

PORT HEDLAND IRON PROJECT

FAUNA MANAGEMENT PLAN

26 September 2025

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ACKNOWLEDGEMENT OF COUNTRY

In the spirit of reconciliation, Preston Consulting acknowledges the traditional lands of the Kariyarra People on which the Project is proposed. We recognise their rich culture and their continuing connection to land and waters, and pay our respects to their Elders past, present and emerging.

DOCUMENT CONTROL

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EXECUTIVE SUMMARY

Port Hedland Iron Pty Ltd (PHI) is progressing the development of downstream iron ore processing capability known as the Port Hedland Iron Project (Project). The Project is located in the Boodarie Strategic Industrial Area (SIA) approximately 10 kilometres (km) south west of Port Hedland in the Pilbara region of Western Australia (WA). The Project will consist of a pellet plant and a hot briquette iron (HBI) Plant, consuming approximately 3-3.5 million tonnes per annum (Mtpa) iron ore to produce approximately 2 Mtpa HBI and 0.7 Mtpa of Pellets for export.

A detailed terrestrial fauna survey and pre-clearance survey for the Greater Bilby (Bilby; *Macrotis lagotis*) were undertaken by Phoenix Environmental Sciences Pty Ltd (Phoenix) in April 2023 for PHI (Phoenix, 2024). The detailed survey was undertaken in a 1,476 ha survey area 7 km east of the South Hedland (Survey Area). The Survey Area included the 518 ha Plant Development Envelope (PDE) and the 466 ha External Infrastructure Development Envelope (EIDE). The pre-clearance survey was undertaken in support of geotechnical investigations over a 6 ha area within the PDE.

This Fauna Management Plan (FMP) has been developed in order the ensure that construction and operational activities of the Project are carried out in a manner that minimises impacts to Night Parrot, Bilby and Grey Falcon individuals as well as their and habitat.

Table 1: Summary

Project Name	Port Hedland Iron Project
Proponent Name	Port Hedland Iron Pty Ltd
Ministerial Statement number	NA
Purpose of this Management Plan	To ensure construction and operational activities of the Project are carried out in a manner that minimises impacts to the Night Parrot (*Pezporus occidentalis*) Bilby (*Macrotis lagotis*) and Grey Falcon (*Falco hypoleucos*).
Key environmental factor	Terrestrial Fauna.
EPA's environmental objective	To protect terrestrial fauna so that biological diversity and ecological integrity are maintained.
Condition clauses	NA
Key components	The key components of this FMP include avoiding, minimising and reducing the impacts of the Project by: • Restricting disturbance and vegetation clearing to designated areas, vehicle movement to designated tracks, and all other infrastructure to approved cleared areas; • Monitor Night Parrot. Bilby and Grey Falcon activity to determine presence or absence within and around the development envelopes; • Monitor feral predator activity and implement feral predator control procedures; • Implementing a weed management procedure for vehicles and machinery entering and leaving the development envelopes, to ensure they are free from soil and vegetative material and are restricted to designated tracks or approved areas only; • Implementing dust, noise and vibration suppression procedures and controls; • Implementing fire prevention measures and procedures to prevent or minimise the occurrence of fire within the development envelopes; and • Implementing hydrocarbon or pollutant management engineering and design controls, to reduce the likelihood of spills occurring.

Proposed Construction Period	2028-2030
EMP required pre-construction?	Yes

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1 CONTEXT, SCOPE AND RATIONALE

1.1 PROJECT DESCRIPTION

PHI is progressing the development of large-scale downstream iron ore processing capability known as the Port Hedland Iron Project (Project). The Project is located in the Boodarie SIA approximately 10 km south west of Port Hedland in the Pilbara region of WA.

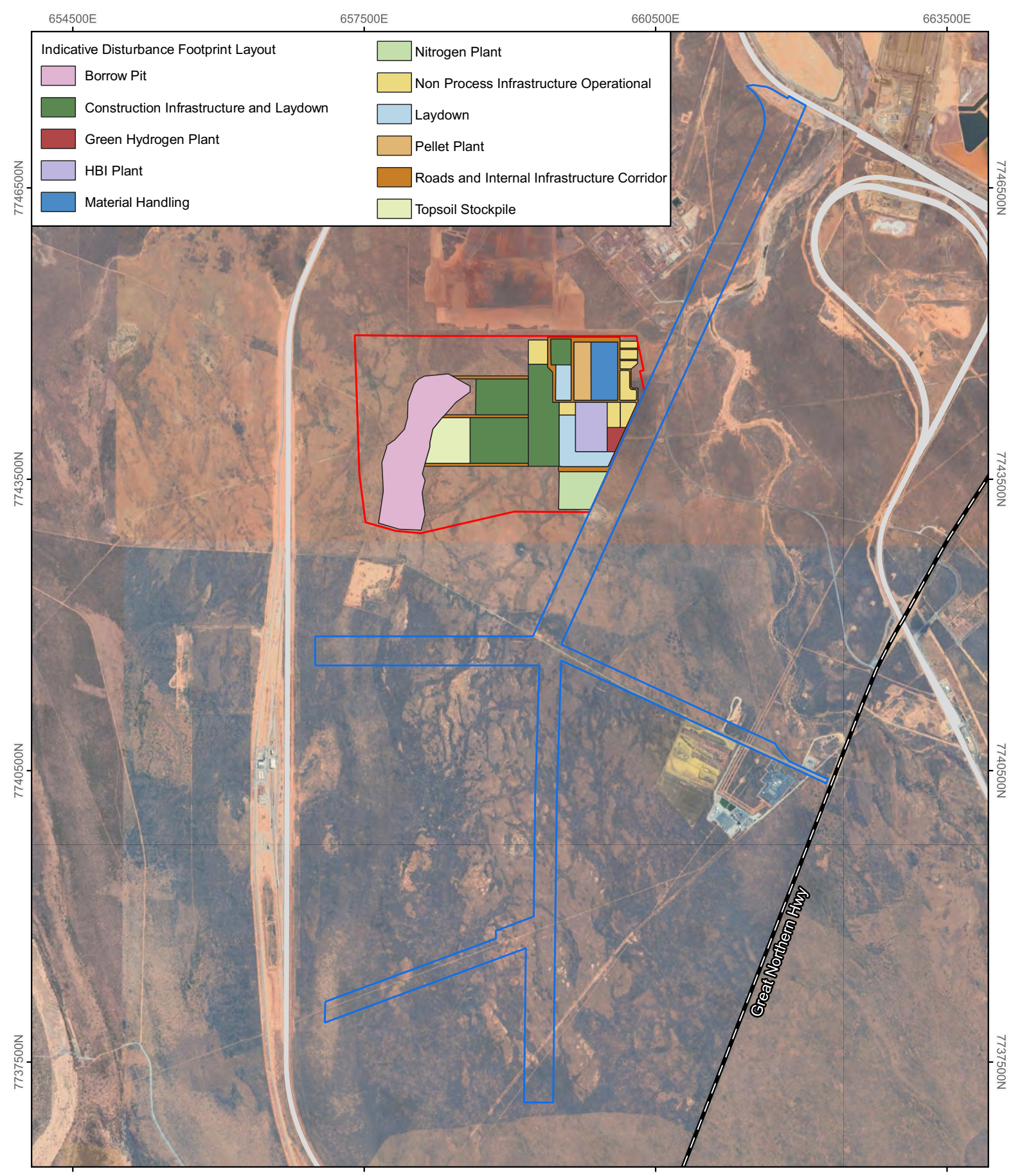
The Project will consist of a pellet plant and a HBI Plant, consuming approximately 3-3.5 Mtpa magnetite ore to produce approximately 2 Mtpa of HBI.

The initial infrastructure to be developed within the SIA for the Project will include:

- Iron ore processing facility (IOPF) comprising one pellet and one HBI plant producing approximately 2 Mtpa of HBI and 0.7 Mtpa of iron ore pellets;
- Carbon capture and storage infrastructure;
- Hydrogen production and storage facilities for supply to IOPF; and
- Supporting infrastructure such as:
    - HBI and pellet handling and storage facilities;
    - Flux storage;
    - Administration and other non-process buildings;
    - Workshops;
    - Water storage areas;
    - Magnetite concentrate handling facilities; and
    - Access roads.

The development envelopes will total an area of 984 ha. The development envelopes are comprised of a 518 ha PDE and a 466 ha EIDE (Figure 1). Both development envelopes are within the SIA.

Development of the Project will require, subject to the finalised design, the clearing of up to 386.1 ha of land variably and sparsely covered in native vegetation within the development envelopes. This has the potential to impact on known habitat for a local population of Greater Bilby (*Macrotis lagotis;* hereafter Bilby) and broad foraging habitat for the Grey Falcon (*Falco hypoleucos*; hereafter Grey Falcon). In addition to the Bilby and the Grey Falcon, the development envelopes provide potential habitat for the Night Parrot (*Pezoporus occidentalis*) and lie within the Priority Survey Bioregion for the species (DBCA, 2024). No Night Parrot were recorded during surveys, however due to the presence of potential habitat, this species has been included in the FMP. The Project location and development envelopes are shown in Figure 1. A summary of the Project details and the FMP are provided in Table 1.



Legend

- External Infrastructure Development Envelope
- Plant Development Envelope
- Freeways & Highways (LGATE-195)
- Railway (DPLH-058)

Imagery: Google Satellite

GDA 2020 / MGA Zone 50

0 1 2 km

1:50,000 (A4)

Preston Consulting

Figure 1: Development Envelopes

AS

September 2023

1.2 Purpose of this Management Plan

The purpose of this FMP is to ensure that impacts to the Night Parrot, Bilby and Grey Falcon during construction of the Project are avoided and minimised as far as possible through the implementation of good practice management measures. This FMP will provide management actions and monitoring measures that will deliver conservation outcomes for the Night Parrot, Bilby and Grey Falcon, and account for the residual impacts associated with habitat loss from the construction of the Project.

This FMP includes:

- Spatially accurate, rectified and geographically referenced maps showing the location of Night Parrot, Bilby and Grey Falcon records in relation to the development envelopes;
- Management actions that will be undertaken to prevent direct and indirect impacts to Night Parrot, Bilby and Grey Falcon individuals and their habitat from weeds, feral predators, fire, hydrocarbon or other environmental contamination;
- Management actions to be implemented that aim to ensure the management targets are achieved; and
- Monitoring methodology including the frequency and assessment methodology.

This FMP also includes sections on both adaptive management and review, and stakeholder engagement to ensure it aligns with the Environmental Protection Authority's (EPA) and the Department of Climate Change, Energy, the Environment and Water (DCCEEW) current guidance (EPA, 2024; DotE, 2014).

The management measures and monitoring identified are expected to ensure that the impacts to Bilby and Grey Falcon populations are not significant.

1.3 Approvals

The Project is being assessed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act, Cth) as an 'Assessment on Preliminary Documentation'.

1.4 Night Parrot

1.4.1 Status

The Night Parrot is listed as Critically Endangered under the EPBC Act and WA *Biodiversity Conservation Act 2016* (BC Act). In addition to legislative protection, this species is culturally important to Traditional Owners as a part of tjukurrpa (The Dreaming) (Indigenous Desert Alliance, n.d.).

1.4.2 Ecology and Distribution

Historic and contemporary records provide evidence of the past and present distribution of the Night Parrot. Previously found throughout most of arid and semi-arid WA, since 2017 all Night Parrot records from WA have occurred in central and northern areas of WA's interior (DBCA, 2024).

Figure 2 shows Night Parrot survey bioregions. High Priority Survey Bioregions are those in which all contemporary, and the most high veracity historical records of Night Parrot have occurred, or where a bioregion is in close proximity to contemporary records. The Priority Survey Bioregions include those with historical reports (some of high veracity) but no reported contemporary records and are likely to contain suitable habitat that could support Night Parrot populations (DBCA, 2024).

