Power has undertaken numerous stakeholder consultation activities to date, including consultation with key state and local government agencies, landowners, industries, businesses and the general community.

The consultation / activities undertaken to date, dates of the consultation, represented stakeholders and the proposed stakeholder consultation following the referral is provided below. This information relates to Section 1.2.1 of the EPBC Business Portal’s new EPBC referral form: ‘Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant.’

Horizon Power will conduct planned and regular meetings with stakeholders as required to ensure that information is shared and transferred effectively and appropriately.

The key stakeholders identified for the Proposed Action are provided in Table 1.

**Table 1** Key project stakeholders

Category	Stakeholders
Agencies acting on behalf of the Commonwealth	<ul style="list-style-type: none"> <li>Department of Climate Change, Energy, the Environment and Water (DCCEEW).</li> </ul>
State Government – Departmental Ministers	<ul style="list-style-type: none"> <li>Department of Premier and Cabinet (DPC); and</li> <li>Department of Planning Land Heritage on behalf of the DBNGP Land Access Minister</li> </ul>
State Government - Agencies	<ul style="list-style-type: none"> <li>Department of Planning, Lands and Heritage (DPLH);</li> <li>Main Roads Western Australia (MRWA);</li> <li>Water Corporation.</li> <li>Department of Jobs, Tourism, Science, and Innovation (JTSI); and</li> <li>Development WA (DevWA).</li> </ul>
Local Government	<ul style="list-style-type: none"> <li>City of Karratha.</li> </ul>
Traditional owners	<ul style="list-style-type: none"> <li>Ngarluma Aboriginal Corporation (NAC); and</li> <li>Murujuga Aboriginal Corporation (MAC).</li> </ul>
Corporate	<ul style="list-style-type: none"> <li>Woodside;</li> <li>Rio Tinto (covers Hamersley Iron);</li> <li>BHP Minerals;</li> <li>Yara Australia (Yara);</li> <li>Epic Energy (Pilbara Pipeline); and</li> <li>Australia Gas Infrastructure Group Dampier Bunbury Pipeline.</li> </ul>

The outcomes of the stakeholder consultation undertaken to date for the Proposed Action is provided in Table 2.

*Table 2 Stakeholder consultation register*

Stakeholder	Date	Type of consultation	Stakeholder comments/issue/topic raised	Stakeholder response
Murujuga Aboriginal Corporation (MAC)	August 2020 - present	In person meetings Emails Sharing of concept design information Aboriginal Heritage surveys	Introduction and updates to the proposed common user infrastructure transmission from Burrup to Maitland, including overviews of high, low and medium case transmission options.  Several face-to-face meetings with the CEO as well as email correspondence and supply of concept design drawings to inform them of the Proposed Action details.  Two Aboriginal Heritage surveys and Heritage monitoring during geotechnical investigation works.	Provision of archaeological and ethnographical Aboriginal Heritage reports including recommendations for Horizon Power on how to progress works.
Ngarluma Aboriginal Corporation (NAC)	August 2020 - present	In person meetings MS Teams meetings Emails Sharing of concept design information Aboriginal Heritage surveys	Introduction and updates to the proposed common user infrastructure transmission from Burrup to Maitland, including overviews of high, low and medium case transmission options.  Several face-to-face meetings with the CEO as well as email correspondence and supply of concept design drawings to inform them of the Proposed Action details.  Two Aboriginal Heritage surveys and Heritage monitoring during geotechnical investigation works.	Provision of archaeological and ethnographical Aboriginal Heritage reports including recommendations for Horizon Power on how to progress works.

Stakeholder	Date	Type of consultation	Stakeholder comments/issue/topic raised	Stakeholder response
JTSI	November 2020 - present	In person meetings MS Teams meetings Emails Sharing of concept design information	Introduction, updates, and strategy discussions related to the proposed common user infrastructure transmission from Burrup to Maitland, including overviews of high, low and medium case transmission options.  Focus discussions on preferred routes, land tenure and land access items.  Focus discussions on sizing of the transmission infrastructure and prospective proponents.	General in principle support for common user transmission infrastructure being provided to the Burrup SIA.
Rio Tinto (covers Hamersley Iron)	March 2021 - present	Emails Sharing of concept design information Notice of Entry letter General letter Pilbara Advisory Committee meetings	Introduction and updates to the proposed common user infrastructure transmission from Burrup to Maitland, including overviews of high, low and medium case transmission options.  Discussed overall projected, Geotech and Native Vegetation Clearing Permit (NVCP).  Focus discussions on 220 kV line crossings and rail crossing requirements.  Issued notice of entry letter for geotechnical investigations.  Focused discussions on all technical and regulatory impacts of the Proposed Action through structured Pilbara Advisory Committee meetings.	General in principle support for common user transmission infrastructure being provided to the Burrup SIA subject to no negative impacts being transposed to the NWIS.  Sharing of technical requirements for line crossings.  Formal responses in relation to Woodside Pilbara Network Rules change proposal – noting the rule change proposal relates to Woodside connection to the NWIS and more broadly connection to the infrastructure presented in this Proposed Action.
Yara	April 2021 - present	General Letter	Introduction and updates related to the proposed common user	General in principle support for common user transmission

Stakeholder	Date	Type of consultation	Stakeholder comments/issue/topic raised	Stakeholder response
		Meetings MS Teams meetings Email	infrastructure transmission from Burrup to Maitland, including overviews of high, low and medium case transmission options.	infrastructure being provided to the Burrup SIA.
Woodside	May 2021 - present	Emails Sharing of concept design information Notice of Entry letter General letter Pilbara Advisory Committee meetings Technical modelling	Introduction and updates to the proposed common user infrastructure transmission from Burrup to Maitland, including overviews of high, low and medium case transmission options.  Progressing of NWIS connection studies.	General in principle support for common user transmission infrastructure being provided to the Burrup SIA and Maitland SIA for connection of their Pluto LNG facility and proposed solar farm facility at to the NWIS.  Progressing of NWIS connection application process under the low case option.
Development WA	March 2022 - present	MS Teams meetings Emails Sharing of concept design information Notice of Entry letter General letter Online workshop	Introduction, updates, and strategy discussions related to the proposed common user infrastructure transmission from Burrup to Maitland, including overviews of high, low and medium case transmission options.  Focus discussions on optimising line routes to avoid impact to Aboriginal Heritage sites and coordinate with existing and proposed plans for developments.  Focus discussions on land tenure and land access items.  Participation in the Burrup to Maitland multi-user corridor assessment study	General in principle support for common user transmission infrastructure being provided to the Burrup SIA subject to infrastructure considering future developments.



