GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 10391/1
Permit Holder:	PCB Asbestos & Demolition Pty Ltd
Duration of Permit:	From 7 December 2024 to 7 December 2029

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of asbestos and contaminated soil removal.

2. Land on which clearing is to be done

Lot 500 on Deposited Plan 54937, Muchea

3. Clearing authorised

The permit holder must not clear more than 0.16 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

PART II – MANAGEMENT CONDITIONS

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

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

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

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

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

5. Weed and dieback management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds* and *dieback*:

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;

(b) ensure that no known *dieback* or *weed*-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared; and

(c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

6. Clearing not authorised

The permit holder shall not clear any live *trees* other than the one (1) tree at the location specified in Table 1.

Table 1: Location of tree authorised to clear

Easting	Northing
398605.92953260115	6502725.376644792

PART III - RECORD KEEPING AND REPORTING

7. Records that must be kept

The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 2.

Table 2: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	(a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 4; and (f) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 5.

8. Reporting

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

DEFINITIONS

In this permit, the terms in Table 3 have the meanings defined.

Table 3: Definitions

Term	Definition
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
fill	means material used to increase the ground level, or to fill a depression.
dieback	means the effect of *Phytophthora* species on native vegetation.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
EP Act	*Environmental Protection Act 1986* (WA)
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
tree	means a perennial plant having a permanent, woody, self-supporting main stem or trunk, usually growing to a considerable height, and usually developing branches at some distance from the ground
weeds	means any plant – (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS

