



WESTERN
ENVIRONMENTAL

Qube Depot

Native Vegetation Clearing Referral
Supporting Documentation

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ENVIRONMENTAL

Qube Depot

Native Vegetation Clearing Referral Supporting Documentation



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A24.177

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5-Mar-2025

Status

FINAL

Prepared for:



Qube Bulk
Lot 327, 13 Tailings Elbow
Wedgefield
WA 6721

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Table of Contents

1.	Introduction	1
1.1	Background.....	1
1.1.1	Clearing Overview	1
1.1.2	Purpose	1
1.2	Project Location and Ownership	0
1.3	Project Justification	0
2.	Clearing of Native Vegetation.....	2
2.1	Proposed Clearing Extent	2
2.2	Measures to avoid and minimise clearing	2
2.2.1	Impact avoidance through alternative project options.....	3
2.2.2	Avoidance through design.....	3
2.2.3	Impact avoidance through environmental management.....	3
3.	Existing Environment.....	7
3.1	Biographic and regional Setting	7
3.2	Geology Landform and Soils.....	7
3.3	Hydrology	7
3.3.1	Groundwater	7
3.3.2	Surface water	7
3.4	Pre European Vegetation	7
3.5	Environmentally Sensitive Areas.....	8
3.6	Areas of Conservation Significance	8
3.7	Flora and Vegetation	8
3.8	Fauna	8

3.9	Threatened Ecological Communities.....	8
3.10	DBCA Managed Lands	8
3.11	Contaminated Sites	8
3.12	Acid Sulfate Soils	9
4.	Images of Representative Vegetation Units within the Proposed Site.....	10
5.	Assessment Against Ten Clearing Principles	1
6.	Other Approvals	1
6.1	Environmental Impact Assessment (Part IV of the EP Act)	1
6.2	Pre-Application Meeting	1
6.3	Other Approvals	1
7.	References	2

Tables

Table 1: Site Identification.....	0
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Figures

Figure 1: Site Location	0
Figure 2: Clearing Impacts	1
Figure 3: DBCA Search Results - Threatened and Priority Ecological Communities.....	4
Figure 4: DBCA Search Results - Flora	5
Figure 5: DBCA Database Search Results - Fauna.....	6

Appendices

Appendix A	Certificate of Title
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1. Introduction

1.1 Background

Qube Bulk (Qube) proposes to expand the transport laydown area within its existing Pippingarra Depot, located at located in the Pilbara (Figure 1)

The expansion of the laydown area is essential to accommodate the growth of Qube's operations in the Pilbara, particularly with the integration of a site-based refuelling facility and the need for increased container storage. As transport volumes rise, the expanded laydown area will support the additional heavy vehicle movements, including 2-5 movements per day related to container storage and 5-10 heavy haulage truck trailer movements per week. This increase in transport volume necessitates a larger, more efficient space to handle both the storage and movement of equipment and vehicles. The expansion will also provide safer parking for oversize vehicles required for wind farm development, while supporting potential future solar farm operations. The larger area will help to manage traffic flow effectively, ensuring segregation of operations and reducing the risk of congestion. This expansion is crucial to meeting the demands of a growing operation, maintaining safety, and accommodating increased transport volumes while ensuring smooth, 24-hour operations.

1.1.1 Clearing Overview

The project will result in clearing up to 6.43 ha of Degraded native vegetation (the Area of Disturbance) within a Development Envelope of 9.66 ha (Figure 2).

Through avoidance and minimisation, predicted impact on native vegetation has been reduced as far as practicable for the safety and viability of the project. A desktop assessment and site walk over has identified native vegetation extent of 6.43 ha.

1.1.2 Purpose

The project requires a Native Vegetation Clearing Referral (NVCR) to be submitted as per *Criterion 1 – Thresholds and criteria used to determine if a permit is required, Guideline: Native vegetation clearing referrals* (DWER, 2021). This document provides the supporting documentation to facilitate the NVCR application under Part V of the Environmental Protection Act 1986 (EP Act).

Native Vegetation Clearing Referral Supporting Document includes:

- An overview of the existing physical environmental conditions of the site.
- An evaluation of the environmental impacts associated with the Project.
- Evidence of avoidance of clearing through site selection and design, reduction of impacts to better quality vegetation or larger populations of Priority flora, and mitigation of impacts during clearing and construction through application of management plans.

-
- An assessment against the 10 Clearing Principles for proposed clearing within the Development Envelope.