Stakeholder	Date	Type of consultation	Stakeholder comments/issue/topic raised	Stakeholder response
			being performed by GHD for Development WA.	
Department of Premier and Cabinet (DPC)	February 2022	MS Teams meetings	Introduction, updates, and strategy discussions related to the proposed common user infrastructure transmission from Burrup to Maitland, including overviews of high, low and medium case transmission options.  Focus discussions on Maitland land tenure and access items.	General in principle support for common user transmission infrastructure being provided to the Burrup SIA.
Department of Land and Heritage	March 2022 - present	Meetings Email Notice of Entry letter	Focus discussions on land tenure and land access items for the proposed common user infrastructure transmission from Burrup to Maitland.	General in principle support for common user transmission infrastructure being provided to the Burrup SIA subject to minimising disturbance, working with existing infrastructure operators and ensuring all safety considerations are met.
Main Roads WA	January 2022 - present	Meetings MS Teams meetings Emails Sharing of concept design information	Introduction and updates to the proposed common user infrastructure transmission from Burrup to Maitland, including overviews of high, low and medium case transmission options.  Focus discussions on road crossings and coordination in Hearson Cove Road realignment.	General in principle support for common user transmission infrastructure being provided to the Burrup SIA subject to 20m high load route being achieved and coordination with Hearson Cove Road realignment being achieved.
Pilbara ISO	May 2022 - present	Meetings MS Teams meetings	Introduction and updates to the proposed common user infrastructure transmission from Burrup to Maitland.	General in principle support for common user transmission infrastructure being provided to the

Stakeholder	Date	Type of consultation	Stakeholder comments/issue/topic raised	Stakeholder response
		<p>Emails</p> <p>Sharing of concept design information</p> <p>Workshops</p>	Focus discussions on technical matters.	Burrup SIA subject to no negative impacts being transposed to the NWIS.
Epic Energy and BHP Minerals	August 2022	Notice of Entry letter	Notifying access required to progress investigation works.	None.
Karratha City	October 2022 - present	<p>Meetings</p> <p>Sharing of concept design information</p>	Introduction and updates to the proposed common user infrastructure transmission from Burrup to Maitland, including overviews of high, low and medium case transmission options.	General in principle support for common user transmission infrastructure to support renewables development on the NWIS.
Water Corporation	October 2022 - present	<p>Meetings</p> <p>MS Teams meetings</p> <p>Emails</p> <p>Sharing of concept design information</p>	Introduction and updates to the proposed common user infrastructure transmission from Burrup to Maitland, including overviews of high, low and medium case transmission options.	General in principle support for common user transmission infrastructure being provided to the Burrup SIA subject to safety considerations on adjacent water pipelines being properly considered and addressed.
Australia Gas Infrastructure Group	October 2022 - present	<p>Meetings</p> <p>Emails</p> <p>Sharing of concept design information</p>	Introduction and updates to the proposed common user infrastructure transmission from Burrup to Maitland, including overviews of high, low and medium case transmission options.	General in principle support for common user transmission infrastructure being provided to the Burrup SIA subject to safety considerations on adjacent gas pipelines being properly considered and addressed.
DWER	August 2022	MS Teams meeting	Pre-Referral Meeting Dampier to Burrup 132 kV Line.	Supportive of Horizon Power approach to submitting referral.

Stakeholder	Date	Type of consultation	Stakeholder comments/issue/topic raised	Stakeholder response
Community	Nov 2022	West Pilbara Community Information Session	Update on proposed common user transmission infrastructure from Maitland to Burrup and renewables on the NWIS.	General in principle support of increasing renewables on the NWIS.

### 3. EPBC Form Section 3.2.1: Flora and Fauna

Additional information relating to the significant fauna known or likely to occur within the Development Envelope (DE) and details of the fauna habitats within the DE is provided below. This information relates to Section 3.2.1 of the EPBC Business Portal’s new EPBC referral form: ‘Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.’

#### Significant Fauna

Desktop searches completed by GHD (2019) and GHD (2020b) identified the presence/potential presence of 52 significance fauna within a 20 km radius of the DE. This total does not include those species that are exclusively marine as no marine habitat is present within the DE.

The desktop searches recorded (GHD 2019 & 2020b):

- Nineteen species listed as Threatened under the EPBC Act
- Twenty-seven species listed as migratory under the EPBC Act.

No EPBC Act-listed Threatened fauna species were recorded within the DE during the GHD (2019 & 2022) surveys. The GHD (2020b) survey recorded the presence of one EPBC Act-listed significant fauna species within the DE:

- Whimbrel (*Numenius phaeopus*) – EPBC Act: Migratory and BC Act: Protected under International Agreement.

A likelihood of occurrence assessment (adapted from the GHD [2019 & 2020b] surveys) concluded that an additional twelve species have the potential to occur within the wider survey areas. These species are detailed in Table 3.

This likelihood of occurrence assessment was based on species biology, habitat requirements, the quality and availability of suitable habitat, and local occurrence. The remaining species identified during the desktop assessment were considered unlikely or highly unlikely to occur within the DE (GHD 2019 & 2020b).

**Table 3** Significant fauna species considered likely, or have the potential to occur within the DE

Fauna species	EPBC Act	BC Act/DBCA status	Likelihood of occurrence
Gull-billed Tern ( <i>Gelochelidon nilotica</i> )	Migratory	Protected under International Agreement	<b>Recorded</b> Species recorded within the wider GHD (2020b) survey area.
Caspian Tern ( <i>Hydroprogne caspia</i> )	Migratory	Protected under International Agreement	<b>Recorded</b> Species recorded within the wider GHD (2020b) survey area.
Crested Tern ( <i>Thalasseus bergii</i> )	Migratory	Protected under International Agreement	<b>Recorded</b> Species recorded within the wider GHD (2020b) survey area.

Fauna species	EPBC Act	BC Act/DBCA status	Likelihood of occurrence
Northern Quoll ( <i>Dasyurus hallucatus</i> )	Endangered	Endangered	<b>Likely</b> Species is known from the Burrup Peninsular and habitat is present.
Pilbara Olive Python ( <i>Liasis olivaceus barroni</i> )	Vulnerable	Vulnerable	<b>Likely</b> Resident/regular visitor, opportunistic use in/to the DE.
Bridled Tern ( <i>Onychoprion anaethetus</i> )	Migratory	Protected under International Agreement	<b>Likely</b> Regular visitor or resident to DE.
Wood Sandpiper ( <i>Tringa glareola</i> )	Migratory	Protected under International Agreement	<b>Likely</b> Seasonal visitor, opportunistic use in/to the DE.
Common Greenshank ( <i>Tringa nebularia</i> )	Migratory	Protected under International Agreement	<b>Likely</b> Seasonal visitor, opportunistic use in/to the DE.
Oriental Pratincole ( <i>Glareola maldivarum</i> )	Migratory	Protected under International Agreement	<b>Likely</b> Seasonal visitor, opportunistic use in/to the DE.
Oriental Plover ( <i>Charadrius veredus</i> )	Migratory	Protected under International Agreement	<b>Likely</b> Seasonal visitor, opportunistic use in/to the DE.
Common Sandpiper ( <i>Actitis hypoleucos</i> )	Migratory	Protected under International Agreement	<b>Likely</b> Seasonal visitor, opportunistic use in/to the DE.
Osprey ( <i>Pandion haliaetus</i> )	Migratory	Migratory	<b>Likely</b> This species is likely to fly over, and opportunistically utilise portions of the habitat.

### **Northern Quoll (*Dasyurus hallucatus*)**

The Northern Quoll was not recorded during the GHD (2019, 2020b & 2022) surveys, however, the species is known from the area in low numbers. Within the Pilbara the Northern Quoll is considered to be restricted to the larger conservation reserves and the Burrup Peninsula and is not considered common.

The preferred habitat for the species consists of the Hummock Grassland on Low Rocky Hills, Minor Drainage and the Rocky Hills with Exposed Boulder Piles habitat types. There is a total of 60.94 ha of suitable habitat for the Northern Quoll within the DE.

### ***Pilbara Olive Python (*Liasis olivaceus barroni*)***

The Pilbara Olive Python was not recorded during the GHD (2019, 2020b & 2022) surveys, however suitable habitat is present within the DE. The rocky hills with exposed boulder piles and associated minor drainage lines habitats would be regarded as important habitat for the species. The remainder of the habitat in the DE is supportive only and the Hummock Grassland on Rocky Plain habitat type is not considered habitat for Pilbara Olive Python.