At the landscape scale, night parrots require two distinct habitats:

1. Patches of low, dense vegetation in which they roost during the day; and
2. Nearby floodplains or other low-lying areas supporting diverse assemblages of native grasses and herbs in which to feed at night.

Both roosting and foraging habitat is typically on flat or gently sloping ground, and is very open, with few trees or shrubs. Night Parrots have been known to fly up to 10 km from their roosting sites during foraging expeditions, and possibly further, so foraging habitat is not necessarily within or immediately adjacent to roosting areas.

All contemporary records from QLD and WA have been associated with paleodrainages or eroded rocky areas; landscapes that support both roosting and foraging habitat. Paleodrainages, including salt lake edges and nearby interdunal claypans often support suitable foraging habitat. The margins of these drainages can be topographically complex and support isolated patches of *Triodia* that are protected from fire. In these systems, chenopod-dominated areas are also considered potential roosting or foraging habitat. Eroded rocky areas, including stony pavements and the edges of breakaways, can also be topographically complex. That complexity, plus extensive areas of bare stony ground, provide protection from fire for areas of Triodia. At these sites, runon areas and shallow depressions, or other areas of slight relief can support patches of suitable foraging habitat (DBCA, 2024).

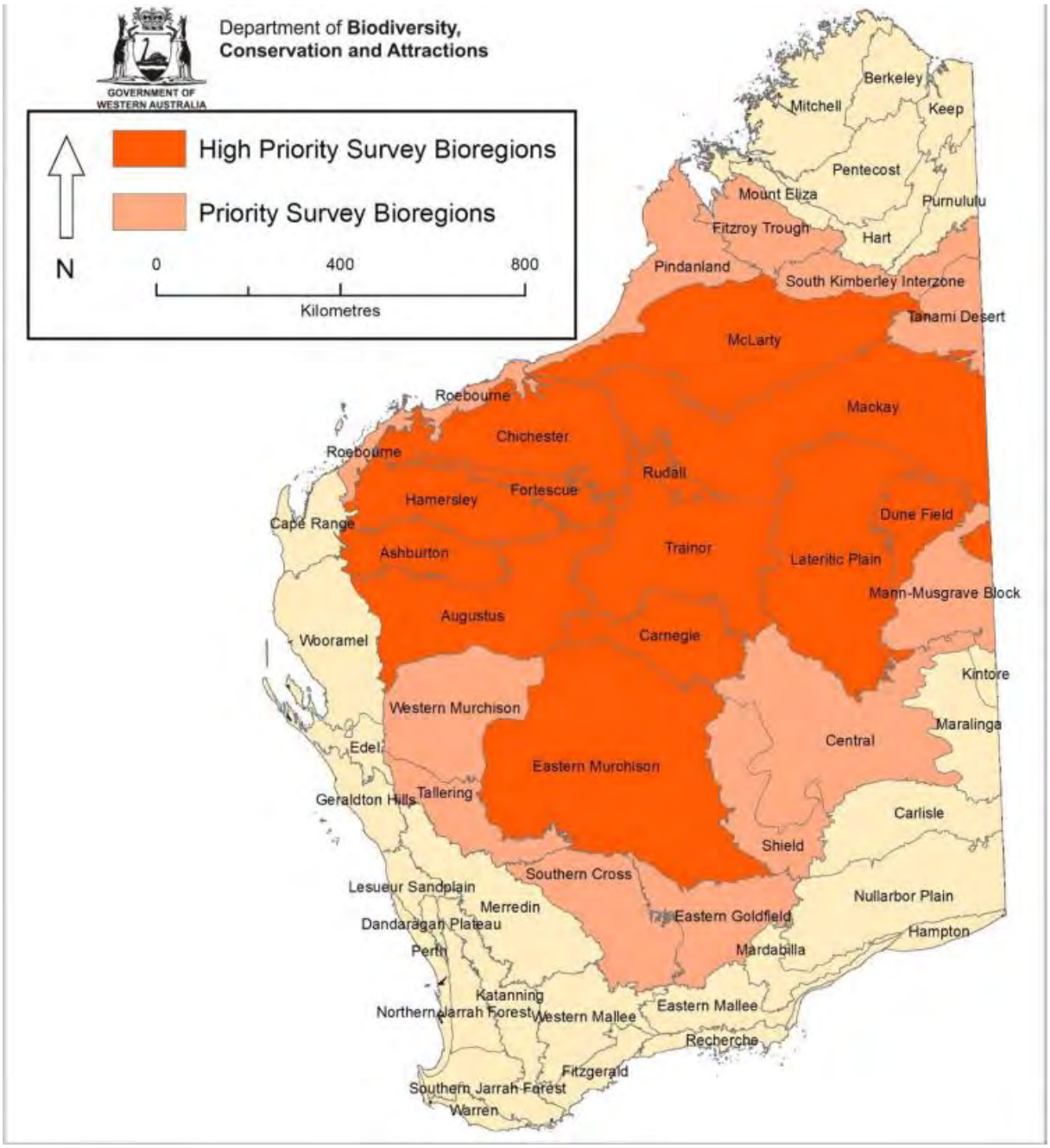


Figure 2: Night Parrot survey regions

1.4.1 KEY THREATS

Key threats to the Night Parrot include:

- Inappropriate fire regimes – increase in fire frequency and intensity of fires impacting sites for nesting and roosting;
- Predation by feral cats and foxes; and
- Habitat degradation by introduced herbivores, particularly those with hooves. Over-grazing by cattle can reduce the availability and quality of ground cover.

1.5 BILBY

1.5.1 STATUS

The Bilby is listed as Vulnerable under the EPBC Act and the WA BC Act. In addition to legislative protection, this species is culturally important to Traditional Owners (Paltridge, 2016; Walsh & Custodians of the Bilby, 2016).

1.5.2 ECOLOGY AND DISTRIBUTION

The Bilby occurs in two main separate geographic areas: one extending from the western desert of the Northern Territory to the Pilbara and Kimberley regions in WA; and one in south-western Queensland.

The species is solitary and shelters in burrows during daylight and intermittently during the night. It occupies three main habitat types across its' distribution (Threatened Species Scientific Committee (TSSC), 2016):

- Open tussock grassland on uplands and hills;
- *Acacia aneura* (mulga) woodland/shrubland growing on ridges and rises; and
- Hummock grassland in plains and alluvial areas.

Bilby habitat varies across the landscape, influenced by climatic zones, soil, vegetation types, and landforms. Throughout WA, three landforms have been identified as habitat; residual landforms, fluvial landforms and plains and dune fields (Cramer et al., 2016).

Bilbies are highly mobile and have large foraging ranges, with adult females moving up to 1.5 km between burrows on consecutive days, and adult males moving up to 5 km between burrows on consecutive days (Commonwealth of Australia, 2023). Studies have indicated an average home range of 0.18 km^2 for females and 3.16 km^2 for males, with numerous active and inactive (unused) burrows present within this range (Commonwealth of Australia, 2023).

The Bilby is an omnivore that digs for food, with a diet consisting of invertebrates such as insect larvae, termites, ants, grasshoppers, spiders and beetles, and other items such as seeds, bulbs and fungi (TSSC, 2016). Some of the key food sources are dependent on fire history (Commonwealth of Australia, 2023).

1.5.3 KEY THREATS

The key threats to the Bilby include (Commonwealth of Australia, 2023):

- Predation by feral predators including cats (*Felis catus*) and foxes (*Vulpes vulpes*);
- Habitat loss and fragmentation;
- Domestic and other introduced species;
- Unmanaged fire and inappropriate fire regimes;
- Loss of Traditional Owner knowledge and land management; and
- Reduction in population resilience and genetic fitness in wild and intensively managed populations.

1.6 GREY FALCON

1.6.1 STATUS

The Grey Falcon is listed as Vulnerable under the EPBC Act and BC Act.

1.6.2 ECOLOGY AND DISTRIBUTION

The Grey Falcon is only restricted by habitat in relation to roosting sites (inland drainage lines, grasslands, sparse wooded lowlands, often using old nests and communication towers etc.) and its foraging range is widespread due to its prey mainly being other birds. The tussock grassland habitat is used widely for hunting by the Grey Falcon (Garnett and Crowley, 2000). In the Pilbara, the Grey Falcon is mostly recorded from the coastal plain between the De Grey and Ashburton Rivers. The preferred habitat of this species comprises lightly wooded coastal and riverine plains.

1.6.3 KEY THREATS

In the absence of focused studies on Grey Falcons, all potential threats to the species that have been published are based on general considerations and extrapolations from better studied species and are, therefore, speculative (Garnett and Crowley 2000, Garnett et al. 2011). Key threats to the Grey Falcon include:

- Predation by cats;
- Increased temperatures in arid and semi-arid Australia;
- Small population size;
- Grazing by exotic herbivores;
- Nest Shortage;
- Birdwatchers and photographers;
- Collision with traffic;
- Collisions with fences and powerlines;
- Egg collecting; and
- Falconry.

1.7 RATIONALE AND APPROACH

PHI's approach to management used in this FMP is to emphasise managing impacts through planning, organisation and controlling aspects of the Project prior to commencement. The following hierarchical approach to manage potential impacts has been used:

- Avoidance: measures used to avoid or prevent impacts from the Project;
- Minimisation: measures taken to reduce the duration, intensity and/or extent of impact; and
- Rehabilitate: measures taken to remediate and rehabilitate areas temporarily disturbed during construction.

Results from surveys and study findings inform PHI's management approach for meeting the EPA's environmental objective.

All surveys have been conducted with escort and participation by Kariyarra Aboriginal Corporation (KAC) monitors.

1.7.1 Survey Findings

A detailed terrestrial fauna survey was undertaken by Phoenix in April 2023 (Phoenix, 2024), within a 1,476 ha Survey Area which included the PDE and the EIDE (Figure 3). No Night Parrot were recorded during surveys, however sandplain habitat was considered potential habitat for the species.

Secondary evidence (tracks and scats) of the Bilby were recorded from 112 locations within the Survey Area during the detailed fauna survey, however, no active or inactive burrows were recorded (Figure 4). The majority of the secondary evidence (78%) was recorded within the PDE. The remaining locations were all located within the EIDE. All evidence was identified within sandplain habitat.

A small area of the PDE was subject to a Bilby pre-clearance survey in accordance with the conditions of a Native Vegetation Clearing Permit (CPS10103-1) (Figure 3). The survey did not record any active or inactive/old Bilby burrows. In the eastern area Bilby scats were recorded at three locations and foraging digs were identified at nine locations. The recency of the scats could not be determined due to weathering associated with heavy rainfall and large temperature ranges.

A detailed terrestrial fauna survey and targeted Bilby survey was also undertaken for APA's Port Hedland Solar Project, immediately southeast of the Project (Phoenix, 2022). No burrows were identified however evidence of Bilby was recorded throughout the study area and particularly along South West Creek. The study area for the targeted Bilby survey intersected with the Project area with 29 records at 10 locations within the EIDE (Phoenix, 2022;Figure 3). The majority of these records were associated with sandplain habitat, all associated with scats and diggings.

A breeding pair and single fledged juvenile were recorded perched on a transmission tower during surveys for the Project (Figure 5). Grey Falcons typically nest and roost along heavily wooded drainage lines (critical habitat). There are no heavily wooded drainage lines within the developments envelope that would be considered critical habitat for they Grey Falcon however given the wide-ranging nature of this species, all habitat types within the development envelopes are considered potential foraging habitats:

- Sandplain;
- Drainage Area; and
- Open Woodlands

No evidence of Northern Quoll was recorded during the surveys completed for the Project, however there were historical records identified though the desktop assessment, 4 km northeast of the Project (Figure 6).