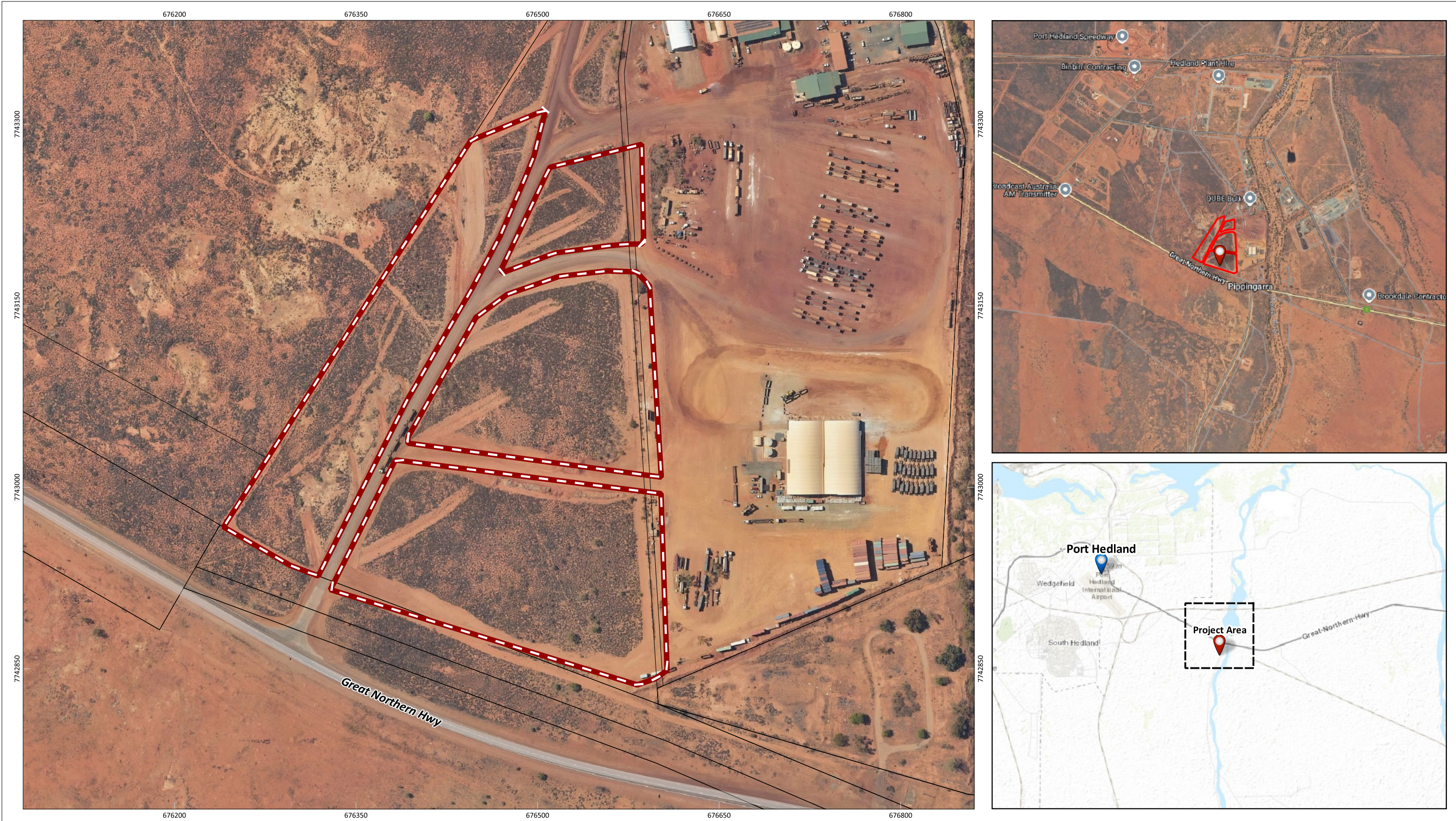


Figure 1: Site Location

N 0 40 80 120 160 m		PROJECT/REPORT NAME Clearing Referral Application- Supporting Document 20.40248°S, 118.69140°E		Legend Site Boundary Cadastre (No Attributes) (LGATE-001) Road Network Local Road		<table><tr><th>No</th><th>Description</th><th>Drawn</th><th>Approved</th><th>Date</th></tr><tr><td>A</td><td>Original issue</td><td>JP</td><td>MM</td><td>7/2/2025</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="5">NOTES:</td></tr><tr><td colspan="5">Cadastral boundary (LGATE-002). Base map ESRI Topo. Townsites (LGATE-248).</td></tr></table>	No	Description	Drawn	Approved	Date	A	Original issue	JP	MM	7/2/2025																															NOTES:					Cadastral boundary (LGATE-002). Base map ESRI Topo. Townsites (LGATE-248).				
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1.2 Project Location and Ownership

The Qube Bulk Depot is located at Lot 3 (P07 1582 3) Great Northern Highway, Pipingarra in the Town of Port Hedland, approximately 10 km southwest of the Port Hedland Townsite (Figure 1) and approximately 1,305 km north east of the Perth CBD. Lot P07 1582 3 is located immediately west of Turner River.

Lot P07 1582 3 has been extensively cleared and contains several equipment and transport laydown areas, roads and infrastructure associated with existing Qube operations. The vegetation within the proposed clearing area is generally low, shrubby and degraded; and was selected as a preferred location as it was considered less likely to contain key values such as occurrences of *Euploca mutica* and *Rothia indica* subsp. *australis* flora species which were rated with a 'High' likelihood to occur on the Site due to potentially suitable habitat being present on the Site. This Site was also less likely to have suitable habitat for fauna species with a 'High' likelihood to occur on the Site, due to the degraded condition of the Site.

A Certificate of Title for Lot P07 1582 3 Great Northern Highway, Port Hedland, is presented in Appendix A.

Table 1: Site Identification

Content	Details
Reference/Site Name	Qube Depot
Address	Lot 3 Great Northern Highway
Certificate of Title	(T P132299) REGISTERED 3/5/2022
Local Government Authority	Town of Port Headland
Coordinates	20.40266°S, 118.69133°E
Total Clearing Area	6.43 ha
Final Development Footprint	9.66 ha

1.3 Project Justification

The laydown area expansion is necessary to support the growth of QUBE's local operations, particularly with the incorporation of a site-based refuelling facility. The expansion will facilitate the establishment of a fuel depot on-site, capable of holding 400,000 litres, which will be essential for QUBE's operational needs. Additionally, the increased footprint will allow for more container storage at safer low ground levels, helping to mitigate the effects of wind factors, particularly during cyclones. This expansion is critical as QUBE's business continues to grow, especially with the need for dedicated parking space for oversize width and length vehicles that are required for progressive development efforts, such as establishing wind farms in the Pilbara region, which are subject to approvals. There is also the potential for the establishment of a solar farm on the site to provide green energy for the facility.

The laydown area expansion is also driven by the expectations of increased traffic volumes. There will be an increase of 2-5 additional heavy vehicle movements per day related to container storage, alongside additional heavy haulage movements ranging from 5-10 truck trailer movements per week, or 1-2 per day

for ad hoc operations. These movements reflect the growing operational demands and the need for more efficient traffic management.

The impact of the expanded laydown area on operations will be significant. It will allow for a more streamlined flow of traffic by separating multi-operational facilities, reducing vehicle interaction from opposing directions. The dedicated on-site fuel facility will further enhance efficiency by minimising unnecessary vehicle movement to alternate locations. The expanded laydown area will also enable safer container storage at low heights, reducing the need to adjust containers during adverse weather conditions and improving the ease of access for loading and unloading. Furthermore, the storage and parking of oversize trailing equipment in the laydown area will reduce vehicle movements in congested areas within the town boundaries, while providing direct access to Highway 1 for both north and southbound traffic. This expansion will ultimately lead to better turnaround times, more efficient deliveries, and a safer, more organised operation.

Alternative Project Options

No alternative options for the laydown area were considered, as the chosen QUBE-owned facility was specifically purchased to support the growth and development of QUBE's transport operations in the Pilbara. This site was selected due to its ability to accommodate the necessary expansion, while alleviating congestion within the existing depot. The 24-hour operation requires segregation of heavy equipment, which is facilitated by the chosen location. Other potential sites were not viable due to constraints such as being too far from the highway or being located too close to other operational areas. Additionally, no other available site offered the required space for expansion without issues such as congested areas or the presence of overhead powerlines.

2. Clearing of Native Vegetation

2.1 Proposed Clearing Extent

The Project will result in clearing up to 6.43 ha of native vegetation in Degraded condition (Figure 2).

The Site does not support a high diversity of flora species, due to 66.6% of vegetation within the Site being in Degraded condition, and the remaining 33.4% having been completely cleared of vegetation. According to a Likelihood of Assessment based on a DBCA search of flora species with a 30 km buffer (Figure 3), six Priority flora species were considered to have a 'Medium' likelihood to occur on the Site (one Priority 1, two Priority 4, and three Priority 3), and two Priority flora species (Priority 3) with a 'High' likelihood to occur on the Site were identified (Figure 4).