There is 52.12 ha of important habitat for the Pilbara Olive Python within the DE and 7.65 ha of supporting habitat.

### ***Migratory birds***

One Migratory bird species, the Whimbrel (*Numenius phaeopus*), was recorded within the GHD (2020b) wider survey area, foraging in an intertidal drainage line outside of the DE. An additional eleven Migratory species have the potential to occur within the DE, due to the presence of suitable habitat.

Migratory species are likely to fly over the DE as they move between King Bay and Hearson Cove, with this flight path likely being a regular fly over for these species. Migratory species that have the potential to occur within the DE are unlikely to rely on the habitats available. There is 7.88 ha of suitable habitat for Migratory birds within the DE, comprising the Mudflat with Tidal Inundation, Mangroves and Supportive Scattered Samphire habitat type.

### ***Fauna habitats***

Five fauna habitat types (not including cleared and disturbed areas), totaling 78.26 ha were recorded within the DE (GHD 2019, 2020a, b & 2022). These fauna habitats align with the vegetation types within the DE, and are associated with the rocky hills, grasslands, drainage lines and mudflats that are present. A summary of the fauna habitat types present within the DE are detailed in Table 4 and shown on 'Att2, Fig 9'. Disturbed areas cover 0.78 ha of the DE and are considered to be of minimal value to fauna. The remaining 6.57 ha within the DE is cleared and is not considered to provide habitat for fauna species.

Construction of the Proposed Action will permanently clear up to 11.50 ha, and will temporarily clear up to 2.90 ha, of vegetation that is considered to be fauna habitat.

The habitats within the DE have moderate to high habitat value within the environment. Overall, the habitats contain a diversity of fauna, and all provide habitat for significant fauna species that are present or likely to be present in the local area.

Table 4 Fauna habitats recorded within the DE

Fauna habitat types	Fauna habitat value	Extent within the DE (ha)
<p><b>Hummock Grassland on Rocky Plain</b></p> <p>This habitat type is mostly dominated by a <i>Triodia</i> hummock grassland with heavy loam stony soils. The vegetation is a mosaic of shrubs however is dominated by <i>Acacia</i>, <i>Hakea</i> and <i>Grevillia</i> over hummock grasses. Litter, woody debris and branches were present in areas where shrubs were present. No logs or hollows were observed due to the vegetation structure present.</p>	<p><b>Moderate to High value</b></p> <p>Habitat that typically supports high diversity of small vertebrate fauna and provides foraging habitat to Peregrine Falcon. The Northern Short-tailed Mouse and Lined Crevice Skink may also utilise this habitat.</p>	<p>9.44 ha</p>
<p><b>Hummock Grassland on Low Rocky Hills</b></p> <p>This habitat type is mostly dominated by a <i>Triodia</i> hummock grassland however does support tussock grasses and scattered <i>Acacia</i> shrubs. The crests of the low hills contain rocky substrates but lacks the extensive boulder piles in the surrounding taller hills. Limited litter and woody debris is present and no logs, branches or hollows are available.</p>	<p><b>Moderate to High value</b></p> <p>Supportive habitat for species foraging and dispersal particularly the Northern Quoll and Pilbara Olive Python.</p>	<p>10.82 ha</p>
<p><b>Minor Drainage</b></p> <p>Limited to the linear drainage systems which flow randomly amongst the rocky hills or on the plains. They primarily consist of a thin, linear corridor of denser vegetation which drain into the intertidal mudflats and coastline. This habitat type is mostly dominated by <i>Eucalypt</i> Woodland. Understorey includes <i>Triodia</i> hummock grassland and Buffel Grass (<i>Cenchrus</i> spp.) and mixed small shrub species.</p>	<p><b>High value</b></p> <p>Linear corridor of habitat utilised by Northern Quoll, Pilbara Olive Python, Peregrine Falcon, Northern Short-tailed Mouse and Lined Crevice Skink on the plain. A fauna corridor for all other species on the plain.</p>	<p>6.53 ha</p>
<p><b>Mudflat with Tidal Inundation, Mangroves and Supportive Scattered Samphire</b></p> <p>Vegetation is minimal except where the mudflats fringe mangroves and samphire. Areas become inundated with water during high tides and retracts to several small pools and a minor drainage line during the low period.</p>	<p><b>High value</b></p> <p>Provides habitat for migratory birds, North-western Free-tailed Bat and Peregrine Falcon</p>	<p>7.88 ha</p>

Fauna habitat types	Fauna habitat value	Extent within the DE (ha)
<p><b>Rocky Hills with Exposed Boulder Piles</b></p> <p>This habitat type is mostly dominated by a <i>Triodia</i> hummock grassland however does support tussock grasses and scattered <i>Acacia</i> shrubs. The boulder rock piles are typically devoid of ground cover. The <i>Ficus</i>, <i>Brachychiton</i> and <i>Acacia</i> provided litter and scattered woody debris, however the boulder piles provide extensive cover via crevices, small caves and cavities.</p>	<p><b>High value</b></p> <ul style="list-style-type: none"> <li>• Core habitat for Northern Quoll and Pilbara Olive Python</li> <li>• Foraging habitat for the Peregrine Falcon</li> </ul>	<p>43.59 ha</p>
<b>Total</b>		<b>78.26 ha</b>



## 4. EPBC Form Section 3.2.2: Vegetation

Details of the Vegetation Associations and Land Systems within the DE are provided below. In addition, a summary of the vegetation types present within the DE is also provided. This information relates to Section 3.2.2 of the EPBC Business Portal’s new EPBC referral form: ‘Describe the vegetation (including the status of native vegetation and soil) within the project area.’

### *Vegetation Associations and Land Systems*

Broadscale (1:250,000) pre-European vegetation mapping (Beard, 1979) indicates that the DE intersects one Vegetation Association (VA 117) (Table 5). VA 117 is well retained above the Commonwealth and State Government targets of 30% of pre-European extent, which reflects the limited agricultural and urban development of the Pilbara Bioregion.

Regional vegetation is also interpreted in terms of land systems, which define the topographic, soil and drainage characteristics that influence vegetation communities. The Pilbara region has been surveyed for the purposes of land classification, mapping and resource evaluation. One hundred and two land systems which are grouped into 20 broad land types have been described for the region, which are distinguished on the basis of topography, geology, soils and vegetation (van Vreeswyk et al. 2004). The DE intersects two land systems (Granitic and Littoral) (Table 5).

**Table 5** *Vegetation Associations and land systems within the DE*

Vegetation Association/land system	Description	Pre-European extent	Current Extent (ha)	% Remaining
Vegetation Association 117	Hummock grasslands, grass steppe; soft spinifex	919,517.05	886,005.79	96.36
Granitic land system	Rugged granitic hills supporting shrubby hard and soft spinifex grasslands.  <u>Geology:</u> Archaean and Proterozoic granite, gneiss, granodiorite and porphyry.  <u>Geomorphology:</u> Erosional surfaces; hill tracts and domes on granitic rocks with rough crests, associated rocky hill slopes, restricted lower stony plains; narrow, widely spaced tributary drainage floors and channels.	408,456.36	407,221.69	99.70%
Littoral land system	Bare coastal mudflats with mangroves on seaward fringes, samphire flats, sandy islands, coastal dunes and beaches.  <u>Geology:</u> Quaternary mudflat deposits, clay, salt and sand; eolian sand.  <u>Geomorphology:</u> Depositional surfaces; saline coastal flats; estuarine and littoral surfaces with extensive bare saline tidal	393,122.85	355,232.73	90.39%

Vegetation Association/land system	Description	Pre-European extent	Current Extent (ha)	% Remaining
	flats subject to infrequent tidal inundation, slightly higher samphire flats and alluvial plains, mangrove seaward fringes with dense branching patterns of shallow tidal creeks, minor coastal dunes, limestone ridges, sandy plains and beaches.			