A description of the surveys is outlined in Table 2. The key findings of these assessments are detailed in the following sections.

Table 2: Environmental report and survey programs undertaken.

Survey Description	Area of Coverage	Field Dates	Report Title
Prior to Development			
Detailed Terrestrial Fauna Survey • Desktop assessment, with emphasis on Threatened & Priority fauna; • Detailed fauna assessment of the Survey Area; and • Definition and mapping of fauna habitat, Threatened and Priority fauna, and related management issues.	PDE, EIDE and surrounds.	April 2023	Detailed terrestrial fauna survey for the Port Hedland Green Steel Project (Phoenix, 2024).
Pre-clearance Bilby Survey: • Targeted Bilby survey within the PDE.	Within the PDE.	September 2023	Pre-clearance field note (S. Pynt pers. comms.)
Detailed Terrestrial Fauna and Targeted Bilby Survey • Survey undertaken for APA's Port Hedland Solar Project and included: o A desktop assessment; o Detailed fauna assessment; and o Targeted Bilby Survey.	Sections of the EIDE.	January 2021 and August 2021.	Detailed terrestrial fauna and targeted Bilby survey for The Port Hedland Solar Farm Project.

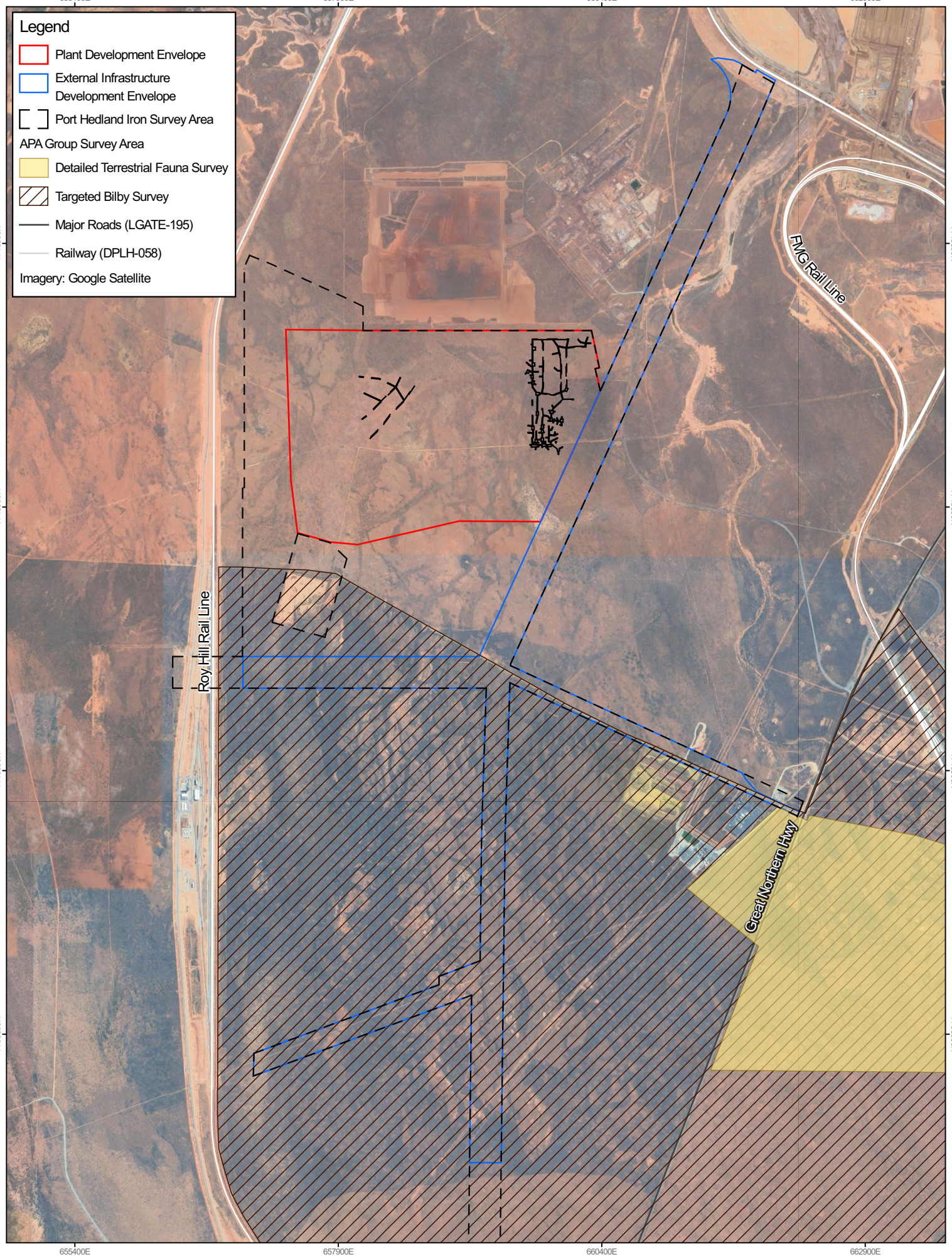


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Figure 3: PHI Survey Area in relation to Port Hedland Solar Project Survey Area

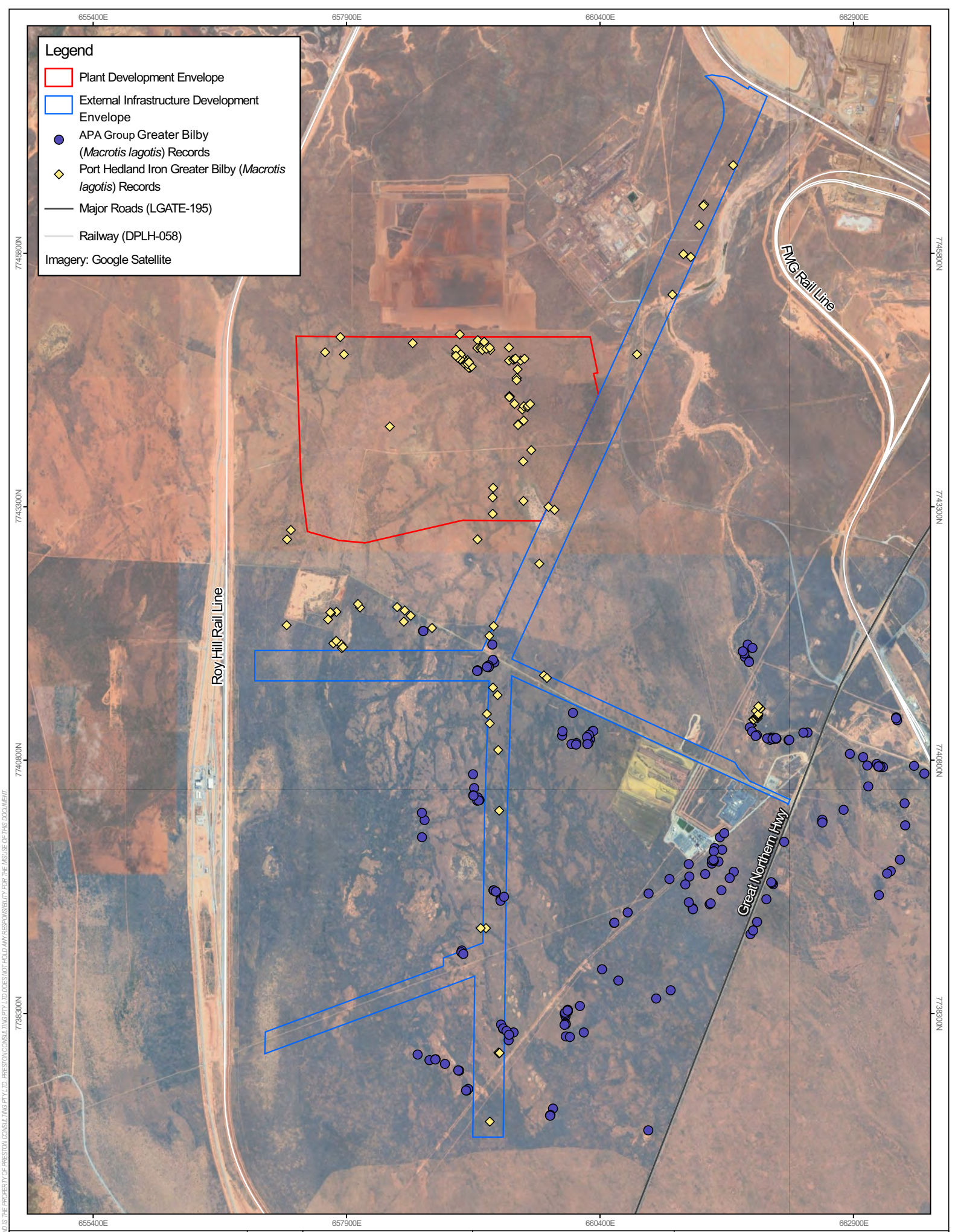

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Figure 4: Location of Secondary Bilby Evidence