Ryan Mincham
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

14 November 2024

Schedule 1

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

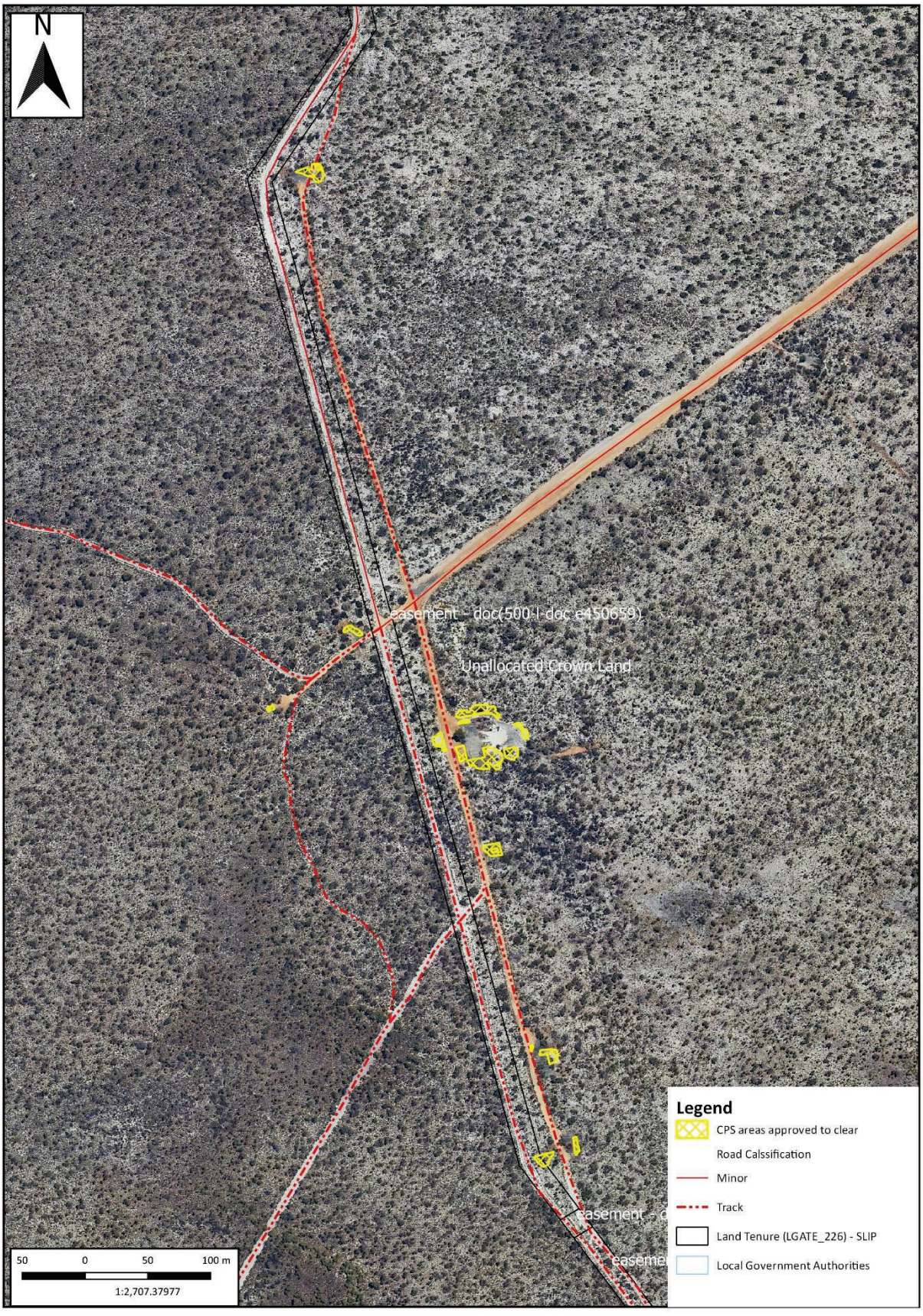

Figure 1: Map of the boundary of the area within which clearing may occur

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 10391/1
Permit type:	Purpose permit
Applicant name:	PCB Asbestos & Demolition Pty Ltd
Application received:	25 October 2023
Application area:	0.16 hectares of native vegetation
Purpose of clearing:	Removal of asbestos, other dumped waste and asbestos contaminated soils
Method of clearing:	Mechanical and manual clearing
Property:	Lot 500 on Deposited Plan 54937, Muchea
Location (LGA area/s):	Shire of Chittering
Localities (suburb/s):	Muchea

1.2. Description of clearing activities

The vegetation proposed to be cleared is contained within seven main areas, in which there are 15 sub-areas, comprising 0.16 hectares within an approximately one-kilometre strip along an access track within Lot 500 on Deposited Plan 54937, Muchea. (see Figure 2, Section 1.5). The proposed clearing is to enable the removal of asbestos, other dumped waste and asbestos contaminated soils. The applicant originally applied to clear 0.43 hectares within a 7.83-hectare footprint (shown in blue in Figure 1 below), however, amended the application area (shown in yellow in Figure 1) during the assessment to better reflect the extent of clearing required.

Figure 1. Map of the area approved to clear (yellow) in relation to the original application area (blue).

1.3. Decision on application

Decision:	Granted
Decision date:	14 November 2024
Decision area:	0.16 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and one submission was received. Consideration of matters raised in the public submission is summarised in Appendix B.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix C), relevant datasets (see Appendix H.1.), the findings of a flora and fauna survey (see Appendix F), the clearing principles set out in Schedule 5 of the EP Act (see Appendix D), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

The assessment identified that:

- while the proposed clearing areas contain foraging habitat for Carnaby's black cockatoo (and to a lesser extent forest red-tailed black cockatoo), and habitat for the black-striped snake and quenda, the proposed clearing is considered unlikely to result in significant impacts to these species; and
- while the proposed clearing will remove some vegetation within a patch of the Banksia Woodlands of the Swan Coastal Plain threatened ecological community (TEC), it is considered unlikely that the proposed clearing will significantly impact the remainder of the patch, or the conservation status of the Banksia Woodlands TEC.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to have long-term adverse impacts on fauna or ecological communities, and that the applicant has suitably demonstrated avoidance and minimisation measures.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback; and
- not clear any live trees other than the one (1) tree at a specified location.