### Vegetation types

Thirteen vegetation types (VTs) representing native vegetation, totalling 79.04 ha, were mapped within the DE (VLA 2019, GHD 2019, 2020a & 2022). A total of 6.57 ha of the DE is cleared, with these areas containing roads (and associated infrastructure), tracks and areas cleared for farming (VLA 2019, GHD 2019, 2020a & 2022). The vegetation within the DE is dominated by hummock grasslands of *Triodia epactia* and *T. wiseana* with scattered to open shrublands dominated by *Acacia*, *Hakea*, *Grevillea* and *Senna* species on rocky sandy loam plains and low undulating rocky rises and slopes. Construction of the Proposed Action will permanently clear no more than 11.50 ha of native vegetation and will temporarily clear no more than 2.90 ha of native vegetation.

The surveys (VLA 2019, GHD 2019, 2020a & 2022) also recorded vegetation condition across the DE. The DE comprises 79.04 ha native vegetation, of which 0.57 ha (0.7%) is in Excellent condition, 53.17 ha (67.3%) is in Very Good condition and 21.55 ha (27.3%) is in Good condition (VLA 2019, GHD 2019, 2020a & 2022). The remaining 3.75 ha (4.7%) is in Degraded or worse condition (VLA 2019, GHD 2019, 2020a & 2022). GHD (2020a) noted that previously cleared and disturbed areas, adjacent roads and access tracks, created areas of Completely Degraded to Poor condition. Areas of Excellent condition vegetation were found in areas which were completely undisturbed (i.e. no access tracks, existing power lines or exploration).

Fire history did not have a significant impact on the structure and condition of vegetation within the DE, as the majority of the vegetation was long unburnt (6 years or longer) or of moderate age (3 to 5 years) (GHD 2020a).

A summary of the VTs, along with vegetation condition, within the DE is presented in Table 6. The distribution of VTs within the DE is shown on 'Att 1, Fig 4', and vegetation condition on 'Att 1, Fig 5'.

**Table 6** Mapped vegetation types within the Burrup DE

Vegetation type	Vegetation description	Vegetation Extent (ha) within DE	Condition	Condition Extent (ha) within DE
AbCc	<i>Acacia bivenosa</i> tall open to shrubland over * <i>Cenchrus ciliaris</i> tussock grassland, sometimes closed tussock grassland, with patchy <i>Triodia angusta</i> .	0.02 ha	Degraded	0.02 ha

Vegetation type	Vegetation description	Vegetation Extent (ha) within DE	Condition	Condition Extent (ha) within DE
AbImTe	<i>Acacia bivenosa</i> , <i>Acacia pyrifolia</i> subsp <i>morrisonii</i> , <i>Grevillea pyramidalis</i> open shrubland over <i>Indigofera monophylla</i> , <i>Corchorus walcottii</i> open low shrubland over <i>Triodia epactia</i> hummock grassland with patchy * <i>Cenchrus ciliaris</i> tussock grassland.	0.02 ha	Good	0.02 ha
EvAbTa	<i>Eucalyptus victrix</i> open to scattered low woodland with scattered <i>Corymbia hamersleyana</i> over <i>Acacia bivenosa</i> tall open shrubland over <i>Adriana tomentosa</i> / <i>Indigofera monophylla</i> open low shrubland over <i>Triodia angusta</i> / <i>T. epactia</i> open to hummock grassland.	0.02 ha	Very Good	0.02 ha
GpCc	<i>Grevillea pyramidalis</i> (regenerating) scattered to open tall shrubland over * <i>Cenchrus ciliaris</i> tussock and <i>Triodia epactia</i> hummock grassland	0.02 ha	Poor	0.02 ha
GpTeBaTs	<i>Grevillea pyramidalis</i> scattered to open tall shrubland, sometimes with scattered <i>Hakea lorea</i> subsp <i>lorea</i> , <i>Ipomoea costata</i> , <i>Acacia inaequilatera</i> over <i>Triodia epactia</i> hummock grassland, sometimes patchy <i>T. angusta</i> . There can be open low <i>Indigofera monophylla</i> shrubland.	0.34 ha	Excellent	0.33 ha
			Very Good	0.01 ha
TslcTe	<i>Terminalia supranitifolia</i> low open woodland over <i>Ipomoea costata</i> , <i>Acacia coriacea</i> , <i>Dichrostachys spicata</i> , <i>Grevillea pyramidalis</i> mixed shrubland over scattered to open <i>Triodia epactia</i> hummock grass sometimes <i>Themeda triandra</i> . Scattered <i>Brachychiton acuminatus</i>	0.01 ha	Excellent	0.01 ha
Tspp	<i>Tecticornia halocnemoides</i> subsp <i>tenuis</i> , <i>T. pruinosa</i> , <i>T. indica</i> subsp <i>leiostachya</i> , with <i>Muellerolimon salicorniaceum</i> open low shrubland with patchy <i>Avicennia marina</i> trees.	0.23 ha	Excellent	0.23 ha
VT01	<i>Brachychiton acuminatus</i> scattered low trees over <i>Grevillea pyramidalis</i> subsp. <i>pyramidalis</i> , <i>Terminalia supranitifolia</i> (P3) and <i>Flueggea virosa</i> subsp. <i>Melanthesoides</i> scattered shrubs over <i>Triodia epactia</i> open hummock grassland over <i>Cymbopogon ambiguus</i> and * <i>Cenchrus ciliaris</i> open tussock grassland and <i>Tinospora smilacina</i> and <i>Ipomoea costata</i> open vineland on rock piles.	1.73 ha	Very Good	1.47 ha
			Good	0.26 ha