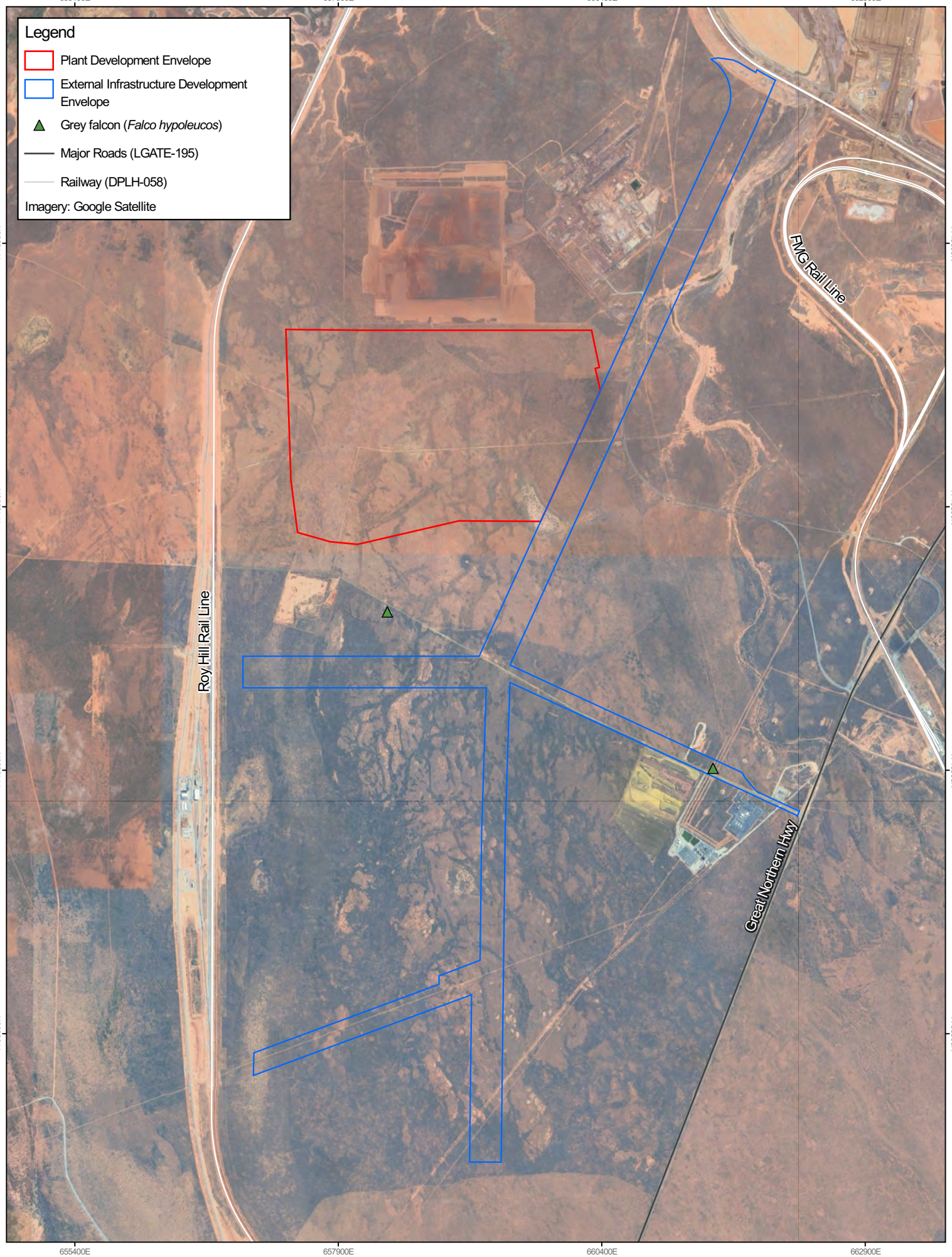

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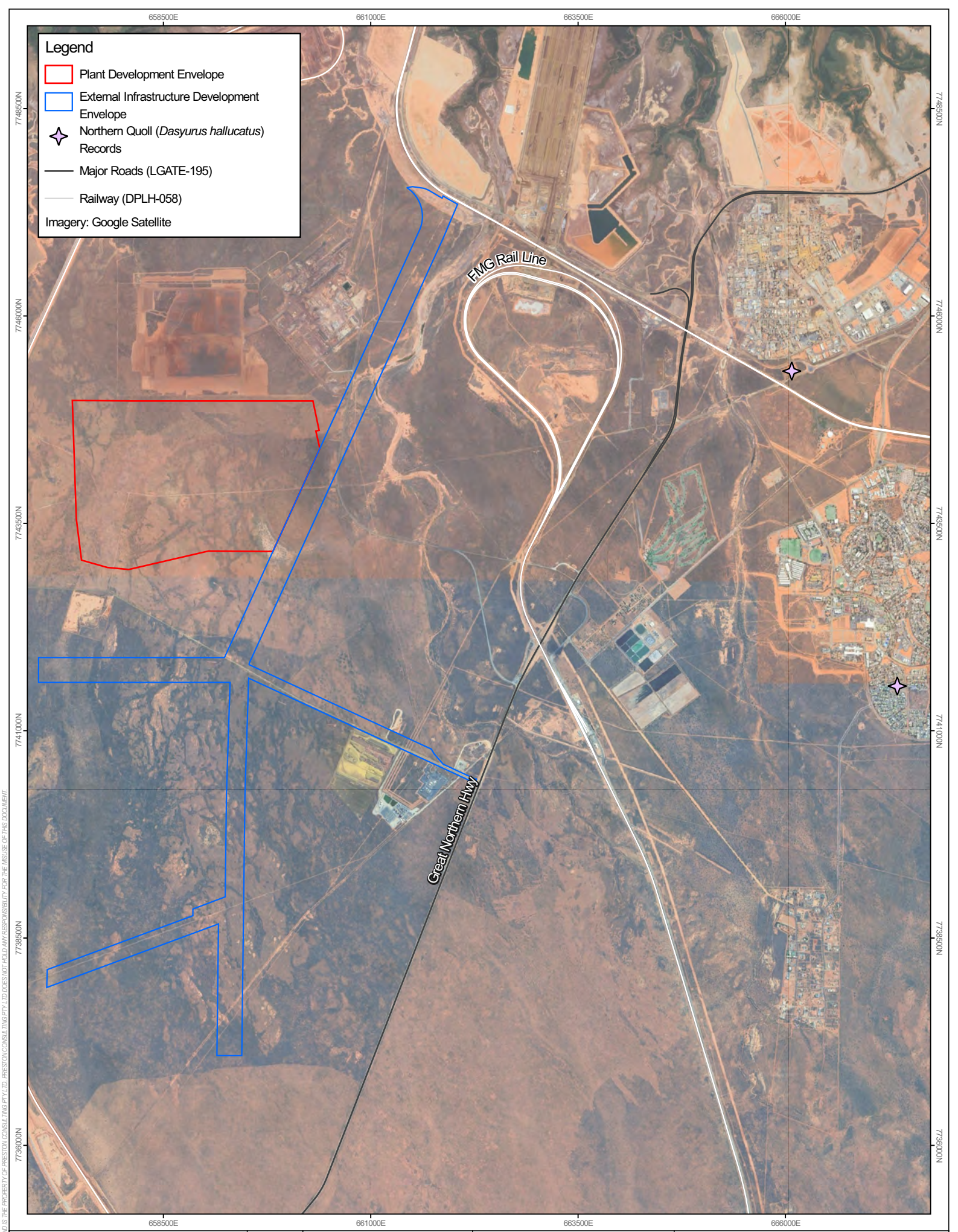
Figure 5: Grey Falcon record identified during Phoenix (2024) surveys



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Project: PHGS_0406_041
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Figure 6: Desktop Records of Northern Quoll

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1.7.2 Key Assumptions and Uncertainties

Key assumptions of this FMP include:

- Fauna surveys have accurately recorded the nature of the presence of Night Parrot, Bilby and Grey Falcon and identified habitat values;
- Fauna surveys accurately reported on the distribution of the Night Parrot, Bilby and Grey Falcon;
- Conditions experienced during survey programs were ideal for recording Night Parrot, Bilby and Grey Falcon unless specified otherwise; and
- Night Parrot, Bilby and Grey Falcon evidence of occupancy has been correctly identified during the survey.

1.7.3 Management Approach

The management approach developed in this FMP is based on the mitigation hierarchy to ensure potential impacts to the fauna have been avoided and minimised where possible. The strategy focuses on avoidance primarily, followed by minimisation and rehabilitation where applicable.

The potential impacts of the Project on fauna have resulted in this management plan (this document) to prescribe a particular manner of implementation to avoid and minimise direct and indirect impacts. Implementation of the Project in this manner is expected to minimise significant impacts to fauna.

1.7.4 Rationale for Choice of Provisions

This FMP has been prepared in accordance with the "*Instructions on how to prepare Environmental Protection Act 1986 Part IV Environmental Management Plans*" (EPA, 2024) and the "*Environmental Management Plan Guidelines*" (DotE, 2014) published by the EPA and the Commonwealth, respectively.

The rationale for the choice of provisions is based on implementing the management approach described above to avoid, minimise and rehabilitate the potential impacts caused by construction of the Project on Night Parrot, Bilby and Grey Falcon. A critical element to this management approach is identifying and quantifying the potential direct and indirect impacts to Night Parrot, Bilby and Grey Falcon caused by the Project. A summary of the potential impacts of the Project is included in the following sections.

Direct Impacts

Loss of habitat

Survey work by Phoenix (2024) identified the areas within the development envelopes as containing suitable Night Parrot, Bilby and Grey Falcon habitat. Up to 378.1 ha of sandplain habitat and 386.1 ha of broad foraging habitat for the Grey Falcon, has the potential to be cleared for the development of the Project. This will result in a 26% reduction of the local extent of habitat for both species which is not expected to represent a significant proportion of locally available habitat. No Bilby burrows were identified during the surveys however it is possible that bilbies could dig burrows within the development envelope in the time between the survey and construction of the Project.

Night Parrot have also not been recorded during surveys and whilst unlikely to be recorded in the development envelopes due to the low quality of habitat and surrounding land uses, this FMP addresses management of the loss of habitat given the Critically Endangered status of the Night Parrot.

Vehicle strike

During construction of the Project there will be increased vehicle movement throughout the development envelopes, consequently increasing the likelihood of vehicle strikes on Night Parrot, Bilby and Grey Falcon.

Indirect Impacts

Weed invasion

Weeds have the potential to disperse during construction due to clearing of native vegetation and increased vehicle movements. Increased weed burdens in fauna habitat can prevent seedling recruitment of native plant species potentially reducing the amount of habitat and food resources available. Increased weed densities can also alter fire regimes. The land has historically been used for pastoralism.

Increased predation from introduced fauna

The initial clearing of habitat could increase the likelihood of predation by introduced predators by reducing the amount of shelter and protection from native vegetation. Domestic waste within the development envelopes also has the potential to attract feral predators and increase predation, particularly by cats. The site is close to the town of South Hedland, the Wedgefield Industrial Area and port of Port Hedland.

Erosion of habitat

Clearing of native vegetation has the potential to increase the risk of erosion from wind and surface water run-off and cause degradation of habitat.

Fire

The relationship between fauna and fire is complex, and the absence of active fire management or the prevailing fire regime of an area can determine its suitability as habitat. Fire can influence on the type and availability of food resources, vegetation density by making it more, or less, suitable for fauna, and may influence predator behaviour and predation.

Other

Disruption to normal behavioural patterns from increased levels of activity (i.e. noise, dust, light and vibration) in the area could impact on dispersal, foraging and breeding.

1.7.5 RISK ASSESSMENT

The management actions in this FMP have been developed to mitigate potential impacts to fauna and their habitat arising from the Project. These have been prioritised based on the risk that each potential impact will result in, to EPBC Listed fauna and their habitat. The key threats and impacts to fauna from Project activities are outlined in Table 3. The threats have been assessed against the risk assessment criteria provided in Appendix 1. Appendix 2 provides a risk assessment for each of the four Threatened species.

Table 3: Summarised Risk Assessment

Potential Threat / Project related activities	Potential Impacts	Species Risk Rating			Assessment and Justification
		Grey Falcon	Bilby	Night Parrot	
Direct Impacts					
Clearing activities.	Loss of habitat.	Low	Medium	Low	• Sandplain habitat has been identified as critical habitat for the Bilby; • No Bilby burrows were identified within the development envelopes; • Major drainage habitat is considered critical habitat for the Grey Falcon and represents the most suitable breeding and foraging habitat. No major drainage habitat is present within the development envelopes. Drainage line habitat was recorded within the EIDE and may provide foraging (supporting) habitat for the Grey Falcon; • Grey Falcon are highly nomadic species and may be frequent in the area; and • Suitable sandplain habitat for the Night Parrot was identified in the development envelope. However, the lack of records and surrounding land uses reduces the probability of Night Parrot occupying the development envelopes.
Ground disturbance machinery or vehicle movements / interactions.	Direct loss and injury to fauna individuals as a result of fauna vehicle collisions	Low	Low	Low	• Key clearing activities to occur during daylight hours; • No Bilby burrows were identified within the development envelopes; • The Grey Falcon commonly nests in timbered areas, particularly tall trees along watercourses, and forages in open or more sparsely vegetated habitats; • A breeding pair and a single fledged juvenile Grey Falcon were recorded during the survey. The breeding pair were recorded within the EIDE perched on a transmission tower in the EIDE adjacent to APA's power station; and • Suitable sandplain habitat for the Night Parrot was identified in the development envelope. However, the lack of records and surrounding land uses reduces the probability of Night Parrot occupying the development envelopes.
General construction and operational activities.	Direct loss and injury to fauna individuals as a result of vehicle collisions.	Low	Low	Low	
Indirect Impacts					
Ground disturbance machinery or vehicle movements / interactions.	Change in fauna behaviour due to noise, vibration and dust emissions.	Low	Low	Low	• Key clearing activities to occur during daylight hours; • The Project is located in an area which is already exposed to high levels of noise vibration and dust as it is located in an industrial area adjacent to a highway which is a major transport route; and • No known breeding populations of Bilby or Night Parrot have been recorded within the development envelopes. A breeding Grey Falcon pair were recorded in the EIDE however there is no suitable breeding habitat within the development envelopes.
	Habitat degradation as a result of contamination, weeds,	Low	Low	Low	• No known permanent waterbodies within the development envelopes; and • Project design to maintain surface waterflows.