1.5. Site map

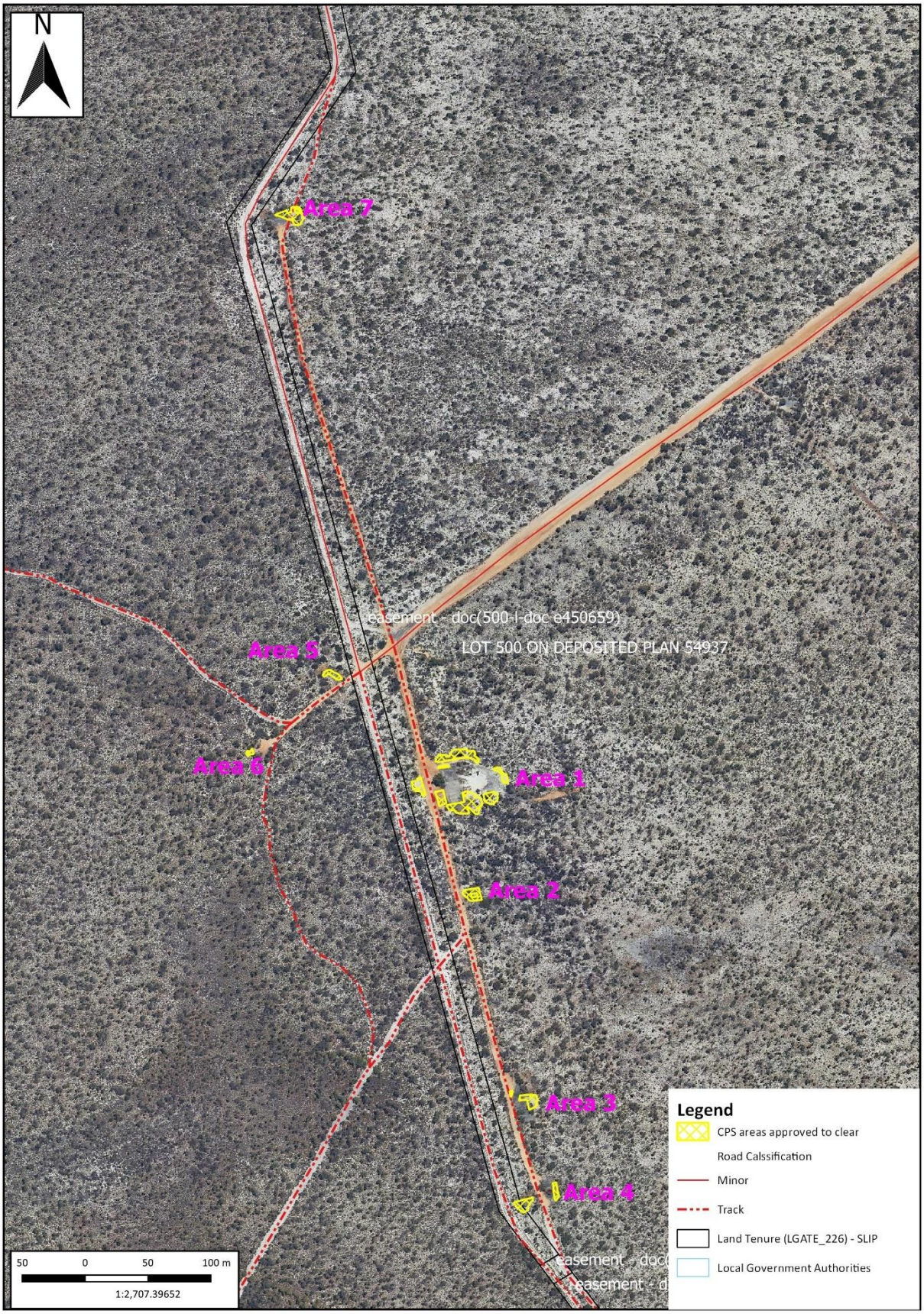

Figure 2. Map of the application area. The areas cross-hatched yellow indicate the areas authorised to be cleared under the granted clearing permit.

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant provided the following information to demonstrate consideration of avoidance and mitigation measures:

- removal of vegetation in areas mapped as Good quality shall be avoided wherever possible (PCB, 2023a);
- remediated areas will be allowed to regenerate (PCB, 2023a),
- where Good quality vegetation will be removed, it will be reinstated with like for like plants from a Nursery Industry Accreditation Scheme Australia (NIASA) accredited supplier (PCB, 2023a),
- works will be done in a sensitive manner, utilising emu-picking techniques to remove asbestos fragments and minimise disturbance to surrounding native vegetation (PCB, 2023a),
- minor excavation may be required at some locations, which will be determined on a case-by-case basis when implementing remedial work (PCB, 2023a),
- the maximum extents of remediation areas will be delineated in the field with temporary flags/bunting (PCB, 2023a),
- if clearing is required within delineated areas, disturbance to native vegetation will be minimised by utilising manual or mechanical removal methods dependent on the remediation areas (PCB, 2023a)
- a dieback management plan has been prepared (PCB, 2023c).
- remediation will be conducted under dry soil conditions to mitigate the risk of spreading dieback (PCB, 2023a)
- the applicant is required to obtain an Environmental Clearance Certificate (ECC) from the Department of Defence (PCB, 2023a)
- a Construction Environmental Management Plan (CEMP) has been prepared for the proposed works by the Department of Defence which highlights how environmental risks will be managed and mitigated by PCB for the duration of the works (PCB, 2023b), including the following further mitigation measures:
    - site specific inductions will take place with an emphasis on decontamination procedures of personnel and plant, dieback management, fauna walk throughs and protection of native flora;
    - there are minimal hot works associated with the project scope, however, works will not be carried out on days with a Fire Danger Index of Extreme or above;
    - PCB workers will agitate the soil and bushes prior to clearing, working in a line, and conducting clearing in one direction to allow dispersal of fauna in the area;
    - in the unlikely event that an injury or mortality is sustained to native fauna during site works will be recorded and EMOS shall be notified.