Vegetation type	Vegetation description	Vegetation Extent (ha) within DE	Condition	Condition Extent (ha) within DE
VT02	<i>Corymbia hamersleyana</i> open woodland over <i>Acacia bivenosa</i> , <i>Grevillea pyramidalis</i> subsp. <i>Pyramidalis</i> and <i>Hakea lorea</i> subsp. <i>Lorea</i> scattered shrubs over <i>Triodia epactia</i> open hummock grassland with * <i>Cenchrus ciliaris</i> scattered grass over over <i>Hybanthus aurantiacus</i> , <i>Cleome viscosa</i> and <i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i> open forbland on brown sandy loam on elevated rocky plain.	2.39 ha	Very Good	2.00 ha
			Good	0.19 ha
			Poor	0.20 ha
VT03	<i>Eucalyptus victrix</i> open woodland over <i>Terminalia circumalata</i> low open woodland over <i>Triodia wiseana</i> open hummock grassland with * <i>Cenchrus ciliaris</i> and <i>Eriachne benthamii</i> scattered tussock grasslands over <i>Hybanthus aurantiacus</i> , <i>Indigofera trita</i> and <i>Gossypium austral</i> scattered herbs on rocky sandy loam on minor drainage lines.	6.56 ha	Very Good	5.60 ha
			Good	0.96 ha
VT04	<i>Tecticornia indica</i> subsp. <i>Leiostachya</i> and <i>Tecticornia pterygosperma</i> low chenopod shrubland with scattered <i>Avicennia marina</i> on saline flats with tidal inundation.	5.56 ha	Very Good	4.77 ha
			Good	0.79 ha
VT05	* <i>Cenchrus ciliaris</i> open grassland over <i>Trianthema turgidifolia</i> and <i>Neobassia astrocarpa</i> open chenopod shrubland on disturbed edges of saline flats.	3.27 ha	Very Good	0.30 ha
			Good	2.06 ha
			Poor	0.91 ha
VT06	<i>Grevillea pyramidalis</i> subsp. <i>Pyramidalis</i> and * <i>Vachellia farnesiana</i> scattered shrubs over <i>Ipomoea costata</i> , <i>Indigofera monophylla</i> and <i>Scaevola spinescens</i> open shrubland over <i>Triodia epactia</i> open hummock grassland over <i>Cleome viscosa</i> , <i>Rhynchosia minima</i> and <i>Hybanthus aurantiacus</i> scattered herbs on red/brown sandy loam on rocky slopes with frequent basalt outcropping.	58.87 ha	Very Good	39.0 ha
			Good	17.30 ha
			Poor	2.27 ha
			Completely Degraded	0.30 ha
<b>Total native vegetation</b>		<b>79.04 ha</b>		
<b>Cleared</b>		<b>6.57 ha</b>		
<b>Total</b>		<b>85.61 ha</b>		

## 5. EPBC Form Section 4.1.3: National Heritage Place Impacts

A full assessment of the significance of potential impacts resulting from the Proposed Action to the National Heritage Place, Dampier Archipelago (including Burrup Peninsula), is provided below. This information relates to Section 4.1.4.1 of the EPBC Business Portal's new EPBC referral form: *'Describe why you do not consider this to be a Significant Impact.'*

The below table (Table 7) provides an assessment of the significance of potential impacts (arising from the Proposed Action) to the National Heritage, based on the criteria in *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance* (DotE 2013).

**Table 7** *Assessment against Significant Impact Guidelines 1.1 for National Heritage*

Significant Impact Criteria	Assessment	Significance
One or more of the National Heritage values to be lost	<p>The Proposed Action is not expected to result in the loss of one or more of the National Heritage values of the Dampier Archipelago.</p> <p>The Dampier Archipelago, located on the Indian Ocean coast of the west Pilbara in WA, is recognised for its unique natural and Aboriginal heritage. The Archipelago formed 6-8,000 years ago comprises a system of islands, rocky reefs, coral reefs, shoals, channels and straits covering approximately 400 km<sup>2</sup>. The underlying rocks are amongst the oldest on earth, formed in the Archaean period more than 2,400 million years ago (DCCEEW 2022a).</p> <p>There is no planned direct disturbance to any heritage features within the National Heritage Place during construction or operation of the Proposed Action, therefore the Proposed Action is not expected to cause loss of any National Heritage values within the National Heritage Place. In addition, the potential for unplanned indirect impacts will be managed through the implementation of a Cultural Heritage Management Plan and Construction Environmental Management Plan (CEMP), and are not predicted to cause loss of National Heritage values within the National Heritage Place.</p>	Unlikely to be significant
One or more of the National Heritage values to be degraded or damaged	<p>The Proposed Action is not expected to result one or more of the National Heritage values of the Dampier Archipelago being damaged or degraded.</p> <p>There is no planned direct disturbance to any heritage features within the National Heritage Place during construction or operation of the Proposed Action, therefore the Proposed Action is not expected to cause loss of any National Heritage values within the National Heritage Place. In addition, the potential for unplanned indirect impacts will be managed through the implementation of a Cultural Heritage Management Plan and Construction Environmental Management Plan (CEMP), and are not predicted to cause loss of National Heritage values within the National Heritage Place.</p> <p>Indirect impacts to the National Heritage Place will be managed via the CEMP, including measures for vibration and dust.</p>	Not significant
One or more of the National Heritage values to be notably altered, modified, obscured or diminished	<p>The Proposed Action is not expected to result in one or more of the National Heritage values of the Dampier Archipelago notably altered, modified, obscured or diminished, as:</p> <ul style="list-style-type: none"> <li>• Consultation has and will continue to undertaken, including with local Indigenous groups, to design and construct the Proposed Action to ensure there is no alteration, modification, obscurement of diminishment of values of the National Heritage Place.</li> </ul>	Not significant

Significant Impact Criteria	Assessment	Significance
	<ul style="list-style-type: none"> <li>• Installation of the Proposed Action, consistent with existing infrastructure in the region, may potentially lead to a visual impact within the National Heritage Place but would not directly alter, modify, obscure or diminish any article that contributes to the values of the National Heritage Place.</li> <li>• A review of alternatives to above ground transmission infrastructure identified that undergrounding transmission infrastructure would have a greater impact to the National Heritage Place.</li> <li>• Infrastructure proposed near the National Heritage Place will not restrict access to heritage values for Traditional Owners, researchers or other stakeholders.</li> <li>• Indirect impacts to the National Heritage Place will be managed via the CEMP, including measures for vibration and dust.</li> </ul>	

## 6. EPBC Form Section 4.1.4.2: Endangered Communities and Species

A full assessment of the significance of potential impacts resulting from the Proposed Action to the Northern Quoll and Pilbara Olive Python is provided below. This information relates to Section 4.1.4.2 of the EPBC Business Portal's new EPBC referral form: '*Describe why you do not consider this to be a Significant Impact.*'

### *Northern Quoll*

The below table (Table 8) provides an assessment of the significance of potential impacts (arising from the Proposed Action) to the Northern Quoll, based on the criteria in *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance* (DotE 2013).



**Table 8** *Assessment against Significant Impact Guidelines 1.1 for the Northern Quoll*

Significant Impact Criteria	Assessment	Significance
Lead to a long-term decrease in the size of a population	<p>The Proposed Action is unlikely to lead to a long-term decrease in the size of a Northern Quoll population as:</p> <ul style="list-style-type: none"> <li>• No individuals of the Northern Quoll were recorded within the DE, however the species has the potential to occur based on the presence of suitable habitat</li> <li>• The Proposed Action will require the permanent loss of up to 11.50 ha and temporary loss of up to 2.90 ha of habitat, which represents an approximate 0.03% reduction in the extent of native vegetation within a 20 km radius</li> <li>• The Northern Quoll is a highly mobile species and is able to utilise the suitable habitat that occurs outside of the DE, the species is not dependent on a particular patch of habitat within the DE</li> <li>• The Proposed Action is unlikely to decrease the size of the population due to vehicle or equipment collisions, as construction within the Burrup Peninsula will be of limited duration. Operational traffic for maintenance purposes will be highly infrequent</li> <li>• The DE lies close to existing industrial roads and facilities that are subject to noise and light disturbance, and which represent a mortality risk through road kill. The species is sparsely recorded on the Burrup Peninsula compared to numerous records at Dolphin Island and the Karratha Hills near Mount Regal</li> <li>• The Proposed Action incorporates construction management to protect the integrity of Northern Quoll habitat in the areas adjacent to the DE</li> <li>• The Proposed Action will not hinder the movement of the species into adjacent habitats</li> <li>• The loss of small pockets of habitat within the species range is unlikely to cause significant impacts to the species.</li> </ul>	Unlikely to be significant
Reduce the area of occupancy of the species	<p>The Proposed Action is not expected to reduce the area of occupancy for the Northern Quoll.</p> <p>The Northern Quoll was not recorded during the surveys (GHD 2019, 2020b and 2022), however, is considered to potentially occur within the DE, given the wide-ranging behaviour of the species and the availability of suitable habitat within the DE.</p> <p>The Proposed Action will result in the permanent loss of up to 11.50 ha and temporary loss of up to 2.90 ha of habitat that is suitable for the Northern Quoll. This habitat includes the Minor Drainage and the Rocky Hills with Exposed Boulder Piles habitat types. The habitat to be cleared is considered high value habitat. Clearing of up to 14.40 ha required for the Proposed Action represents an approximate 0.03% reduction in the extent of native vegetation within a 20 km radius.</p> <p>Northern Quolls are highly mobile species and do not have highly specific habitat requirements. They also occur in a variety of habitats across their range, being opportunistic foragers that switch diet according to season and availability (Hill and Ward 2010). It is expected that the Northern Quoll will forage outside of the DE, in the largely contiguous</p>	Not significant