Potential Threat / Project related activities	Potential Impacts	Species Risk Rating			Assessment and Justification
		Grey Falcon	Bilby	Night Parrot	
	altered fire regimes and alteration, contamination of surface water and altered surface water flows.				• Suitable sandplain habitat for the Night Parrot was identified in the development envelope. However, the lack of records and surrounding land uses reduces the probability of Night Parrot occupying the development envelopes.
Clearing activities.	Decline in habitat condition though weeds, alteration to fire regimes and dust generation and deposition.	Low	Low	Low	• The majority of vegetation within the development envelopes is in good to excellent condition. • Suitable habitat for the Bilby, Grey Falcon and Night Parrot was recorded in the development envelopes. The Project is not likely to support the Night Parrot due to the existing threats to dispersal; and • No Weeds of National Significance recorded.
	Increased predation	Low	Low	Low	• Feral animals known to occur at the Project and extensively across the region due to the proximity to residential areas. Implementation of the Project is unlikely to result in an increase of feral animals; and • Implementation of management actions detailed in Section 2.3.
Increased domestic waste.	Attraction of feral predators and increase predation on significant fauna.	Low	Low	Low	• Feral animals are known to occur in the area; • Implementation of management actions detailed in Section 2.3; and • Suitable habitat is present within the development envelopes, although extensive surveys have identified minimal presence of Grey Falcon and no Night Parrot.
General construction and operational activities.	Increased light spill, noise, dust and / or vibration resulting in behavioural changes including breeding, attraction to areas of	Low	Low	Low	• No known breeding populations of Bilby or Night Parrot have been recorded within the development envelopes. A breeding Grey Falcon pair were recorded in the EIDE however there is no suitable breeding habitat within the development envelopes; and

Potential Threat / Project related activities	Potential Impacts	Species Risk Rating			Assessment and Justification
		Grey Falcon	Bilby	Night Parrot	
	high activity, displacement to less suitable refugia / habitat.				• The Project is located in an area which is already exposed to high levels of noise vibration and dust as it is located in an industrial area adjacent to a highway which is a major transport route.
	Habitat degradation as a result of contamination, weeds, altered fire regimes and alteration, contamination of surface water and altered surface water flows.	Low	Low	Low	• Project design to ensure water flows are maintained; • Suitable habitat is present within the development envelopes, although extensive surveys have identified minimal presence of Grey Falcon and no Night Parrot; and • The lack of Night Parrot records and surrounding land uses reduces the probability of Night Parrot occupying the development envelopes.
	Increased predation or competition due to introduction or spread of introduced fauna species (i.e., cane toad and fox) or diseases.	Low	Low	Low	• Feral animals are known to occur in the area; and • Suitable habitat is present within the development envelopes, although extensive surveys have identified minimal presence of Grey Falcon and no Night Parrot.
	Anthropogenic activity in proximity or within critical habitat resulting in disturbance of fauna species (human visitation).	Low	Low	Low	• No known breeding populations of Bilby or Night Parrot have been recorded within the development envelopes. A breeding Grey Falcon pair were recorded in the EIDE however there is no suitable breeding habitat within the development envelopes.
Physical presence of infrastructure.	Behavioural changes as a result of barriers to movement. Barrier to dispersal. Potential to isolate local populations.	Low	Low	Low	• All habitat types extend outside of the development envelopes; and • Habitat connectivity is to be maintained through Project design.

2 COMPONENTS

2.1 OVERARCHING OBJECTIVES

2.1.1 RECOVERY PLAN OBJECTIVES

Night Parrot

There is no current recovery plan for the Night Parrot. The Conservation Advice provides sufficient guidance on the recovery of the Night Parrot (DCCEEW, 2025). Key points from the Night Parrot Conservation Advice are as follows:

Priority Conservation Objective

Maintain the persistence of Night Parrots in areas where it has been detected since 2013 and increase abundance and area of occupancy of the species by protection and appropriate management of threats at known or potentially occupied sites.

Conservation and Management Priorities

- Invasive species impacts (including from grazing, trampling, predation):
  - Monitor and control for fox and cat activity in localities where Night Parrots are known or likely to occur;
  - Avoid the introduction or intensification of grazing by domestic stock in habitats likely to be used by Night Parrots;
  - Avoid the establishment and of stock or other water sources within stock grazing range, or cat and fox dispersal range of habitats likely to be used by Night Parrots;
  - Avoid the intensity of grazing by domestic stock in habitats likely to be used by Night Parrots;
  - Monitor and control for feral herbivore activity in localities where Night Parrots are known or likely to occur; and
  - Conduct localised buffel grass control using an adaptive management approach in known or likely Night Parrot habitat;
- Habitat loss, disturbance and modification impacts:
  - Avoid changes to land management in areas known to be used by Night Parrots;
  - Support land managers to covenant or otherwise increase the security of conservation management of areas known to be used by Night Parrots;
  - Avoid the extent of fencing in areas likely to be used by Night Parrots;
  - Protect existing natural water sources within Night Parrot habitat from disturbance or modification;
  - Avoid human visitation to known Night Parrot roosts;
  - Avoid establishing roads through areas likely to be used by Night Parrots;
  - Ensure any mining or infrastructure development sufficiently survey for the species to avoid areas that are known or likely to be used by Night Parrots;
- Climate change and severe weather impacts:
  - When droughts occur in known Night Parrot habitat, gather information about impacts on food and water availability and population dynamics to better understand how weather and resource changes impact the species;

- Fire:
    - Implement fire regimes that maximise the amount of long-unburnt structurally complex *Triodia* within the landscape over time; and
    - Fragment large areas of spinifex through burning or fuel removal to create linear breaks or series of connected small patches to prevent entire patches being burned during single wildfire events.

Bilby

The Commonwealth issued a revised National Recovery Plan for the Greater Bilby in 2023 (Commonwealth of Australia, 2023). The Recovery Plan aims to halt the decline and support recovery of the Bilby and provides the research and management actions necessary to maximise the Bilby's chances of long-term survival in nature (Commonwealth of Australia, 2023).

The Recovery Plan includes on-ground conservation and management actions, which are planned to occur within a monitoring framework that measures the impact of management. The Recovery Plan includes supporting actions to promote the role of Traditional Owners and land managers in Bilby conservation, provide governance and coordination, establish and maintain monitoring and surveys, and undertake research to inform management.

The Recovery Plan has four key objectives with associated performance criteria, as detailed below:

- **Objective 1**: The size of the Greater Bilby population has grown.
- **Objective 2**: The area occupied by the Greater Bilby has been maintained or increased.
- **Objective 3**: The genetic diversity of the Greater Bilby has been maintained and retains the potential for evolutionary change through adaption and selection.
- **Objective 4**: Indigenous organisations, communities, and individuals have a greater role in Bilby conservation.

Grey Falcon

The Threatened Species Scientific Committee advises that a recovery plan is not recommended for the Grey Falcon. The Conservation Advice provides sufficient guidance on the recovery of the Grey Falcon and a decision to have a recovery plan is unlikely to lead to substantial additional conservation benefits at this time. Key points from the Grey Falcon Conservation Advice are as follows:

Primary conservation actions:

- Support initiatives to improve habitat management; and
- Cat and camel control in arid and semi-arid Australia.

Conservation and management priorities:

- Habitat loss, disturbance and modifications;
    - Support improved fire and grazing management in areas where Grey Falcons are known to occur;
    - Protect known nesting trees and include adequate exclusion buffers with regard to proposed developments and land clearing activities;
    - Support the establishment and survival of replacement nest trees in areas where Grey Falcon in known to breed; and
    - Retain artificial structures with known or potential Grey Falcon nests.

- Invasive species;
    - Control invasive cats and camels in areas where Grey Falcons are known to occur, especially in known roosting and nesting areas.

Stakeholder Engagement:

- Engage Indigenous Land Councils, communities, pastoral industry, land managers and non-government organisations to support the conservation of Grey Falcons;
- Discourage the disclosure of locations of active nests to the public;
- Promote the conservation, and raise the profile, of Grey Falcons through strategic programs and educational products with land holders and community groups; and
- Promote the exchange of conservation priorities between governments, non-government organisations and communities through use of networks, publications and websites.

Survey and Monitoring priorities:

- This species is rare, with a very large distribution. Monitoring population trends is particularly challenging, and will probably require collaboration between many stakeholders to implement, once a suitable approach has been designed;
- Annual surveys of breeding events across the arid and semi-arid zone are recommended including at least the Western Simpson Desert, Tanami Desert and Barkly Tablelands;
- Locating active Grey Falcon nests is aided by:
    - Visiting nests used in previous years;
    - Actively searching for new nests in suitable habitat; and
    - Following up records from the general public, including from Indigenous communities, land managers and bird watchers.

Information and research priorities:

- Develop methods for assessing population trends in a rare, widely-distributed species. This requires consideration of logistical, sampling and analytical constraints;
- Continues to collect ecological and demographic information; and
- Improve knowledge about potential threatening processes including feral cats, climate change and habitat modification.

2.1.2 Environmental Protection Authority Objective

The EPA's environmental objective for Terrestrial Fauna is set out within the EPA's *Statement of environmental principles, factors, objectives and aims of EIA* (EPA, 2023). The EPA's objective for the Terrestrial Fauna Environmental Factor is "*to protect terrestrial fauna so that biological diversity and ecological integrity are maintained*".

2.2 Environmental Objectives for this Plan

The key management objectives specific to construction of the Project are:

- Minimise clearing and impacts to sandplain habitat in the development envelopes;
- Reduce impacts to Night Parrot, Bilby and Grey Falcon populations and habitat outside of the development envelopes;
- Prevent introduction and/or spread of weeds into sandplain habitat or adjacent areas;
- Prevent introduction and dispersal of feral predators into sandplain habitat;
- Prevent introduction of fire and/or spread of fire into adjacent areas; and

- No Night Parrot, Bilby or Grey Falcon mortality as a result of vehicle strike.

2.3 MANAGEMENT ACTIONS, TARGETS AND MONITORING

To achieve these objectives, management targets and actions have been developed to address the key potential impacts associated with the Project. The management targets and actions which will be implemented in accordance with this plan are summarised in Table 4.

Table 4 presents the environmental management objectives and actions that the Project has implemented or will implement prior to ground disturbing activities, and during construction, in order to achieve the objectives. These actions are focused on avoiding adverse impacts the Bilby resulting from Project activity and are also applicable to the Grey Falcon and Night Parrot. These actions will be implemented prior to and during ground disturbance and construction activities of the Project.