The Delegated Officer was satisfied that the applicant has undertaken reasonable measures to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix C) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix D) identified that the risk of impacts of the proposed clearing to biological values (fauna and vegetation) required further consideration. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

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

Assessment

The proposed clearing areas are considered likely to provided habitat for the following conservation significant fauna species recorded within the local area:

- *Zanda latirostris* (Carnaby's cockatoo) (Endangered)
- *Calyptorhynchus banksii naso* (Forest red-tailed black cockatoo) (Vulnerable)
- *Neelaps calonotos* (Black-striped snake) (Priority 3)
- *Isoodon fusciventer* (Quenda – Southern Brown Bandicoot) (Priority 4)

Black cockatoos

The application area is mapped within the known distribution of Carnaby's black cockatoo and Forest red-tailed black cockatoo. Habitat requirements for black cockatoos can be considered in terms of breeding, roosting and foraging habitat. Black cockatoos are known to nest in hollows of live and dead trees, including marri (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*), karri (*Eucalyptus diversicolor*), wandoo (*Eucalyptus wandoo*), tuart (*Eucalyptus gomocephala*), flooded gum *(Eucalyptus rudis*), and other Eucalyptus spp. (DAWE, 2022). 'Breeding habitat' for black cockatoos includes trees of these species that either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow, where suitable DBH for nest hollows is 300 - 500 millimetres depending on the tree species (DAWE, 2022). The fauna survey conducted by Western Ecological (2023) did not identify any trees suitable for black cockatoo breeding.

Black cockatoos generally roost in large eucalyptus or marri trees (DAWE, 2022). While marri was recorded by Western Ecological (2023) in the surveyed area, this area is larger than the application area and photographs of the application area (PCB, 2024) showed that marri trees, as well as other potential black cockatoo roosting trees, were not present within the proposed clearing areas.

Black cockatoos forage over a large area, feeding on a variety of native and introduced (exotic and non-WA) vegetation species. Not all suitable native vegetation will produce good foraging resources each year, so black cockatoos will vary their foraging strategy depending on availability. Black cockatoos rely upon the availability of foraging resources across their range, particularly when birds need to build condition after breeding and are teaching juveniles where foraging resources are located. Lack of foraging resources increases the likelihood that birds will not regain condition after breeding, will not breed again the following season, and that juveniles will not survive to become part of the adult population. Food resources within the range of breeding sites and roost sites are critical to sustain populations, and foraging resources are therefore viewed in the context of known breeding and night roosting sites, particularly within 12 kilometres of an impact area (DAWE, 2022).

Carnaby's black cockatoo, and to a lesser extent forest red-tailed black cockatoo, are likely to forage on *Banksia* trees and possibly other proteaceous shrubs present within the proposed clearing areas (Bancroft and Bamford, 2023; DAWE, 2022). The presence of nearby black cockatoo breeding and roosting sites demonstrates that vegetation within the proposed clearing areas is likely to be accessed by breeding and roosting black cockatoo individuals. As such, the proposed clearing areas are considered likely to provide foraging habitat for Carnaby's cockatoo in particular, as well forest red-tailed black cockatoo. However, it is noted that as a condition of the permit, only one live *Banksia* individual that could be considered a tree (within area 3) is permitted to be removed by the proposed clearing, with other vegetation to be removed consisting of shrubs. Noting the extent of the clearing and

that only one *Banksia* tree will be removed, the clearing is considered unlikely to have a significant impact on black cockatoo foraging habitat.