Significant Impact Criteria	Assessment	Significance
	<p>areas of habitat that extend across the Burrup. The clearing required for the Proposed Action consists of small, localised disturbance required to construct the poles and pole pads for the transmission line. Given the wide distribution of the species, and the limited disturbance required for construction, the Proposed Action will not significantly reduce the area of occupancy of the Northern Quoll.</p>	
<p>Fragment an existing population</p>	<p>The Proposed Action is not expected to fragment an existing population of the Northern Quoll.</p> <ul style="list-style-type: none"> <li>• The Proposed Action is unlikely to fragment any local populations on the Burrup Peninsula, as the Transmission Corridor comprises isolated towers/poles and a narrow access road that will not obstruct population movements and will be subject to highly infrequent operational traffic.</li> <li>• The Northern Quoll is a mobile species and is expected to forage outside of the DE within the areas of contiguous habitat available</li> <li>• Access roads will be cleared, unsealed tracks, therefore allowing the species to cross over to either side.</li> </ul>	<p>Not significant</p>
<p>Adversely affect habitat critical to the survival of a species</p>	<p>The Proposed Action is unlikely to significantly affect habitat critical to the survival of the Northern Quoll.</p> <p>Habitat critical to the survival of the Northern Quoll is habitat that provides shelter for breeding, refuge from fire/predation and potential poisoning from cane toads (DotE 2016). This habitat typically comprises offshore islands, structurally diverse woodland or forests, and rocky habitats including major drainage lines or treed creek lines, as well as dispersal or foraging habitat associated with or connecting populations important for the long-term survival of the species (DotE 2016). Populations important for the long-term survival of the Northern Quoll include high-density populations, populations in habitat free of cane toads and unlikely to support cane toads upon arrival, or populations subject to ongoing conservation or research actions (DotE 2016).</p> <p>The Proposed Action will result in the permanent loss of up to 11.50 ha and temporary loss of up to 2.90 ha of habitat that is suitable for the Northern Quoll. Clearing will be in small, localised patches and will not hinder the movement of the species into adjacent habitats. The habitats within the DE that are suitable for the Northern Quoll are more likely to provide potential foraging and hunting opportunities as opposed to breeding. Clearing required for the Proposed Action is unlikely to significantly reduce the amount of habitat that provides shelter for breeding, refuge from fire/predation and potential poisoning from cane toads within the vicinity of the Proposed Action.</p>	<p>Unlikely to be significant</p>
<p>Disrupt the breeding cycle of a population</p>	<p>The Proposed Action is not expected to disrupt the breeding cycle of a population of the Northern Quoll.</p> <p>The Proposed Action will result in the permanent loss of up to 11.50 ha and temporary loss of up to 2.90 ha of habitat that is suitable for the Northern Quoll. The habitats within the DE that are suitable for the Northern Quoll are more likely to provide potential foraging and hunting opportunities as opposed to breeding. Clearing will be in small,</p>	<p>Not significant</p>

Significant Impact Criteria	Assessment	Significance
	localised patches and will not hinder the movement of the species into adjacent habitats that are more suited for breeding.	
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	<p>The Proposed Action is unlikely to impact the availability or quality of habitat to the extent that the Northern Quoll is likely to decline, as:</p> <ul style="list-style-type: none"> <li>• The Proposed Action will only result in the permanent loss of up to 11.50 ha and temporary loss of up to 2.90 ha of habitat that is suitable for the Northern Quoll.</li> <li>• The Northern Quoll is a highly mobile species and is able to utilise the suitable habitat that occurs outside of the DE, the species are not dependent on a particular patch of habitat within the DE</li> <li>• The Proposed Action incorporates construction management to protect the integrity of Northern Quoll habitat in the areas adjacent to the DE</li> <li>• The Proposed Action incorporates construction management to protect the integrity of Northern Quoll habitat in the vicinity of the DE, including: <ul style="list-style-type: none"> <li>○ The Proposed Action will use native species on local topsoil for landscaping, restrict the use of fertilisers to the establishment phase and a case-by-case basis, and incorporate treatment of stormwater during infiltration</li> <li>○ The Proposed Action will incorporate harvesting and reuse of topsoil within the DE to ensure that local soil resources are maintained and support buffers of native vegetation within the road reserve</li> <li>○ The CEMP prepared for the Proposed Action will include erosion and sediment controls to maintain the quality of soil within the DE and adjacent areas.</li> </ul> </li> <li>• The fauna habitat types recorded within the DE are not restricted to the local area.</li> </ul>	Unlikely to be significant
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species habitat	<p>The Proposed Action is not expected to introduce or spread invasive species into Northern Quoll habitat.</p> <p>Key threats to the Northern Quoll include the presence of feral cats and exotic grasses (e.g. Buffel Grass) which increases fire risk and is a key threat to the species (DoE 2016).</p> <p>Feral cats are already observed within the DE and the vicinity (GHD 2020b). The Proposed Action is not expected to increase the presence of feral cats within the DE. The Proposed Action will not create a destination or facilitate access for predator species into surrounding areas of native vegetation.</p> <p>The DE has existing weed infestation and exotic grasses are already present. The Proposed Action is not expected to result in the introduction or spread of weeds that will result in significant impacts to habitat for the Northern Quoll.</p>	Not significant

Significant Impact Criteria	Assessment	Significance
	This is due to construction management (via the CEMP) including weed treatment and hygiene management. Any ongoing weed management will be undertaken in alignment with the CEMP.	
Introduce disease that may cause the species to decline	<p>The Proposed Action is not expected to introduce or spread diseases that could cause Northern Quoll populations to decline.</p> <p>Diseases which are considered key threats and impacts to the species includes diseases such as Taxoplasmosis. The Proposed Action does not include activities which may cause diseases to spread or be introduced to the area.</p>	Not significant
Interfere with the recovery of the species	<p>The Proposed Action is unlikely to significantly interfere with the recovery of the Northern Quoll.</p> <p>The draft National Recovery Plan for the Northern Quoll (Hill &amp; Ward 2009) aims to minimise the rate of decline of the Northern Quoll in Australia, such that viable populations remain in each of the major regions of distribution into the future.</p> <p>The nine main objectives of the draft Plan include:</p> <ul style="list-style-type: none"> <li>• Protect Northern Quoll populations on offshore islands from invasion and establishment of Cane Toads, Cats and other potential invasive species.</li> <li>• Foster the recovery of Northern Quoll sub-populations in areas where the species has survived alongside Cane Toads.</li> <li>• Halt declines in areas not yet colonised by Cane Toads.</li> <li>• Halt declines in areas recently colonised by Cane Toads.</li> <li>• Maintain secure populations and source animals for future reintroductions/introductions, if they become appropriate.</li> <li>• Reduce the risk of Northern Quoll populations being impacted by disease.</li> <li>• Reduce the impact of pastoral land management practices on Northern Quolls.</li> <li>• Raise public awareness of the plight of Northern Quolls and the need for biosecurity of islands and Western Australia.</li> </ul> <p>The Proposed Action is consistent with Northern Quoll recovery, as it does not involve actions that will prevent the Northern Quoll from being delisted from Endangered under the EPBC Act.</p>	Not significant

*Pilbara Olive Python*

The below table (Table 9) provides an assessment of the significance of potential impacts (arising from the Proposed Action) to the Pilbara Olive Python, based on the criteria in *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance* (DotE 2013).