Table 4: Management Objectives and Actions

Management Objective	Key Management Action	Management Target	Monitoring	Reporting
Objective 1: Avoid and minimise clearing impacts to sandplain habitat.	• A suitably qualified person will survey for the presence of Night Parrot and Bilby before clearing works in sandplain habitat; • Undertake relocation of Bilby individuals where required; • If Night Parrot is recorded, halt clearing works until it has been confirmed, via additional surveys, that the Night Parrot is no longer occupying the area proposed for clearing; • Clearing is only to occur within approved areas; • Boundaries of areas to be cleared or disturbed will be identified by a Global Positioning System (GPS) coordinates and maps of boundaries will be provided to dozer operators; • Exclusion zones of five metres will be established around any active Bilby burrows (should they be identified during pre-clearance surveys or at other times during construction works); • Exclusion zones will be demarcated with flagging prior to the commencement of clearing and the exclusion zones are to remain adequately marked for the duration of clearing activities or until it is confirmed that bilbies have relocated and the burrow is no longer active; • All clearing will require a permit via completion of internal ground disturbance procedures, that will include: o Prompts to minimise clearing; o Demarcation of disturbance areas; o Designated oversight responsibilities and timing of actions; o General actions that ensure clearing is undertaken in accordance with environmental approvals; • Clearing boundaries will be clearly marked on construction documents and within the field; • Surface water management measures (i.e. bunding) will be implemented to ensure clearing of native vegetation will not increase erosion of habitat; • Erosion and sedimentation control measures will be implemented during all construction activities to prevent erosion and control sediment on the site; • Vehicles and machinery to remain on approved and/or existing tracks to reduce soil compaction; and • Undertake remediation and rehabilitation of areas that are temporarily disturbed during construction.	Total clearing not to exceed the authorised extent in the ministerial statement/EPBC Act approval decision. No clearing outside the development envelopes. No direct loss of, or serious injury to Bilby, Night Parrot or Grey Falcon individuals as a result of the Project. No evidence of soil compaction or soil erosion in areas of retained habitat as a result of the Project.	Monitoring of vegetation clearing will be ongoing until clearing is complete. Monitoring for Bilby, Night Parrot and Grey Falcon will be undertaken at least every two years. Monitoring of erosion controls during construction.	To DCCEEW and Department of Water and Environmental Regulation after any potential non-compliance within seven days of potential non-compliance being known. Reporting to Department of Biodiversity, Conservation and Attractions (DBCA) in accordance with the BC Act. Annual clearing data reported in annual Compliance Assessment Report (CAR).

Management Objective	Key Management Action	Management Target	Monitoring	Reporting
Objective 2: Prevent introduction and/or spread of weeds into habitat or adjacent areas.	• Baseline weed survey to determine weed locations and densities; • Weed hygiene procedures will be implemented to minimise the risk of introducing new species to the site and surrounding areas. Weed hygiene procedures include: o Equipment inspections undertaken to check hygiene of earthmoving equipment and vehicles arriving on site; o Vehicles and machinery to remain on approved and/or existing tracks to limit the risk of weed invasion within undisturbed areas; o Movement of machines and other vehicles will be restricted within the development envelopes, to designated tracks or approved areas only; o Plant and soil materials will be restricted from being brought to site unless approved for a specific purpose; and o Hygiene breaches to be reported internally as an environmental incident. • Post-construction weed survey to determine whether new species have been introduced or existing infestations have expanded or intensified; • If inspections show new weed species or populations are established, weed mapping will be conducted to determine the extent of the impact and measure the effectiveness of control measures; • Develop and implement weed control programs where new species are detected and/or the area of occupancy of weed species has increased; and • Follow up monitoring on any areas where weeds have required control within one year. • Internal reporting as follows: o Incident reports of occurrences weed infestations, during general and targeted searches for *Cenchrus ciliaris*, *Aerva javanica*, *Malvastrum americanum*, *Portulaca oleraceoleracea*. and *Vachellia farnesiana* o Invasive species control reports; and o Records of equipment (including vehicle) washdown, hygiene certificates and auditing.	No new Declared Weeds or Weeds of National Significance within surrounding vegetation, attributable to the Project. No significant increase in weed cover attributable to the Project.	Assess the extent of weed infestation annually. Monitoring will include targeted searches of the weed species within the development envelopes.	• Summary of weed management actions undertaken reported in CAR. • Detection of any Declared Weeds or Weeds of National Significance will be reported to the Department of Primary Industries and Regional Development.

Management Objective	Key Management Action	Management Target	Monitoring	Reporting
Objective 3: Prevent introduction and dispersal of feral/domestic predators into habitat.	• Undertake baseline feral fauna survey prior to commencing construction; • Undertake feral fauna monitoring and control measures (if required) within and on the perimeter development envelopes; • Monitoring to be undertaken at appropriate locations by PHI in partnership with Indigenous Rangers where feasible; • Feral animal control programme in line with the Town of Port Hedland and DBCA guidance. Should feral predator control be required, trapping will be the preference; • Trapping will be undertaken at appropriate locations by PHI in partnership with Aboriginal land managers, Traditional Owners and Indigenous Rangers where feasible; • Trapped animals will be managed through an agreement with the Town of Port Hedland; • Incident reports of occurrences feral/domestic predators, during general and targeted searches; • Opportunistic feral fauna sightings will be recorded, and assessed on an annual basis; • No pets will be permitted on site; and • Avoid attraction of introduced species to the development envelopes by implementing waste management procedures (e.g. rapid removal of putrescible waste, secure lids on bins).	No increase in feral/domestic predator activity within the development envelopes.	Monitoring will be undertaken at least annually. If monitoring indicates an increase of feral predator activity (above baseline results) within the development envelopes, feral predator controls will be implemented.	Summary of feral animal sightings reported in CAR. Summary of feral animal control actions undertaken reported in CAR.
Objective 4 Prevent introduction of fire and/or spread of fire into adjacent areas.	• Maintenance of existing fire breaks; • An Emergency Response Plan; • On-site firefighting capability will be established, and firefighting equipment located on site and in vehicles; • Fire awareness training; • Specific measures to prevent accidental fires; • Procedures for fire identification and reporting; • Response procedures and fire drills; and • Implementation of a Bushfire Management Plan.	No incidents of fire originating within, and spreading outside of, the development envelopes attributable to the Project.	• Regular inspections of firefighting equipment and machinery; and • Regular inspections of fire breaks and environmental fuel loads in proximity to the development envelopes.	As per the Bushfire Management Plan.

Management Objective	Key Management Action	Management Target	Monitoring	Reporting
Objective 5: No mortality as a result of vehicle collisions.	• All construction personnel to undergo induction training on Night Parrot, Bilby, Northern Quoll and Grey Falcon presence and behaviour and the required vehicle speed limits; • Personnel to report any opportunistic sightings of Night Parrot, Bilby and/or Grey Falcon; and • Restricted night-time vehicle movements to minimise the potential for vehicle strikes.	No direct loss or serious injury to Bilby, Night Parrot and Grey Falcon individuals as a result of vehicle strikes.	Not applicable.	Report any incidents of mortality, or opportunistic sightings, to DBCA and DCCEEW within seven days of incident. All vertebrate fauna deaths and injuries will be entered as an incident and tracked through PHI's incident management system and reported in AER. Monitoring reports will be submitted to Government as per requirements under the Biodiversity Conservation Regulations 2018 and *Animal Welfare Act 2002*.

2.4 IMPLEMENTATION

Incident reporting and investigations will be undertaken in accordance with a Project-specific incident reporting and investigation procedure, and root causes will be determined. Corrective actions will be identified and implemented to address the root causes.

Incidents and non-compliances with this FMP and other management documents will be reported and investigated in accordance with a Project-specific incident reporting and investigation procedures, and appropriate measures implemented to prevent recurrence. Where applicable, environmental incidents will be reported to the relevant government agency.

The following procedure will be implemented when a non-compliance occurs:

- Report the incident (within seven days), investigate the cause and identify contingency actions;
- Implement contingency actions which may include:
    - Review management measure practicality or relevance;
    - Improve training and education for all personnel; and
    - Improve and implement increased protective measures as necessary;
- Monitor outcomes.

2.4.1 WEED MANAGEMENT

Introducing or spreading weeds by earthmoving equipment and ground disturbance can impact the availability and quality Bilby and Grey Falcon habitat. PHI will engage in ongoing active weed management to ensure weeds are controlled.

Objectives

The objective of weed management is to ensure that Project activities do not result in the introduction of new weed species or increase in the extent of existing weed species.

Methodology

A weed monitoring and management programme will be developed to ensure that any existing and new weed infestations within area of Project-related disturbance (including areas of rehabilitation) are identified and controlled or eradicated. Monitoring will be undertaken at specific locations within and around the development envelopes.

Should monitoring indicate the introduction or spread of weeds within the development envelopes, weed control programs will be developed and implemented.

2.4.2 FERAL PREDATOR CONTROL

Predation from feral cats, dingo/wild dogs and foxes have had a serious detrimental effect on the conservation of the Bilby, and feral cats are known to predate on the Grey Falcon. Accordingly, feral predator control in areas of Bilby and Grey Falcon habitat is considered important to maintain populations of both species.

Objectives

The objective of feral predator control is to reduce the threat to Bilby and Grey Falcon from feral predators.

Methodology

A key component of the feral predator monitoring and control program will be to provide opportunities to exchange knowledge and experience on techniques with Traditional Owners.

Should monitoring indicate an increase in feral predator activity within the development envelopes, feral predator control will be implemented. Trapping will be the preferential control method as the proximity to South Hedland means that shooting and baiting are not appropriate. Trapped animals will be managed under an agreement with the Town of Port Hedland.

3 ROLES AND RESPONSIBILITIES

PHI is responsible for complying with all the commitments made in environmental management plans. This section defines the roles and responsibilities of personnel in charge of the environmental management of the Project. The roles and responsibilities of each relevant position is documented, including the responsibilities of subcontractors.

Table 5: FMP management roles and responsibilities

Role	Responsibility
All Personnel	• Comply with all legal requirements and the requirements of this Plan. • Report fauna incidents and sightings of MNES to their Supervisor or Site Environment Team. • Attend environmental inductions.
General Manager	• Ultimate responsibility for compliance with the requirements of the FMP. • Provision of resources and personnel required to implement this FMP.
Manager Environment and Approvals	• Maintain this FMP and review the effectiveness and implementation of this FMP. • Provide advice, including procedures and requirements, to all key parties to ensure compliance with legal requirements, achievement of environmental objectives and improving environmental performance. • Provide support to all personnel as required ensuring the FMP is implemented. • Implement monitoring programmes.
Zoological Specialists	• When instructed by the Manager Environment and Approvals, provide advice, including procedures and requirements to key parties to ensure achievement of environmental objectives and improving environmental performance.
Environmental Officer	• Report on the implementation of the FMP. • Provide advice, including procedures and requirements, to all key parties to ensure compliance with legal requirements, achievement of environmental objectives and improving environmental performance. • Provide training and inductions on fauna management as outlined in this FMP. • Environmental inspections.

4 ENVIRONMENTAL TRAINING

All personnel involved with construction, operation and closure of the Project are to receive relevant environmental training to ensure they understand their responsibilities in implementing the FMP. Personnel to be trained include those at the site/s of construction, operation and closure of the Project.

The training is to be tailored to the role of the individual within the Project team. Training is to be implemented as per the requirements of Table 6.

Table 6: FMP environmental training requirements

Training Type	Personnel to be trained	Information to be provided
Site induction	All personnel	• General environmental management on site. • Incident reporting requirements. • General requirements of the FMP. • Information about which activities will be managed by the FMP. • Potential non-compliance consequences.
GDP	Personnel associated with vegetation clearing	• GDP procedure implementation. • Requirements of this FMP in the GDP process. • General description of significant fauna species and habitat that may occur within the Project area.

All training is to be recorded in the Project Training Register. The Register is to include:

- The person receiving the training;
- The date the training was received;
- The name of the person conducting the training; and
- A summary of the training received.

All pre-clearance field surveys investigations have been undertaken by personnel that are suitably qualified:

- Qualified zoologist with a minimum of five years' experience in the WA arid zone; and
- Experienced in the detection of bat and bird listening surveys.

5 EMERGENCY CONTACT AND PROCEDURES

If an EPBC Act-listed fauna species was injured during Project activities, or found orphaned, it would constitute an emergency situation applicable under this FMP. In this case the following procedure would be followed:

1. The Project or Environmental Manager to call Pilbara Wildlife Carers Association (https://www.pwca.org.au) in the first instance to discuss the immediate situation and develop a plan of action to get treatment for the individual; and
2. The Project or Environmental Manager to contact DBCA to inform them on the situation and possible need for additional support.