Black-striped snake

The black-striped snake is restricted to the coastal habitats of the Swan Coastal Plain between Dawesville and Port Denison in southwestern Australia. A large portion of its range lies within the Perth region, where rapid urban development and associated habitat loss threatens the survival of the remaining population (JRSWA, 2021). The snake is a burrowing species that occurs in coastal heaths and low shrublands, as well as eucalypt/banksia woodland. As such, although Western Environmental (2023) did not record this species within the proposed clearing areas, the areas are still considered likely to provide suitable habitat for the black-striped snake. Noting the degraded nature of the vegetation and extent of the proposed clearing, is unlikely that the proposed clearing will result in a significant residual impact to the black-striped snake on a local or regional scale. There is an abundance of suitable habitat surrounding the proposed clearing areas that is in better condition.

Southwestern brown bandicoot (Quenda)

The quenda inhibits dense understorey such as around swamps or in banksia and jarrah woodlands (DBCA, 2017). Scrub vegetation within the proposed clearing areas is considered likely to provide suitable habitat for the quenda, and evidence of quenda diggings was recorded within the surveyed area encompassing the proposed clearing area (Western Ecological, 2023). Noting the degraded nature of the vegetation and extent of the proposed clearing, is unlikely that the proposed clearing will result in a significant residual impact to the quenda on a local or regional scale. There is an abundance of suitable habitat surrounding the proposed clearing areas that is in better condition.

Conclusion

Based on the above assessment, while the proposed clearing areas contain foraging habitat for Carnaby's black cockatoo, and to a lesser extent forest red-tailed black cockatoo, and habitat for the black-striped snake and quenda, the proposed clearing is considered unlikely to result in significant impacts to these species.

Conditions

The permit holder shall not clear any live trees other than the one (1) tree at a specified location.

3.2.2. Biological values (threatened ecological community) - Clearing Principles (d).

Assessment

Vegetation within the proposed clearing areas was consistent with the Banksia Woodlands of the Swan Coastal Plain EPBC Act listed TEC and BC Act listed priority ecological community (PEC - Priority 3). Although the proposed clearing areas were in Good to Completely Degraded (Keighery, 1994) condition, and in some areas cleared, it is considered that the proposed clearing areas are part of a larger patch of Banksia Woodlands TEC/PEC, noting that a "patch" of the ecological community is based on the best condition area of the patch and can include cleared areas of up 30 metres (TSSC, 2016).

While the clearing will remove some vegetation within a patch of Banksia Woodlands TEC/PEC, noting the extent and predominantly Degraded condition of the vegetation being cleared, it is considered unlikely that the proposed clearing will significantly impact the remainder of the patch or the conservation status of Banksia Woodlands TEC/PEC. It is noted that as a condition of the permit, only one live Banksia individual that could be considered a tree is permitted to be removed by the proposed clearing, with other vegetation to be removed consisting of shrubs. Furthermore, cleared areas will be allowed to naturally regenerate (although topsoil is unlikely to be able to be re-applied to the surface as it is contaminated with asbestos) and the applicant plans to replace cleared plant individuals with new plants within Good quality areas of vegetation that are cleared (PCB, 2024), which will further limit impacts to the surrounding Banksia Woodlands TEC/PEC. Conditions to manage weeds and dieback will further limit impacts to the patch of Banksia Woodlands TEC/PEC.

Conclusion

Based on the above assessment, while the proposed clearing will remove some vegetation within a patch of Banksia Woodlands TEC/PEC, it is considered unlikely that the proposed clearing will significantly impact the remainder of the patch or the conservation status of the Banksia Woodlands TEC/PEC

Conditions

- weed and dieback management conditions.
- the permit holder shall not clear any live trees other than the one (1) tree at a specified location

3.3. Relevant planning instruments and other matters

The Shire of Chittering (2023) advised DWER that local government approvals are not required and did not have any objections to the proposed clearing.

DWER (2024) advised that the proposed clearing is not expected to pose a risk to the Priority 1 Gnangara Water Reserve and noted that the purpose of the clearing would likely reduce sources of contamination to this water source by removing non-supported landfill.

End

Appendix A. Additional information provided by applicant

The applicant provided the following additional information during the assessment of this application.

Summary of comments	Consideration of comment
Applicant provided photos and shapefiles of the areas in which clearing was to occur, and showed locations of trees within the application area (PCB, 2024)	Some photos included in Appendix F, application area amended accordingly

Appendix B. Details of public submissions

The following submission was received in regard to this application.