The vegetation present is comprised of shrubland and scrub vegetation. Based on recent aerial imagery and photos of the Site the vegetation is considered to be in Degraded condition. The proposed clearing extent potentially includes habitat for several fauna species identified through a DBCA search within a 30 km buffer. Two species have a 'High' likelihood of occurrence on the site: the Vulnerable bilby (*Macrotis lagotis*) and the Vulnerable grey falcon (*Falco hypoleucos*). Additionally, five species have a 'Medium' likelihood of occurrence, including the Endangered northern quoll (*Dasyurus hallucatus*), the Priority 4 western pebble-mound mouse (*Pseudomys chapmani*), and four migratory birds (Figure 5).

2.2 Measures to avoid and minimise clearing

In accordance with the Clearing Permit referral to the Department of Water and Environmental Regulation (DWER) and the 10 Clearing Principles, measures to avoid and minimise clearing for the proposed activity have been considered. While the entire area of native vegetation in 'Degraded' condition is proposed for clearing, the following actions will be implemented to ensure compliance with environmental regulations and to mitigate adverse impacts:

- **Justification for Total Clearing:** The necessity of clearing the entire area has been carefully assessed and justified, with the conclusion that no viable alternatives exist to reduce the impact. The land to be cleared has already had historical clearing in some areas and the remaining vegetation is sparse and in a 'Degraded' condition.
- **Minimising Impact to Adjacent Vegetation:** The proposed area to be cleared are separated from surrounding vegetation by roads and tracks, therefore the clearing should not have a negative impact on vegetation adjacent to the clearing area.
- **Protection of Threatened or Migratory Species:** Species identified in the Likelihood of Assessment as having a 'High' or 'Medium' likelihood of occurrence on the site, including the Vulnerable bilby (*Macrotis lagotis*) and grey falcon (*Falco hypoleucos*), will be protected throughout the clearing process. Specific measures, such as seasonal clearing restrictions where necessary, will be adopted to minimise any harm to these species during breeding or migration.

By incorporating these measures, the proposed clearing will align with DWER's requirements under the Clearing Permit process and ensure that environmental impacts are minimised, with appropriate steps.

2.2.1 Impact avoidance through alternative project options

In selecting the location for the laydown area expansion, the team considered alternative areas within the facility to assess whether the expansion could occur in already cleared zones. However, upon review of available areas, it was determined that no alternative site could meet the operational needs of the project. Alternate areas within the facility were evaluated with regards to footprint, traffic flow, and equipment access, but none could provide the required segregation and safe same-direction traffic management essential for the 24-hour operation. As such, no viable alternative existed that would avoid the need for clearing in the selected area.

2.2.2 Avoidance through design

The design of the expansion was carefully planned to minimise environmental impact, with a focus on segregating traffic flow and ensuring safe access for heavy equipment. The chosen location was selected specifically to enable safe and efficient traffic management, preventing conflicting vehicle movements and ensuring smooth operations. The design also prioritises operational efficiency, with adequate space for equipment and a layout that supports the 24-hour operation. This thoughtful design approach ensures that the necessary expansion can take place while reducing the need for clearing vegetation and minimising the impact on the surrounding environment.

2.2.3 Impact avoidance through environmental management

Methods that will be used during construction to minimise impacts on surrounding vegetation include:

- Utilisation of existing cleared land for the storage of materials.
- Using existing track and road systems for access.
- Driving over areas of scrub instead of clearing track for access where practicable.
- Prune rather than clearing where possible.