PHI will report the incident to DBCA and DCCEEW as soon as practicable and investigate all incidents.

In the event of a death of an EPBC Act-listed fauna species individual, the death will be reported to DBCA and DCCEEW, and in consultation with DBCA, the body may (pending its condition) be collected, vouchered, appropriately stored, and submitted to WA Museum or DBCA.

6 ADAPTIVE MANAGEMENT AND REVIEW

This FMP has been developed to mitigate the potential impacts of the Project identified in Section 1.7.4 by implementing the management actions outlined in Section 2.3. The adaptive management and review strategy includes ongoing evaluation of monitoring data to determine if the environmental outcomes are being met. In the event that the FMP is failing to achieve the outcomes defined in Section 2.1, PHI will initiate a review of the FMP.

In order to facilitate an adaptive management approach, the FMP will be revised annually from the first year of construction. Each revision will draw on information learned in the preceding years and will typically include a review of following:

- Key assumptions and uncertainties (Section1.7.2);
- The performance of the FMP against the outcomes (Section 2.1);
- Re-evaluation of the rationale for the choice of provisions (Section 1.7.4); and
- The consideration of any external changes during the life of the Project.

7 STAKEHOLDER CONSULTATION

This FMP has been structured to ensure the document aligns with the EPA's *How to prepare* Environmental Protection Act 1986 *Part IV environmental management plans* (EPA, 2024). Representatives from PHI and Preston Consulting Pty Ltd have met and liaised with EPA and DCCEEW to discuss the Project and presence of Night Parrot, Bilby and Grey Falcon in the development envelopes.

KAC monitors have assisted in survey work and provided Traditional Owner perspectives into the survey work.

8 GLOSSARY

Term	Definition
BC Act	*Biodiversity Conservation Act 2016* (WA)
Bilby	Greater Bilby (*Macrotis lagotis*)
DBCA	Department of Biodiversity, Conservation and Attractions
DCCEEW	Department of Climate Change, Energy, the Environment and Water
EIDE	External Infrastructure Development Envelope
EPA	Environmental Protection Authority
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
FMP	Fauna Management Plan
GPS	Global Positioning System
Grey Falcon	Grey Falcon (*Falco hypoleucos*)
ha	Hectare
HBI	Hot Briquetted Iron
IOPF	Iron Ore Processing Facility
KAC	Kariyarra Aboriginal Corporation
km	Kilometre
m	Metres
Mtpa	Million tonnes per annum
PDE	Plant Development Envelope
PHI	Port Hedland Iron Pty Ltd
Phoenix	Phoenix Environmental Sciences Pty Ltd
Project	Port Hedland Iron Project
Recovery Plan	Recovery Plan for the Greater Bilby
SIA	Strategic Industrial Area
TSSC	Threatened Species Scientific Committee
UCL	Unallocated Crown Land
WA	Western Australia

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APPENDIX 1: RISK ASSESSMENT CRITERIA AND MATRIX

Consequence of Hazard Definitions

Consequence of Impact	Environmental Factor
	Biodiversity
Insignificant	Alteration or disturbance to an isolated area with no effect on habitat or ecosystem. No loss of any individual Threatened plants or animals.
Minor	Alteration or disturbance to <10% of a habitat or ecosystem resulting in a recoverable impact within 2 years. Loss of individual Threatened plants or animals.
Moderate	Alteration of disturbance to 10- 40% of a habitat or ecosystem resulting in a recoverable impact within 2-5 years. Loss of multiple Threatened plants or animals.
Major	Alteration or disturbance to 40- 70% of a habitat or ecosystem resulting in a recoverable impact within 5-15 years. Loss of >50% known local population of plant / animal species with possible loss of entire population.
Severe	Alteration or disturbance to >70% of a habitat or ecosystem resulting in a recoverable impact >15 years. Local loss of conservation significant or listed species. Extinction of a species.

Likelihood Descriptors

Descriptor	Probability
Almost Certain	Event will occur during the Project.
	High number of known incidents.
Likely	Event likely to occur during the Project.
	Regular incidents known.
Possible	Event may occur in some instances during the Project.
	Occasional incidents known.
Unlikely	Event is not likely to occur during the Project.
	Some occurrences known.
Rare	Event will occur in exceptional circumstances during the Project.
	Very few or no known occurrences.

Consequence and Likelihood Matrix

Risk Matrix		Impact				
		Insignificant	Minor	Moderate	Major	Severe
Likelihood	Almost Certain	Medium	High	High	Extreme	Extreme
	Likely	Medium	Medium	High	High	Extreme
	Possible	Low	Medium	Medium	High	High
	Unlikely	Low	Low	Medium	Medium	High
	Rare	Low	Low	Low	Medium	Medium

Risk Assessment Criteria Table

Level of Risk	Suggested Risk Criteria
Low	Acceptable with adequate controls (subject to alignment with tolerance and appetite).
Moderate	Acceptable with adequate controls (subject to alignment with tolerance and appetite).
High	Requires strict controls.
Extreme	Requires strict controls. May not be able to mitigate the risk in some cases.

APPENDIX 2: THREATENED SPECIES RISK ASSESSMENT

BILBY

Table 7: Bilby Risk Assessment

Impact	Relevant Information	Consequence	Likelihood	Risk Rating	Assessment and Justification
Direct Impacts					
Clearing activities.	Loss of habitat.	Moderate	Possible	Medium	- Sandplain habitat has been identified as critical habitat for the Bilby; and - No Bilby burrows were identified within the development envelopes.
Ground disturbance machinery or vehicle movements / interactions.	Direct loss and injury to fauna individuals as a result of fauna vehicle collisions or misidentification (predominantly Pilbara Olive Python).	Minor	Unlikely	Low	- Key clearing activities to occur during daylight hours; and - No Bilby burrows were identified within the development envelopes.
General construction and operational activities.	Direct loss and injury to fauna individuals as a result of vehicle collisions.	Minor	Unlikely	Low	
Indirect Impacts					
Ground disturbance machinery or vehicle movements / interactions.	Change in fauna behaviour due to noise, vibration and dust emissions.	Minor	Unlikely	Low	- Key clearing activities to occur during daylight hours; - The Project is located in an area which is already exposed to high levels of noise vibration and dust as it is located in an industrial area adjacent to a highway; and - No known breeding populations of Bilby have been recorded within the development envelopes.
Ground disturbance machinery or vehicle movements / interactions.	Habitat degradation as a result of contamination, weeds, altered fire regimes and alteration, contamination of surface water and altered surface water flows.	Minor	Unlikely	Low	- No known permanent waterbodies within the development envelopes; and - Project design to maintain surface waterflows.
Clearing activities.	Decline in habitat condition though weeds, alteration to fire regimes and dust generation and deposition.	Minor	Unlikely	Low	- The majority of vegetation within the development envelopes was in good to excellent condition; - Suitable sandplain habitat for the Bilby was recorded in the development envelopes; and - No Weeds of National Significance were recorded.
Clearing activities.	Increased predation	Minor	Unlikely	Low	- Feral animals known to occur at the Project and extensively across the region due to the proximity to residential areas. Implementation of the Project is unlikely to result in an increase of feral animals; and - Implementation of management detailed in Section 2.3.
Increased domestic waste	Attraction of feral predators and increase predation on significant fauna.	Minor	Unlikely	Low	- Feral animals known to occur at the Project; and - Implementation of management actions detailed in Section 2.3.
General construction and operational activities.	Increased light spill, noise, dust and / or vibration resulting in behavioural changes including breeding, attraction to areas of high activity, displacement to less suitable refugia / habitat.	Moderate	Rare	Low	- No known breeding populations of Bilby have been recorded within the development envelopes; and - The Project is located in an area which is already exposed to high levels of noise vibration and dust as it is located in an industrial area adjacent to a highway;
General construction and operational activities.	Habitat degradation as a result of contamination, weeds, altered fire regimes and alteration, contamination of surface water and altered surface water flows.	Minor	Unlikely	Low	- Project design to ensure water flows are maintained; and - Implementation of management actions detailed in Section 2.3.
General construction and operational activities.	Increased predation or competition due to introduction or spread of introduced fauna species (i.e., cane toad and fox) or diseases.	Minor	Unlikely	Low	- Feral animals are known to occur in the area; and - Implementation of management actions detailed in Section 2.3.
General construction and operational activities.	Anthropogenic activity in proximity or within critical habitat resulting in disturbance of fauna species (human visitation).	Minor	Unlikely	Low	- No known breeding populations of Bilby have been recorded within the development envelopes.
Physical presence of infrastructure.	Behavioural changes as a result of barriers to movement. Barrier to	Minor	Rare	Low	- All habitat types extend outside of the development envelopes; and - Habitat connectivity is to be maintained through Project design.

Impact	Relevant Information	Consequence	Likelihood	Risk Rating	Assessment and Justification
	dispersal. Potential to isolate local populations.				

GREY FALCON

Table 8: Grey Falcon Risk Assessment

Impact	Relevant Information	Consequence	Likelihood	Risk Rating	Assessment and Justification
Direct Impacts					
Clearing activities.	Loss of habitat.	Minor	Unlikely	Low	- Major drainage habitat is considered critical habitat for the Grey Falcon and represents the most suitable breeding and foraging habitat. No major drainage habitat is present within the development envelopes. Drainage line habitat was recorded within the EIDE and may provide foraging (supporting) habitat for the Grey Falcon; and - Grey Falcon are highly nomadic species and may be frequent in the area.
Ground disturbance machinery or vehicle movements / interactions.	Direct loss and injury to fauna individuals as a result of fauna vehicle collisions.	Moderate	Rare	Low	- Key clearing activities to occur during daylight hours; - The Grey Falcon commonly nests in timbered areas, particularly tall trees along watercourses, and forages in open or more sparsely vegetated habitats; and - A breeding pair and a single fledged juvenile Grey Falcon were recorded during the survey. The breeding pair were recorded within the EIDE perched on a transmission tower in the EIDE adjacent to APA's power station.
General construction and operational activities.	Direct loss and injury to fauna individuals as a result of vehicle collisions.	Moderate	Rare	Low	
Indirect Impacts					
Ground disturbance machinery or vehicle movements / interactions.	Change in fauna behaviour due to noise, vibration and dust emissions.	Minor	Unlikely	Low	- Key clearing activities to occur during daylight hours; - The Project is located in an area which is already exposed to high levels of noise vibration and dust as it is located in an industrial area adjacent to a highway; and - A breeding Grey Falcon pair were recorded in the EIDE however there is no suitable breeding habitat within the development envelopes.
Ground disturbance machinery or vehicle movements / interactions.	Habitat degradation as a result of contamination, weeds, altered fire regimes and alteration, contamination of surface water and altered surface water flows.	Minor	Unlikely	Low	- No known permanent waterbodies within the development envelopes; and - Project design to maintain surface waterflows.
Clearing activities.	Decline in habitat condition though weeds, alteration to fire regimes and dust generation and deposition.	Moderate	Rare	Low	- The majority of vegetation within the development envelopes was in good to excellent condition; - Suitable habitat for the Grey Falcon was recorded in the development envelopes; and - No Weeds of National Significance were recorded.
Clearing activities.	Increased predation	Minor	Unlikely	Low	- Feral animals known to occur at the Project and extensively across the region due to the proximity to residential areas. Implementation of the Project is unlikely to result in an increase of feral animals; and - Implementation of management actions detailed in Section 2.3.
Increased domestic waste	Attraction of feral predators and increase predation on significant fauna.	Minor	Rare	Low	- Feral animals are known to occur in the area; - Implementation of management actions detailed in Section 2.3; and - Suitable habitat is present within the development envelopes, although extensive surveys have identified minimal presence of Grey Falcon.
General construction and operational activities.	Increased light spill, noise, dust and / or vibration resulting in behavioural changes including breeding, attraction to areas of high activity, displacement to less suitable refugia / habitat.	Minor	Unlikely	Low	- A breeding Grey Falcon pair were recorded in the EIDE however there is no suitable breeding habitat within the development envelopes; and - The Project is located in an area which is already exposed to high levels of noise vibration and dust as it is located in an industrial area adjacent to a highway.
General construction and operational activities.	Habitat degradation as a result of contamination, weeds, altered fire regimes and alteration, contamination of surface water and altered surface water flows.	Insignificant	Unlikely	Low	- Project design to ensure water flows are maintained; and - Suitable habitat is present within the development envelopes, although extensive surveys have identified minimal presence of the Grey Falcon.
General construction and operational activities.	Increased predation or competition due to introduction or spread of introduced fauna species (i.e., cane toad and fox) or diseases.	Minor	Unlikely	Low	- Feral animals are known to occur in the area; and - Suitable habitat is present within the development envelopes, although extensive surveys have identified minimal presence of Grey Falcon.
General construction and operational activities.	Anthropogenic activity in proximity or within critical habitat resulting in disturbance of fauna species (human visitation).	Minor	Rare	Low	- A breeding Grey Falcon pair were recorded in the EIDE however there is no suitable reeding habitat within the development envelopes.
Physical presence of infrastructure.	Behavioural changes as a result of barriers to movement. Barrier to	Insignificant	Rare	Low	- All habitat types extend outside of the development envelopes.