Summary of comments	Consideration of comment
The proposed clearing site is significant to the history of Muchea and Australian/International Space Exploration - it is the site of the Muchea Tracking Station. Noting this the submitter requested that some photos and/or videos be taken of the site/works (before, during and after) to capture the ongoing story of the site. Submitter requested the applicant be provided with the contact details to facilitate this.	The applicant was advised of this request and provided with the contact details of the submitter such that they could receive the requested photos/videos.

Appendix C. Site characteristics

C.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the intensive land use zone of Western Australia. The proposed clearing area is part of a large 35,000-hectare area of vegetation in the Swan Coastal Plain IBRA Region. Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 59.78 per cent of the original native vegetation cover.
Ecological linkage	There are no mapped ecological linkages recorded in the proposed clearing areas.
Conservation areas	There are no mapped conservation areas recorded in, or within one kilometre of the proposed clearing areas.
Vegetation description	A vegetation survey encompassing the proposed clearing areas by Western Ecological (2023) mapped the following vegetation types within the proposed clearing areas: • Disturbed (0.08 ha) • BaBmKgLe: Low open woodland of *Banksia attenuata*, *B. menziesii* and *Nuytsia floribunda* over tall open shrubland of *Adenanthos cygnorum, Kunzea glabrescens* and *K. micrantha* over low shrubland of *Hibbertia subvaginata, Jacksonia floribunda* and *Leptospermum erubescens* (0.06 ha) • Track (0.007 ha) Representative photos are available in Appendix F. This is consistent with the mapped vegetation type: • Swan Coastal Plain – Aeolian Deposits System 6 (45), which is described as A transition complex of low open forest and low woodland of Banksia species - *Eucalyptus todtiana* (Pricklybark) on a series of high sand dunes. The

Characteristic	Details
	understorey species reflect similarities with both the Bassendean-North and Karrakatta-North vegetation complexes. (Shepherd et al, 2001) The mapped vegetation type retains approximately 88.95 per cent of the original extent (Government of Western Australia, 2019).
Vegetation condition	A vegetation survey encompassing the proposed clearing areas by Western Ecological (2023) indicates the vegetation within the proposed clearing area ranged from completely degraded to good (Keighery, 1994) condition, described as: • **Good** – Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing (0.03 ha) • **Degraded** – Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing (0.1 ha) • **Completely degraded** – the structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs (0.02 ha) The full Keighery (1994) condition rating scale is provided in Appendix E. Representative photos are available in Appendix F.
Climate and landform	The climate is based off the Pearce RAAF Weather Station, located approximately 11 km southeast of the survey area. The long-term mean maximum temperature ranges from 17.9 degrees Celsius (July) to 33.6 degrees Celsius (January) (Bureau of Meteorology, 2022). The Peace RAAF Weather Station recorded rainfall in the last 12 months prior to the survey (November 2021 to October 2022), which was 40.9 mm above the long-term average of 665.7 mm. In the three months prior to the survey (August to October 2022), 370.8 mm of rainfall was recorded, which is 159.3 mm above the long-term average of 211.5 mm for the same time period (Bureau of Meteorology, 2022).
Soil description	The soil is mapped as: • **212Bs__Ja** – Jandakot low dunes. Slopes <10% and generally more than 5m relief. Grey sand over pale yellow sands generally underlain by humic and iron podsols; Banksia spp. low open woodland with a dense shrub layer (majority of application area) • **212Bs__J** – Poorly drained depressions. Humus podzols. Scattered *M. preissiana, E. rudis* and *Banksia ilicifolia* with a dense shrub layer (majority of application area) (small portion of Area 2)
Land degradation risk	The mapped soils in the application area have high risks of susceptible to wind erosion, subsurface acidification, and phosphorus export.
Waterbodies	The desktop assessment and aerial imagery indicated that the application area occurs within one kilometre of seven conservation category wetlands. • UFI 8346 Dampland – within 500 m • UFI 8347 Dampland – within 500 m • UFI 8348 Dampland – within 500 m • UFI 8349 Dampland – within 1 km • UFI 8350 Dampland – within 500 m • UFI 8351 Dampland – within 1 km • UFI 8580 Dampland – within 1 km The application area is also mapped within the Jandakot consanguineous wetland suite.