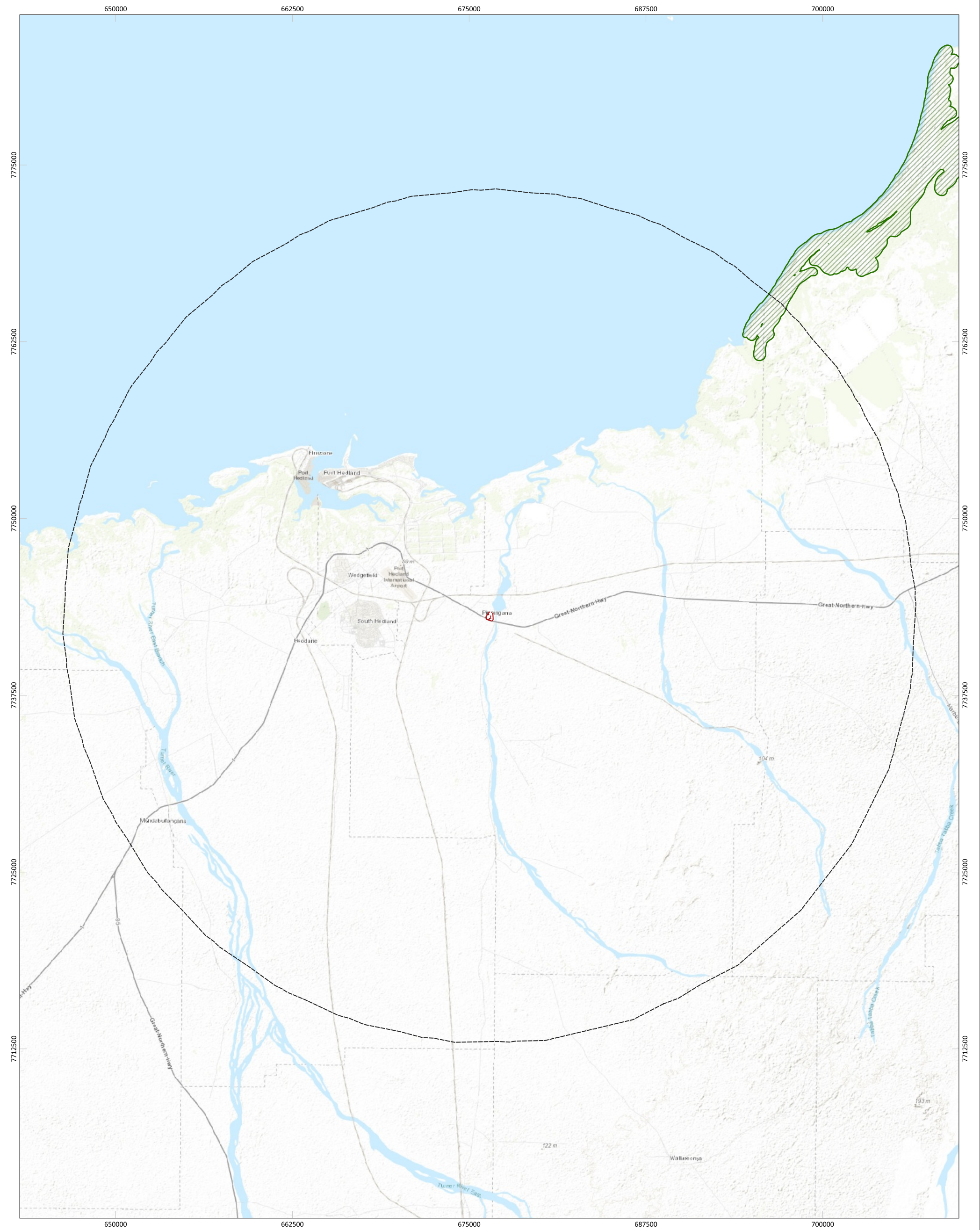


Figure 3: DBCA Search Results – Threatened and Priority Ecological Communities

0

4

8 km

N

SCALE

1:250,000

SHEET SIZE

A3 COLOUR

COORDINATE REFERENCE SYSTEM

GDA2020 / MGA zone 50

DATA SOURCE

LANDGATE AERIAL IMAGERY NOW

PROJECT/REPORT NAME

Clearing Referral Application- Supporting Document
20.40248°S, 118.69140°E

CLIENT

QUBE

PROJECT NUMBER

A24.177

VERSION

0

DRAWN BY / REVIEWED BY

JP/MM

DATE

7/2/2025

Legend

Site Boundary

30km Buffer

Threatened Ecological Communities (DBCA-038)

Priority

No	Description	Drawn	Approved	Date
A	Original issue	JP	MM	05/06/2023
B	Revision			7/2/2025
NOTES:				
Cadastral boundary (LGATE-002). Label corresponds to the vegetation association number.				

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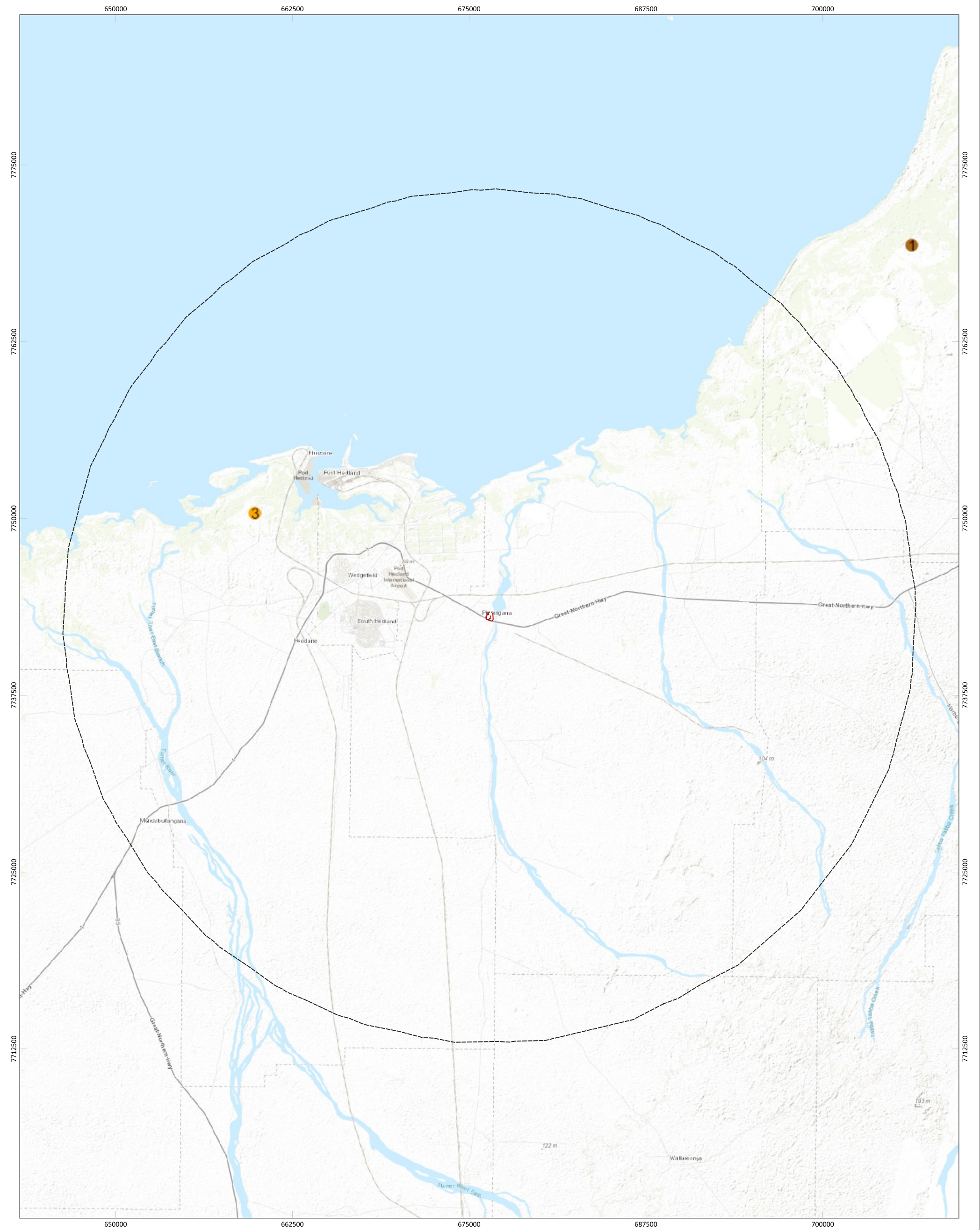


Figure 4: DBCA Database Search Result – Flora

0

4

8 km

↑

N

SCALE

1:250,000

SHEET SIZE

A3 COLOUR

PROJECT/REPORT NAME

Clearing Referral Application- Supporting Document

20.40248°S, 118.69140°E

CLIENT

QUBE

COORDINATE REFERENCE SYSTEM

GDA2020 / MGA zone 50

DATA SOURCE

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VERSION

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DATE

7/2/2025

Legend

Site Boundary

30km Buffer

Threatened and Priority Flora (DBCA-036)

1

Priority 1

3

Priority 3

No	Description	Drawn	Approved	Date
A	Original issue	JP	MM	05/06/2023
B	Revision			7/2/2025