**Table 9** *Assessment against Significant Impact Guidelines 1.1 for the Pilbara Olive Python*

Significant Impact Criteria	Assessment	Significance
Lead to a long-term decrease in the size of an important population	<p>The Proposed Action is unlikely to lead to a long-term decrease in the size of a Pilbara Olive Python population as:</p> <ul style="list-style-type: none"> <li>• No individuals of the Pilbara Olive Python were recorded within the DE, however the species has the potential to occur based on the presence of suitable habitat</li> <li>• The Proposed Action will require the permanent loss of up to 11.50 ha and temporary loss of up to 2.90 ha of habitat, with suitable habitat within the DE comprising important and supporting habitat, which represents an approximate 0.03% reduction in the extent of native vegetation within a 20 km radius</li> <li>• The Proposed Action is unlikely to decrease the size of the population due to vehicle or equipment collisions, as construction will be of limited duration and occur during daytime hours. Operational traffic for maintenance purposes will be highly infrequent</li> <li>• The Pilbara Olive Python is a mobile species and is able to utilise the suitable habitat that occurs outside of the DE, the species is not dependent on a particular patch of habitat within the DE</li> <li>• The Proposed Action lies well within the distribution of the species and there are no data to indicate that the local population in the Burrup Peninsula comprises an important population in terms of breeding, dispersal or genetic diversity.</li> <li>• The Proposed Action incorporates construction management to protect the integrity of Pilbara Olive Python habitat in the areas adjacent to the DE</li> <li>• The Proposed Action will not hinder the movement of the species into adjacent habitats.</li> </ul>	Unlikely to be significant
Reduce the area of occupancy of the species	<p>The Proposed Action is not expected to reduce the area of occupancy for the Pilbara Olive Python.</p> <p>The Pilbara Olive Python was not recorded during the surveys (GHD 2019, 2020b and 2022), however, is considered to have the potential to occur within the DE, given the presence of suitable habitat.</p> <p>The Proposed Action will result in the permanent loss of up to 11.50 ha and temporary loss of up to 2.90 ha of habitat that is suitable for the Pilbara Olive Python. This habitat includes the Minor Drainage, the Rocky Hills with Exposed Boulder Piles and Hummock Grassland on Low Rocky Hills habitat types. The habitat to be cleared is considered high value and supporting habitat. Clearing of up to 14.40 ha for the Proposed Action represents an approximate 0.03% reduction in the extent of native vegetation within a 20 km radius.</p> <p>The Pilbara Olive Python prefers escarpments, gorges and water holes in the ranges of the Pilbara region (DCCEEW 2022b). Microhabitat preferences of the Pilbara Olive Python are under rock piles, on top of rocks or under spinifex</p>	Not significant

Significant Impact Criteria	Assessment	Significance
	<p>(DCCEEW 2022b). The Proposed Action will avoid impacts to rock piles where possible during construction, limiting impacts to the microhabitat of this species.</p> <p>It is expected that the Pilbara Olive Python will utilise habitats outside of the DE, in the largely contiguous areas of habitat that extend across the Burrup. The clearing required for the Proposed Action consists of small, localised disturbance required to construct the poles and pole pads for the transmission line. Given the limited disturbance required for construction, the Proposed Action will not significantly reduce the area of occupancy of the Pilbara Olive Python. The Proposed Action lies well within the distribution of the species and is unlikely to reduce the species extent within the Pilbara region or Roebourne sub-region.</p>	
Fragment an existing population	<p>The Proposed Action is not expected to fragment an existing population of the Pilbara Olive Python.</p> <ul style="list-style-type: none"> <li>• The Proposed Action is unlikely to fragment any local populations on the Burrup Peninsula, as the Transmission Corridor comprises isolated towers/poles and a narrow access road that will not obstruct population movements and will be subject to highly infrequent operational traffic</li> <li>• The Pilbara Olive Python is a mobile species and is expected to forage outside of the DE within the areas of contiguous habitat available</li> <li>• Access roads will be cleared, unsealed tracks, therefore allowing the species to cross over to either side.</li> </ul>	Not significant
Adversely affect habitat critical to the survival of a species	<p>The Proposed Action is unlikely to significantly affect habitat critical to the survival of the Pilbara Olive Python.</p> <p>The Pilbara Olive Python does not have an identified critical habitat. The species prefers deep gorges and water holes in the ranges of the Pilbara region, hiding in caves and rock crevices during the winter and moving more widely in proximity to water and rock outcrops during the summer (DCCEEW 2022b).</p> <p>The Proposed Action will result in the permanent loss of up to 11.50 ha and temporary loss of up to 2.90 ha of habitat that is suitable for the Pilbara Olive Python. Clearing will be in small, localised patches and will not hinder the movement of the species into adjacent habitats. No poles or pole pads will be placed in deep gorges, water holes, caves and rock crevices, reducing the impacts to suitable habitat for the species. Clearing required for the Proposed Action is unlikely to significantly reduce habitat critical to the survival of the Pilbara Olive Python.</p>	Unlikely to be significant
Disrupt the breeding cycle of a population	<p>The Proposed Action is not expected to disrupt the breeding cycle of a population of the Pilbara Olive Python.</p> <p>The Pilbara Olive Python breeds from June to August, with males and females often moving into shelter (such as a cave). The Proposed Action will not impact caves or other areas of habitat that are considered significant for Pilbara</p>	Not significant

Significant Impact Criteria	Assessment	Significance
	Olive Python breeding. Clearing will be in small, localised patches and will not hinder the movement of the species into adjacent habitats that are more suited for breeding.	
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	<p>The Proposed Action is unlikely to impact the availability or quality of habitat to the extent that the Pilbara Olive Python is likely to decline, as:</p> <ul style="list-style-type: none"> <li>• The Proposed Action will only result in the permanent loss of up to 11.50 ha and temporary loss of up to 2.90 ha of habitat that is suitable for the Pilbara Olive Python</li> <li>• The Pilbara Olive Python is a highly mobile species and is able to utilise the suitable habitat that occurs outside of the DE, the species are not dependent on a particular patch of habitat within the DE</li> <li>• The Proposed Action incorporates construction management to protect the integrity of Pilbara Olive Python habitat in the areas adjacent to the DE</li> <li>• The Proposed Action incorporates construction management to protect the integrity of Pilbara Olive Python habitat in the vicinity of the DE, including: <ul style="list-style-type: none"> <li>○ The Proposed Action will use native species on local topsoil for landscaping, restrict the use of fertilisers to the establishment phase and a case-by-case basis, and incorporate treatment of stormwater during infiltration</li> <li>○ The Proposed Action will incorporate harvesting and reuse of topsoil within the DE to ensure that local soil resources are maintained and support buffers of native vegetation within the road reserve</li> <li>○ The CEMP prepared for the Proposed Action will include erosion and sediment controls to maintain the quality of soil within the DE and adjacent areas.</li> </ul> </li> <li>• The fauna habitat types recorded within the DE are not restricted to the local area.</li> </ul>	Unlikely to be significant
Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species habitat	<p>The Proposed Action is not expected to introduce or spread invasive species into Pilbara Olive Python habitat.</p> <p>Key threats to the Pilbara Olive Python include the Predation of juveniles by foxes and cats is suspected to be a problem for populations in the coastal Pilbara region. Foxes and cats also prey on the food sources of the Pilbara Olive Python.</p> <p>Feral cats are already observed within the DE and the vicinity (GHD 2020b). The Proposed Action is not expected to increase the presence of feral cats within the DE. The Proposed Action will not create a destination or facilitate access for predator species into surrounding areas of native vegetation.</p>	Not significant