Impact	Relevant Information	Consequence	Likelihood	Risk Rating	Assessment and Justification
	dispersal. Potential to isolate local populations.				- Habitat connectivity is to be maintained through Project design.

NIGHT PARROT

Table 9: Night Parrot Risk Assessment

Impact	Relevant Information	Consequence	Likelihood	Risk Rating	Assessment and Justification
Direct Impacts					
Clearing activities.	Loss of habitat.	Minor	Unlikely	Low	- No Night Parrot were recorded during surveys; - Night Parrot are unlikely to occur at the Project; and - Suitable sandplain habitat for the Night Parrot was identified in the development envelope. However, the lack of records and surrounding land uses reduces the probability of Night Parrot occupying the development envelopes.
Ground disturbance machinery or vehicle movements / interactions.	Direct loss and injury to fauna individuals as a result of fauna vehicle collisions or misidentification (predominantly Pilbara Olive Python).	Minor	Unlikely	Low	- Key clearing activities to occur during daylight hours; - Night Parrot are unlikely to occur at the Project; and - Suitable sandplain habitat for the Night Parrot was identified in the development envelope. However, the lack of records and surrounding land uses reduces the probability of Night Parrot occupying the development envelopes.
General construction and operational activities.	Direct loss and injury to fauna individuals as a result of vehicle collisions.	Minor	Rare	Low	
Indirect Impacts					
Ground disturbance machinery or vehicle movements / interactions.	Change in fauna behaviour due to noise, vibration and dust emissions.	Minor	Rare	Low	- Night Parrot are unlikely to occur at the Project; - No Night Parrot recorded during surveys; - Key clearing activities to occur during daylight hours; and - The Project is located in an area which is already exposed to high levels of noise vibration and dust as it is located in an industrial area adjacent to a highway.
Ground disturbance machinery or vehicle movements / interactions.	Habitat degradation as a result of contamination, weeds, altered fire regimes and alteration, contamination of surface water and altered surface water flows.	Minor	Unlikely	Low	- No known permanent waterbodies within the development envelopes; - Project design to maintain surface waterflows; and - Suitable habitat for the Night Parrot was identified in the development envelope. However, the lack of records and surrounding land uses reduces the probability of Night Parrot occupying the development envelopes.
Clearing activities.	Decline in habitat condition though weeds, alteration to fire regimes and dust generation and deposition.	Minor	Unlikely	Low	- The majority of vegetation within the development envelopes was in good to excellent condition; - Suitable habitat for the Night Parrot was recorded in the development envelopes. The Project is not likely to support the Night Parrot due to the existing threats to dispersal; and - No Weeds of National Significance were recorded.
Clearing activities.	Increased predation	Minor	Unlikely	Low	- Night Parrot are unlikely to occur at the Project; - Feral animals known to occur at the Project and extensively across the region due to the proximity to residential areas. Implementation of the Project is unlikely to result in an increase of feral animals; and - Implementation of management actions detailed in Section 2.3.
Increased domestic waste	Attraction of feral predators and increase predation on significant fauna.	Minor	Unlikely	Low	- Feral animals are known to occur in the area; - No Night Parrot recorded during surveys; - Night Parrot unlikely to occur at the Project; - Suitable habitat is present within the development envelopes, although extensive surveys have not identified any evidence of the Night Parrot; and - Implementation of management actions detailed in Section 2.3.
General construction and operational activities.	Increased light spill, noise, dust and / or vibration resulting in behavioural changes including breeding, attraction to areas of high activity, displacement to less suitable refugia / habitat.	Minor	Unlikely	Low	- No Night Parrot were recorded during surveys; - Night Parrot are unlikely to occur at the Project; and - The Project is located in an area which is already exposed to high levels of noise vibration and dust as it is located in an industrial area adjacent to a highway.
General construction and operational activities.	Habitat degradation as a result of contamination, weeds, altered fire regimes and alteration, contamination of surface water and altered surface water flows.	Moderate	Possible	Low	- Project design to ensure water flows are maintained; - Suitable habitat is present within the development envelopes, although extensive surveys have not identified any evidence of the Night Parrot; and - The lack of records and surrounding land uses reduces the probability of Night Parrot occupying development envelopes.
General construction and operational activities.	Increased predation or competition due to introduction or spread of introduced fauna species (i.e., cane toad and fox) or diseases.	Minor	Unlikely	Low	- Feral animals are known to occur in the area; - Suitable habitat is present within the development envelopes, although extensive surveys have not identified any evidence of the Night Parrot; and - Night Parrot unlikely to occur at the Project.
General construction and operational activities.	Anthropogenic activity in proximity or within critical habitat resulting in	Minor	Unlikely	Low	- No known Night Parrot have been recorded within development envelopes; and - Night Parrot unlikely to occur at the Project.

Impact	Relevant Information	Consequence	Likelihood	Risk Rating	Assessment and Justification
	disturbance of fauna species (human visitation).				
Physical presence of infrastructure.	Behavioural changes as a result of barriers to movement. Barrier to dispersal. Potential to isolate local populations.	Minor	Rare	Low	- All habitat types occur outside of the development envelopes; and - Habitat connectivity is to be maintained through Project design.

NORTHERN QUOLL

Table 10: Northern Quoll Risk Assessment

Impact	Relevant Information	Consequence	Likelihood	Risk Rating	Assessment and Justification
Direct Impacts					
Ground disturbance machinery or vehicle movements / interactions.	Direct loss and injury to fauna individuals as a result of fauna vehicle collisions or misidentification (predominantly Pilbara Olive Python).	Minor	Unlikely	Low	- No Northern Quoll have been recorded during surveys. The nearest record is 4 km northeast of the Project and was recorded in 2018.
Clearing activities.	Loss of habitat.	Minor	Unlikely	Low	- No rocky habitat critical to support the Northern Quoll are present within the development envelopes; and - The development envelopes do not contain any known permanent waterbodies, although drainage lines may provide suitable foraging habitat for Northern Quoll.
General construction and operational activities.	Direct loss and injury to fauna individuals as a result of vehicle collisions.	Minor	Rare	Low	- No Northern Quoll have been recorded during surveys. The nearest record is 4 km northeast of the Project and was recorded in 2018; and - The development envelopes do not contain any known permanent waterbodies, although drainage lines may provide suitable foraging habitat for Northern Quoll.
Indirect Impacts					
Ground disturbance machinery or vehicle movements / interactions.	Change in fauna behaviour due to noise, vibration and dust emissions.	Minor	Rare	Low	- No known denning populations of Northern Quoll have been recorded within development envelopes.
Ground disturbance machinery or vehicle movements / interactions.	Habitat degradation as a result of contamination, weeds, altered fire regimes and alteration, contamination of surface water and altered surface water flows.	Minor	Unlikely	Low	- Vegetation recorded to be largely good to excellent condition; - No Northern Quoll have been recorded during surveys. The nearest record is 4 km northeast of the Project and was recorded in 2018; - The development envelopes do not contain any known permanent waterbodies, although drainage lines may provide suitable foraging habitat for Northern Quoll; and - No Weeds of National Significance were recorded.
Clearing activities.	Decline in habitat condition though weeds, alteration to fire regimes and dust generation and deposition.	Minor	Unlikely	Low	- Vegetation recorded to be largely good to excellent condition; - No Northern Quoll have been recorded during surveys. The nearest record is 4 km northeast of the Project and was recorded in 2018; - The development envelopes do not contain any known permanent waterbodies, although drainage lines may provide suitable foraging habitat for Northern Quoll; - No Weeds of National Significance were recorded; and - Project design to ensure water flows are maintained.
Clearing activities.	Increased predation	Minor	Unlikely	Low	- Feral animals known to occur at the Project and extensively across the region due to the proximity to residential areas. Implementation of the Project is unlikely to result in an increase of feral animals; - Implementation of management actions detailed in Section 2.3; and - No Northern Quoll have been recorded during surveys. The nearest record is 4 km northeast of the Project and was recorded in 2018.
Increased domestic waste	Attraction of feral predators and increase predation on significant fauna.	Minor	Unlikely	Low	- No Northern Quoll have been recorded during surveys. The nearest record is 4 km northeast of the Project and was recorded in 2018; - The development envelopes do not contain any known permanent waterbodies, although drainage lines may provide suitable foraging habitat for Northern Quoll; - Feral animals are known to occur in the area; and - Implementation of management actions detailed in Section 2.3.
General construction and operational activities.	Increased light spill, noise, dust and / or vibration resulting in behavioural changes including breeding, attraction to areas of high activity, displacement to less suitable refugia / habitat.	Minor	Unlikely	Low	- No known denning populations of Northern Quoll have been recorded within the development envelopes.
General construction and operational activities.	Habitat degradation as a result of contamination, weeds, altered fire	Minor	Unlikely	Low	- Vegetation recorded to be largely good to excellent condition.

Impact	Relevant Information	Consequence	Likelihood	Risk Rating	Assessment and Justification
	regimes and alteration, contamination of surface water and altered surface water flows.				- No Northern Quoll have been recorded during surveys. The nearest record is 4 km northeast of the Project and was recorded in 2018; - The development envelopes do not contain any known permanent waterbodies, although drainage lines may provide suitable foraging habitat for Northern Quoll; - No Weeds of National Significance were recorded; and - Project design to ensure water flows are maintained.
General construction and operational activities.	Increased predation or competition due to introduction or spread of introduced fauna species (i.e., cane toad and fox) or diseases.	Minor	Unlikely	Low	- Feral animals are known to occur in the area; and - Implementation of management actions detailed in Section 2.3.
General construction and operational activities.	Anthropogenic activity in proximity or within critical habitat resulting in disturbance of fauna species (human visitation).	Minor	Unlikely	Low	- No known denning populations of Northern Quoll have been recorded within the development envelopes.
Physical presence of infrastructure.	Behavioural changes as a result of barriers to movement. Barrier to dispersal. Potential to isolate local populations.	Minor	Rare	Low	- All habitat types occur outside of the development envelopes; and - Habitat connectivity is to be maintained through Project design.