NOTES:
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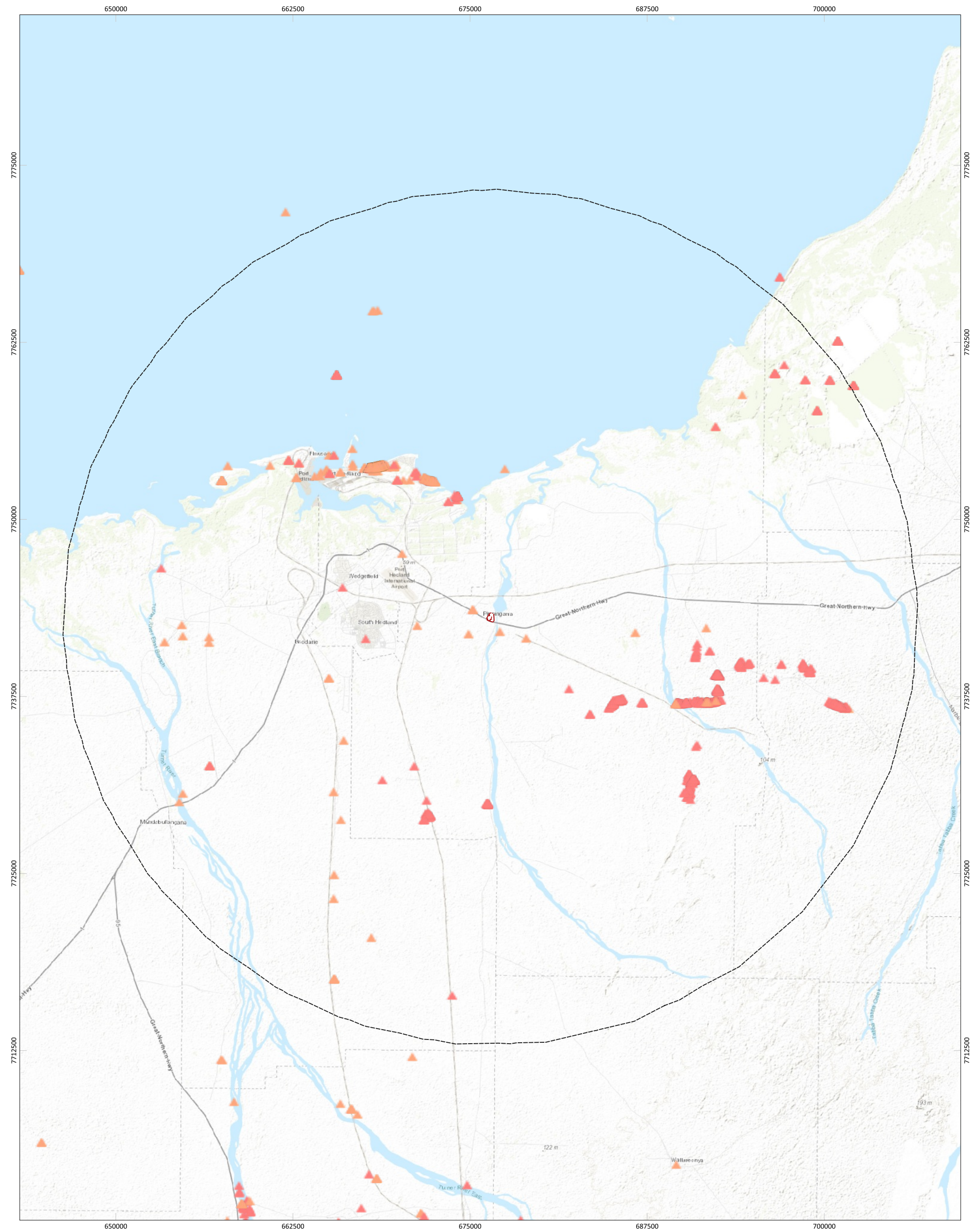


Figure 5: DBCA Database Search Result – Fauna

0

4

8 km

N

SCALE

1:250,000

SHEET SIZE

A3 COLOUR

COORDINATE REFERENCE SYSTEM

GDA2020 / MGA zone 50

DATA SOURCE

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Legend

Site Boundary

30km Buffer

Threatened and Priority Fauna (DBCA-037)

Threatened - Endangered

Threatened - Vulnerable

No	Description	Drawn	Approved	Date
A	Original issue	JP	MM	05/06/2023
B	Revision			7/2/2025

NOTES:
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3. Existing Environment

3.1 Biographic and regional Setting

The Site is located within the Pilbara Region, within the Roebourne subregion (DCCEEW, 2025). The Roebourne subregion is described as quaternary alluvial plains with a grass savanna of mixed bunch and hummock grasses, and dwarf shrub steppe of *Acacia translucens* over *Triodia pungens*. Samphire, *Sporobolus* and Mangal occur on marine alluvial flats. Arid tropical with summer rain (DCCEEW, 2025).

3.2 Geology Landform and Soils

Elevation across the Site is roughly 17 m AHD, and the Site is relatively flat.

The Site is within the Uaroo system (281Ua) according to regional soil-landscape mapping (DPIRD-027) which is described as broad sandy plains, pebbly plains and drainage tracts supporting hard and soft spinifex hummock grasslands with scattered acacia shrubs.

3.3 Hydrology

3.3.1 Groundwater

The Site is within the Pilbara Groundwater Area (DWER-034) and is underlain by the Pilbara - Fractured Rock aquifer (DoW, 2013). Fractured rock aquifers have complex and irregular structures and characteristics such as water availability, recharge, and storage (DoW, 2013). Allocation limits are not set for fractured rock aquifers (DoW, 2013; Essential Environmental, 2016).

3.3.2 Surface water

The Site is within the Port Hedland Coast basin (DWER-030). There are no surface waterbodies or rivers within 1 km of the Site. The closest surface waterbody to the Site is a coastal waterline (which is located 3.3 km northeast of the Site (DWER-031).

3.4 Pre European Vegetation

Pre-European vegetation mapping shows that the Site is associated with the Abydos Plain system (589), which is described as Mosaic: Short bunch grassland - savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex. Mapping by the Department of Primary Industries and Regional Development (DPIRD) indicated that approximately 7.17 ha (98.35%) of the Site is comprised of remnant (concentrated in the east, southwest and centre of the Site).

3.5 Environmentally Sensitive Areas

The Site does not fall within an Environmentally Sensitive Area according to the Departments of Water and Environmental Regulations (DWER-046). The closest environmentally sensitive area to the Site is located northeast 9.3 km (ID 3746).

3.6 Areas of Conservation Significance

There are no areas of conservation significance, such as National Parks, Regional Parks, Conservation Reserves or Wetlands mapped within the Site.

3.7 Flora and Vegetation

Threatened and priority flora mapping by DBCA indicates there is one P3 flora located 17.7 km northwest of the Site. There are no other Threatened or priority flora species that were mapped within 20 km of the Site (Figure 4).

3.8 Fauna

A DBCA search of fauna communities within a 30 km buffer identified nine species with varying likelihoods of occurrence on the Site. Two species were found to have a 'High' likelihood: *Macrotis lagotis* (bilby, dalgyte, ninu) and *Falco hypoleucos* (grey falcon), both classified as Vulnerable. Seven species were identified with a 'Medium' likelihood: *Dasyurus hallucatus* (northern quoll), listed as Endangered; *Pseudomys chapmani* (western pebble-mound mouse, ngadji), Priority 4; and four migratory species, including *Limosa lapponica* (bar-tailed godwit), *Numenius minutus* (little curlew), *Calidris subminuta* (long-toed stint), and *Charadrius veredus* (oriental plover), as well as *Glareola maldivarum* (oriental pratincole) (Figure 5).