Significant Impact Criteria	Assessment	Significance
Introduce disease that may cause the species to decline	<p>The Proposed Action is not expected to introduce or spread diseases that could cause Pilbara Olive Python populations to decline.</p> <p>It is unknown what diseases may impact the species, however, the Proposed Action does not include activities which may cause diseases to spread or be introduced to the area.</p>	Not significant
Interfere with the recovery of the species	<p>The Proposed Action is unlikely to significantly interfere with the recovery of the Pilbara Olive Python.</p> <p>There is no recovery plan in place for the Pilbara Olive Python, however the conservation advice (DCCEEW 2022b) states that regional and local priority actions include the following:</p> <ul style="list-style-type: none"> <li>• Habitat Loss, Disturbance and Modification <ul style="list-style-type: none"> <li>○ Identify populations of high conservation priority</li> <li>○ Ensure road widening, maintenance activities, and gas infrastructure development (or development activities) in areas where the Olive Python (Pilbara subspecies) occurs do not adversely impact on known populations</li> <li>○ Manage any changes to hydrology which may result in changes to the water table levels, increased run-off, sedimentation or pollution</li> <li>○ Investigate further formal conservation arrangements such as the use of covenants, conservation agreements or inclusion in reserve tenure</li> </ul> </li> <li>• Animal Predation or Competition <ul style="list-style-type: none"> <li>○ Implement Threat Abatement Plan for the control and eradication of foxes and cats in the local region</li> </ul> </li> <li>• Conservation Information <ul style="list-style-type: none"> <li>○ Raise awareness of the Olive Python (Pilbara subspecies) within the local community</li> <li>○ Use road signage to raise awareness of the Olive Python (Pilbara subspecies) with road users on or near roads.</li> </ul> </li> <li>• Enable Recovery of Additional Sites and/or Populations <ul style="list-style-type: none"> <li>○ Investigate options for linking, enhancing or establishing additional populations.</li> </ul> </li> </ul>	Not significant

## 7. EPBC Form Section 4.1.5.2: Migratory Species

A full assessment of the significance of potential impacts resulting from the Proposed Action to Migratory species is provided below. This information relates to Section 4.1.5.2 of the EPBC Business Portal's new EPBC referral form: '*Describe why you do not consider this to be a Significant Impact.*'

No Migratory fauna species were recorded within the DE during the GHD (2019 & 2022) surveys. The GHD (2020b) survey recorded the presence of one Migratory species within the DE:

- Whimbrel (*Numenius phaeopus*) – EPBC Act: Migratory.

A likelihood of occurrence assessment (adapted from the GHD [2019 & 2020b] surveys) concluded that an additional twelve Migratory species have the potential to occur within the wider survey areas:

- Gull-billed Tern (*Gelochelidon nilotica*)
- Caspian Tern (*Hydroprogne caspia*)
- Crested Tern (*Thalasseus bergii*)
- Bridled Tern (*Onychoprion anaethetus*)
- Wood Sandpiper (*Tringa glareola*)
- Common Greenshank (*Tringa nebularia*)
- Oriental Pratincole (*Glareola maldivarum*)
- Oriental Plover (*Charadrius veredus*)
- Common Sandpiper (*Actitis hypoleucos*)
- Osprey (*Pandion haliaetus*).

The below table (Table 10) provides an assessment of the significance of potential impacts (arising from the Proposed Action) to Migratory birds, based on the criteria in *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance* (DotE 2013).

Table 10 Assessment against Significant Impact Guidelines 1.1 for Migratory birds

Significant Impact Criteria	Assessment	Significance
Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species	<p>The Proposed Action is unlikely to substantially modify, destroy or isolate an area of important habitat for a migratory species, as:</p> <ul style="list-style-type: none"> <li>• The Proposed Action will only result in the loss of up to 1.50 ha (worst case scenario, indicative clearing in current design of approximately 0.47 ha) of habitat that is suitable for Migratory species, comprising the Mudflat with Tidal Inundation, Mangroves and Supportive Scattered Samphire habitat type.</li> <li>• Migratory species occurring within the DE are highly mobile species and are likely to fly over the DE as they move between King Bay and Hearson Cove, with this flight path likely being a regular fly over for these species. Migratory species are unlikely to be dependent on a particular patch of habitat within the DE.</li> <li>• The Proposed Action incorporates construction management to protect the integrity of Migratory species habitat in the areas adjacent to the DE</li> <li>• The Proposed Action incorporates construction management to protect the integrity of Migratory species habitat in the vicinity of the DE, including:               <ul style="list-style-type: none"> <li>○ The Proposed Action will use native species on local topsoil for landscaping, restrict the use of fertilisers to the establishment phase and a case-by-case basis, and incorporate treatment of stormwater during infiltration</li> <li>○ The Proposed Action will incorporate harvesting and reuse of topsoil within the DE to ensure that local soil resources are maintained and support buffers of native vegetation within the road reserve</li> <li>○ The CEMP prepared for the Proposed Action will include erosion, sediment and fire controls to maintain the quality of soil and habitats within the DE and adjacent areas.</li> </ul> </li> </ul> <p>The fauna habitat types recorded within the DE are not restricted to the local area.</p>	Unlikely to be significant
Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species	<p>The Proposed Action is not expected to include activities that will result in the establishment of invasive species that are harmful to Migratory species becoming established within the DE.</p> <p>Feral cats are already observed within the DE and the vicinity (GHD 2020b). The Proposed Action is not expected to increase the presence of feral cats within the DE. The Proposed Action will not create a destination or facilitate access for predator species into surrounding areas of native vegetation.</p> <p>The DE has existing weed infestation and exotic grasses are already present. The Proposed Action is not expected to result in the introduction or spread of weeds that will result in significant impacts to habitat for Migratory species. This</p>	Not significant

Significant Impact Criteria	Assessment	Significance
	is due to construction management (via the CEMP) including weed treatment and hygiene management. Any ongoing weed management will be undertaken in alignment with the CEMP.	
Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.	<p>The Proposed Action is not expected to disrupt the breeding cycle of a population of Migratory bird species within the potential to occur within the DE.</p> <p>The Proposed Action will result in the loss of up to 1.50 ha (worst case scenario, indicative clearing in current design of approximately 0.47 ha) of habitat that is suitable for Migratory species. The habitats within the DE that are suitable for Migratory species are more likely to provide potential foraging and hunting opportunities as opposed to breeding. Clearing will be in small, localised patches and will not hinder the movement of the species into adjacent habitats that are more suited for breeding.</p>	Not significant

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