3.9 Threatened Ecological Communities

A search of DBCA data for Threatened Ecological communities (TEC) and Priority Ecological communities (PEC) indicated that there is one Priority 3 ecological community located within 30 km of the Site (Unique Occurrence ID: 105607) (Figure 3).

3.10 DBCA Managed Lands

The nearest DBCA managed reserve to the Site is the Eighty Mile Beach Marine Park (ID: 11824), which is located 91.3 km northeast of the Site.

3.11 Contaminated Sites

There are no contaminated sites within the Site. The closest record of a contaminated site is located 7.7 km east of the Site, and is classified 'contaminated - remediation required', due to perfluoroalkyl and

polyfluoroalkyl substances (such as from fire-fighting foams), metals (such as lead, copper and zinc), fragments of asbestos-containing materials and hydrocarbons (such as from kerosene or aviation fuel) being present in soil within the site.

3.12 Acid Sulfate Soils

The DWER Acid Sulfate Soil (ASS) mapping tool indicates the Site does not intersect with an ASS mapped area (DWER-053). The closest mapped ASS to the Site is a high to moderate risk of ASS occurring within 3m of natural soil surface, located 3.3 km northeast of the Site.

4. Images of Representative Vegetation Units within the Proposed Site

Looking over the Site from the Northern corner (Plate 1, Plate 2, Plate 3 and Plate 4).



Plate 1. Northern Portion of the Site Looking East



Plate 2. Northern Portion of the Site Looking South



Plate 3. Northern Corner of the Site Looking Southwest



Plate 4. Northern Corner of the Site Looking North

Looking over the Site from the centre of the southern boundary (Plate 5, Plate 6 and Plate 7).



Plate 5. Central Southern Boundary of Site Looking West

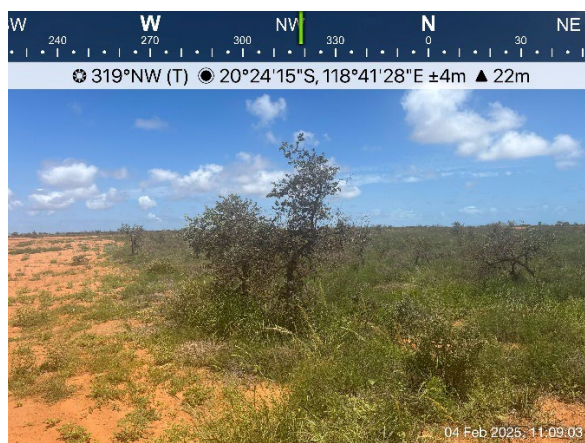


Plate 6. Central Southern Boundary of Site Looking Northwest

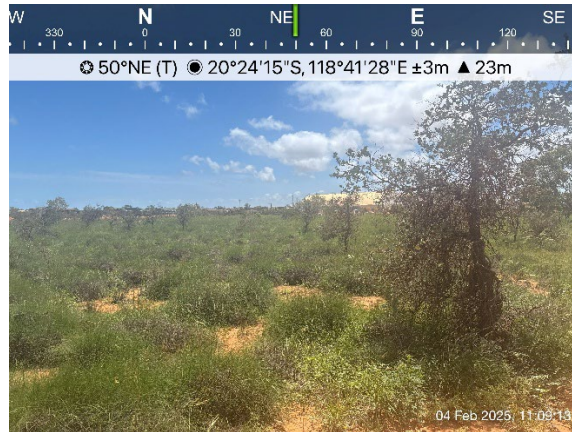


Plate 7. Central Southern Boundary of Site Looking Northeast

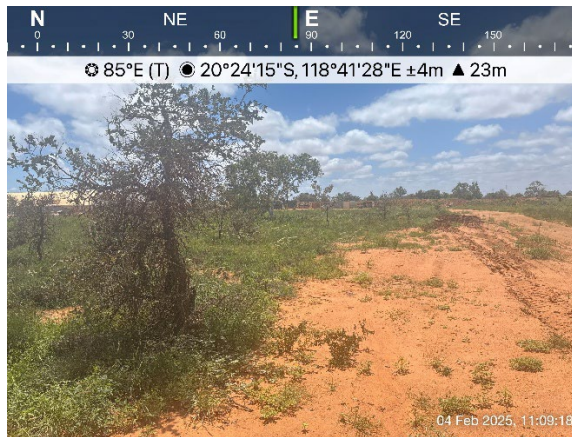


Plate 8. Central Southern Boundary of Site Looking East

Looking over the Site from the southwest portion of the Site (Plate 9, Plate 10, Plate 11 and Plate 12).



Plate 9. Southwest Boundary of the Site Looking West/Northwest

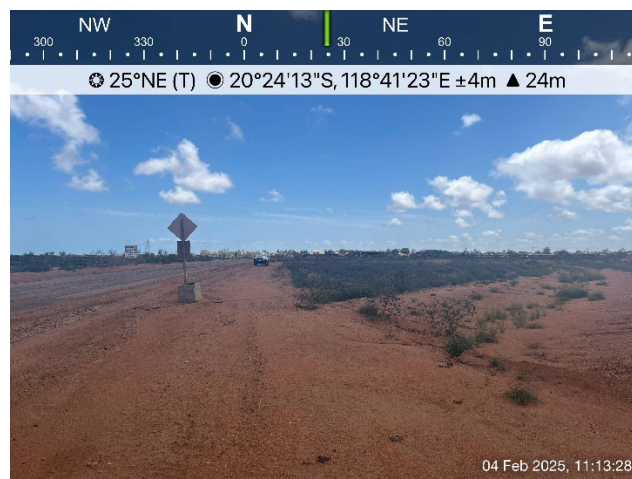


Plate 10. Southwest Boundary of the Site Looking North

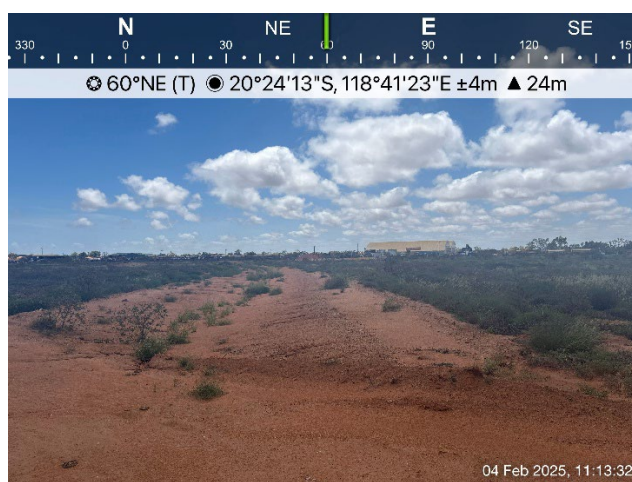


Plate 11. Southwest Boundary of the Site Looking Northeast



Plate 12. Southwest Boundary of the Site Looking East/Southeast

5. Assessment Against Ten Clearing Principles

Assessment Results					Data Source/Tools for Assessment	Conclusion
Principle (a) - Native vegetation should not be cleared if it comprises a high level of biological diversity.						
The Survey Area does not support any threatened flora species. According to a Likelihood of Assessment based on a DBCA search of flora with a 30 km buffer, six Priority flora species were considered to have a 'Medium' likelihood to occur on the Survey Area (one Priority 1, two Priority 4, and three Priority 3), and two Priority flora species (Priority 3) with a 'High' likelihood to occur on the Survey Area were identified.						
The vegetation present is comprised of native, historically disturbed shrubland and scrub vegetation. Based on recent aerial imagery and photos of the Survey Area and a walkover of the site, it was determined that 66.6% of the vegetation is in Degraded condition, with the remaining 33.4% of the Site having been completely cleared of any vegetation.						
The Survey Area is mapped as Beard vegetation associated 589: Abydos Plain system, which is described as Mosaic: Short bunch grassland - savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex. See below table for 589: Abydos Plain system vegetation association remaining mapping extent.					- Protected Matter Search Tool (DCCEEW, 2023). - Threatened Ecological Communities (DBCA-038) - Threatened and Priority Flora (DBCA-036) - Priority Ecological Communities list WA Version 35 (DBCA,2023) - DBCA Flora Database Search (2025)	Unlikely to be at variance.
Boundary	Pre-European Extent	Current Extent	% Remaining	% of Conservation		
Statewide	807,698.58	802,713.40	99.38%	1.59%		
Pilbara Bioregion	728,768.2	724,695.82	99.44%	1.77%		
No species of Threatened Ecological Communities were identified as potentially occurring within 30 km of the Survey Area based on a desktop assessment completed using the Department of Biodiversity, Conservation and Attractions (DBCA) Database search results and the Commonwealth Protected Matters Search Tool (PMST) search.						
A search of the Department of Biodiversity, Conservation and Attractions (DBCA) Database identified one Priority 3 flora ecological community within 30 km of the Survey Area. The closest record of a Threatened Ecological Community identified by a search of DBCAs Databases is located 25.95 km northeast of the Survey Area and is associated with a Priority 1 TEC (Unique Occurrence ID: 105607).						

Assessment Results	Data Source/Tools for Assessment	Conclusion
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Vegetation condition within the Survey Area is Degraded or has been cleared of vegetation. Native species diversity was very low due to historical clearing.

Vegetation Condition Extent Summary in Survey Area.

Condition	Extent (ha)	% of Survey Area
Very Good	-	-
Good	-	-
Degraded	6.43	66.56%
Completely Degraded	-	-
Cleared	3.22	33.34%
Total	9.66	100%

Principle (b) - Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia

The vegetation within the Survey Area appears to be of Degraded condition, or has been cleared of vegetation.

A search of DBCA database identified 34 Threatened listed conservation significant vertebrate fauna species as potentially occurring in the overall Survey Area comprising:

- 21 bird species.
- 5 mammal species.
- 8 reptile species.

- Threatened and Priority Fauna List (DBCA, 2023b)
- Protected Matters Search tool (DCCEE, 2023) Unlikely to be at variance
- DBCA Fauna Database Search (2025)

According to a Likelihood of Assessment based on a DBCA search of fauna communities with a 30 km buffer, seven fauna species with a 'Medium' likelihood to occur, and two fauna species with a 'High' likelihood to occur on the Survey Area were identified:

- *Macrotis lagotis* (bilby, dalgyte, ninu) - Vulnerable - High likelihood to occur on the Survey Area.
- *Falco hypoleucos* (grey falcon) - Vulnerable - High likelihood to occur on the Survey Area.

Assessment Results	Data Source/Tools for Assessment	Conclusion
• <i>Dasyurus hallucatus</i> (northern quoll) - Endangered - Medium likelihood to occur on the Survey Area. • <i>Pseudomys chapmani</i> (western pebble-mound mouse, ngadji) Priority 4 - Medium likelihood to occur on the Survey Area. • <i>Limosa lapponica</i> (bar-tailed godwit) - Migratory - Medium likelihood to occur on the Survey Area. • <i>Numenius minutus</i> (little curlew) - Migratory - Medium likelihood to occur on the Survey Area. • <i>Calidris subminuta</i> (long-toed stint) - Migratory - Medium likelihood to occur on the Survey Area. • <i>Charadrius veredus</i> (oriental plover) - Migratory - Medium likelihood to occur on the Survey Area. • <i>Glareola maldivarum</i> (oriental pratincole) - Migratory - Medium likelihood to occur on the Survey Area.		

The vegetation within the Survey Area that would be considered potential habitat for fauna species is semi intact, but due to the widespread vegetation throughout the Pilbara region, fauna species are more likely to use the habitat present outside of the Survey Area due to the better condition. This suggests that the proposed clearing is unlikely to be a variance to this principle.

Principle (c) - Native vegetation should not be cleared if it includes or is necessary for the continued existence of, rare flora

A desktop assessment using the DBCA flora database identified a total of 8 significant flora species as potentially occurring within 30 km of the Survey Area.

According to a Likelihood of Assessment based on a DBCA search of flora communities with a 30 km buffer, six priority flora species were considered to have a 'Medium' likelihood to occur on the Survey Area (one Priority 1, two Priority 4, and three Priority 3), and two priority flora species (Priority 3) with a 'High' likelihood to occur on the Survey Area were identified, however, none of these species are rare.

- Protected Matters Search tool (DCCEEW, 2023)
 - Threatened and Priority Flora (DBCA-036)
 - DBCA Flora Database Search (2025)
- Unlikely to be at variance

The vegetation within the Survey Area has been identified as 'Degraded' condition, and none of the identified species are considered rare, therefore the proposed clearing is unlikely to be at variance to this principle.

Principle (d) - Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a Threatened Ecological Community

The native vegetation present within the Survey Area does not comprise whole or part of, nor is it likely to be necessary for the maintenance of a TEC. Consequently, the proposed clearing is not likely to be at variance with this principle.

- Threatened Ecological Communities (DBCA-038)
- Unlikely to be at variance

Assessment Results	Data Source/Tools for Assessment	Conclusion
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- DBCA Communities Database Search (2025)

Principle (e) - Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been significantly cleared

The high-level vegetation association in this area has been mapped by Beard (1990) as the Vegetation Association 589, characterised by Mosaic: Short bunch grassland - savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex. Vegetation Association 589 has had a small amount of clearing within Western Australia and the Pilbara. The status of the remaining pre-European vegetation is shown in the table below.

Beard et al. (1990) Vegetation Associations and Percent Remaining for Qube Survey Area (Govt. of WA, 2019).

Vegetation Association	Description	% Remaining Western Australia	% Remaining Pilbara IBRA Region
589	Mosaic: Short bunch grassland - savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex	99.38%	99.44%

- Beard (1990).
 - Pre-European Vegetation dataset (DPIRD-006).
 - Statewide vegetation statistics (DBCA, 2018)
- Unlikely to be at variance.

The National Objectives and Targets for Biodiversity Conservation 2001-2005 (Commonwealth of Australia, 2001) recognised the retention of 30% or more of the pre-clearing extent of each ecological community is necessary at a state level to protect Australia's biodiversity.

According to figures obtained the Government of Western Australia (2019), none of the remaining native vegetation exceeds the acceptable minimum 30% retention objective of existing pre-European vegetation at a state level.

Typically, the scarcity of remnant vegetation in the region renders any remaining remnant vegetation ecologically important. Due to the Degraded condition of the Survey Area however, the low native species diversity and the prevalence of planted non endemic species within the vegetation, it is considered that the sparse remaining vegetation is not representative of an intact native vegetation occurrence.

The proposed clearing is therefore unlikely to be at variance with this principle.

Principle (f) - Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or a wetland

Assessment Results	Data Source/Tools for Assessment	Conclusion
There are no surface water features or vegetation associated with watercourses noted on or in the vicinity of the Survey Area. There are no nationally significant wetlands within a 50 km radius of the Survey Area, only salt lakes and estuaries have been mapped within 50 km of the Survey Area. The native vegetation identified with a potential to occur on the Survey Area is not growing in association with a watercourse. Therefore, the proposed clearing is not at variance to this principle.	- Protected Matters Search Tool (DCCEEW, 2023). - Hydrography (DWER-031) - DBCAs Flora Database Search (2025) - DBCAs Communities Database Search (2025)	Is not at variance.
Principle (g) - Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation		
The Survey Area is situated on the Uaroo system, which is characterised by broad sandy plains, pebbly plains, and drainage tracts supporting hard and soft spinifex hummock grassland with scattered acacia shrubs. Soils of this nature generally have a high permeability and therefore are unlikely to contribute to on-site/off-site run-off. As the soil type is predominantly sand, it is less likely to be prone to water and/or wind erosion due to the particle size. Additionally, waterlogging is unlikely due to the nature of these soils. The mapped average annual rainfall in the local area, according to the Australian Bureau of Meteorology, is 113.8 mm. The Survey Area is mapped as having an extremely low probability of Acid Sulfate Soils (ASS) occurring. Localised soil acidity is unlikely to occur as a result of exposure of pyritic material to air and rainfall as a result of clearing. The potential clearing will expose a small area to the potential for increased erosion; however, the locality and conditions render the eventuation of serious erosion, nutrient transport to sensitive receptors or alteration to any surrounding surface water regimes (none noted in Survey Area vicinity) are unlikely. Given the small area of proposed clearing and the nature of soils within the Survey Area, it is unlikely that appreciable land degradation will result and therefore the proposed clearing is unlikely to be at variance with this clearing principle.	- Australian Bureau of Meteorology (2023). - Soil Landscape Mapping Best Available dataset (DPIRD-027). - Groundwater Salinity Statewide dataset (DWER-026) - Acid Sulfate Soil Risk Map 100K (DWER-059)	Unlikely to be at variance.
Principle (h) - Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area		
The Survey Area does not fall within environmentally sensitive area according to the Departments of Water and Environmental Regulations (DWER-046). The closest environmentally sensitive area to the Survey Area is located northeast 9.3 km (ID 3746).	- Environmentally Sensitive Areas dataset (DWER-046) - Aerial photographs.	Unlikely to be at variance.

Assessment Results	Data Source/Tools for Assessment	Conclusion
The large distance to a Conservation Reserve or an Environmental Sensitive Area means that proposed clearing is unlikely to be at variance to this principle.		
Principle (i) - Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water		
There are no surface water features or vegetation associated with watercourses noted on or in the vicinity of the Survey Area. There are no significant wetlands within a 50 km radius of the Survey Area.	Hydrography (DWER-031)	Unlikely to be at variance.
The additional clearing is unlikely to result in significant changes to the water table and there for the Project is unlikely to be at variance with this principle.		
Principle (j) - Native vegetation should not be cleared if the clearing of the vegetation is likely to cause or exacerbate the incidence or intensity of flooding.		
There are no surface water features or vegetation associated with watercourses noted on or in the vicinity of the Survey Area. There are no wetlands within a 50 km radius of the Survey Area.		
The Department of Environment and Regulation's document "a guide to the assessment of applications to clear native vegetation" states the following for Principle (j): "Consideration of this principle may require extensive modelling of the whole catchment and should only be considered for large clearing projects. For smaller applications, clearing should not cause waterlogging (localised flooding)."	- Soil Landscape Mapping Best Available dataset (DPIRD-027). - A guide to the assessment of applications to clear native vegetation (DWER,2014). - Protected Matters Search Tool (DCCEW, 2023).	Unlikely to be at variance.
Given the extensive vegetation clearing within the Survey Area, additional clearing is unlikely to increase or exacerbate the incidence of waterlogging or localised flooding.		
The proposed clearing is therefore unlikely to be at variance with this principle.		

6. Other Approvals

6.1 Environmental Impact Assessment (Part IV of the EP Act)

This project is not considered a 'significant proposal' action under the Environmental Protection Act 1986 (EP Act) and will not be referred to the Environmental Protection Authority.

6.2 Pre-Application Meeting

A pre application meeting was not sought with DWER.

6.3 Other Approvals

No other approvals, i.e., Works Approval, Licence or Registration under Part V Division 3 of the EP Act have been sought for this development.

7. References

Department of Climate Change, Energy, the Environment and Water. (2022). Australian Protected Areas Dashboard. <https://www.20.gov.au/environment/land/nrs/science/capad/dashboard>

Department of Water. (2013). Pilbara Groundwater Allocation Plan. Government of Western Australia Report. <https://www.wa.gov.au/system/files/2022-09/Pilbara-groundwaterallocation-plan.pdf>

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Topographic Map. (2025). Port Hedland topographic map. <https://en-au.topographic-map.com/map-n82zs/Port-Hedland/?center=-20.40466%2C118.6984&zoom=16&popup=-20.40285%2C118.69131>