Characteristic	Details
Hydrogeography	The application area is located within the Coastal Plain Hydrological Zone of WA. The application area also falls within the Swan River System, Gnangara Groundwater Area, and the Priority 1 (P1) Gnangara Underground Water Pollution Control Area.
Flora	The desktop assessment recorded 30 conservation significant flora species within the local area (10km radius from the proposed clearing areas). Of these, 14 flora species were recorded within the same soil type as that found within the proposed clearing areas, with seven of these species recorded within similar habitats to those within the proposed clearing areas. A flora survey (Western Ecological, 2023) encompassing the proposed clearing areas did not locate any conservation significant flora within the application area. It is considered that the survey methodology would have been sufficiently adequate to identify the conservation significant flora species considered likely to be present.
Ecological communities	The proposed clearing areas fall within a mapped occurrence of the Banksia Woodlands of the Swan Coastal Plain EPBC Act listed TEC and BC Act listed Priority 3 ecological community (Banksia Woodlands TEC/PEC). A flora survey (Western Ecological, 2023) encompassing the proposed clearing areas found that vegetation type BaBmKgLe was consistent with the Banksia Woodlands TEC/PEC.
Fauna	The desktop assessment recorded 10 conservation significant fauna species within the local area. The nearest record was of *Neelaps calonotos* (Black-striped snake) approximately 3.4 km to the northeast. The proposed clearing areas fall within the known distribution of Carnaby's and Forest red-tailed black cockatoo habitat. There are three confirmed white tailed black cockatoo breeding sites (approximately 8 km northeast) and three confirmed black cockatoo roosting sites (the nearest approximately 4 km northeast) within a 10 km radius of the proposed clearing areas. Western Ecological (2023) did not record individuals or evidence of foraging of black cockatoo species in a fauna survey encompassing the proposed clearing areas. Diggings of the Priority 4 listed southern brown bandicoot (quenda) were recorded by Western Ecological (2023) within the surveyed area, although no individuals were observed. No other conservation significant species were recorded by Western Ecological (2023).

C.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Swan Coastal Plain	1,501,221.93	579,813.47	38.62	222,916.97	14.85
Vegetation complex**					
Aeolian Deposits System 6 (45) - Bassendean Complex-North Transition	20,856.54	18,552.77	88.95	11,320.75	54.28

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
Local area					
10km radius	33,646.20	20,115.08	59.78	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

C.3. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), and biological survey information, impacts to the following conservation significant fauna species required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records in local area (total)	Are surveys adequate to identify? [Y, N, N/A]
Calyptorhynchus banksii naso (Forest red-tailed black cockatoo)	VU	Y	Y	4.52	44	Y
Isoodon fusciventer (Quenda – Southern Brown Bandicoot)	P4	Y	Y	5.29	1	Y
Neelaps calonotos (Black-striped snake)	P3	Y	Y	3.41	1	Y
Zanda latirostris (Carnaby's cockatoo)	EN	Y	Y	3.46	545	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

C.4. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), and biological survey information, impacts to the following conservation significant flora species required further consideration.

Taxon	Conservation status	Number in local area	Closest record (km)	Same soil type?	Similar habitat?	Number of Florabase records	Are surveys adequate to identify? [Y, N, N/A]
Acacia anomala	T	3	3.9	Y	N	25	Y
Calectasia elegans	T	3	6.8	Y	Y	8	Y (survey outside flowering period, but likely distinguishable by leaves)
Darwinia foetida	T	36	3.6	Y	Y	28	Y
Drosera occidentalis	4	5	8.2	Y	N	23	Y
Grevillea curviloba	T	85	3.9	Y	N	86	?
Guichenotia tuberculata	3	1	8.2	Y	N	30	?
Hydrocotyle lemnoides	4	1	8.2	Y	N	26	Y

Hydrocotyle striata	1	1	5.2	Y	N	7	Y
Netrostylis sp. Chandala (G.J. Keighery 17055)	2	1	5.4	Y	N	9	?
Platysace ramosissima	3	3	4.1	Y	Y	16	Y
Schoenus griffinianus	4	1	9.9	Y	Y	45	Y (survey outside flowering period, but likely otherwise distinguishable)
Stenanthemum sublineare	2	2	6.2	Y	Y	21	Y
Styphelia filifolia	3	2	6.1	Y	Y	37	Y (survey outside flowering period, but likely distinguishable by leaves)
Verticordia serrata var. linearis	3	7	4.7	Y	Y	21	Y (survey outside flowering period, but likely distinguishable by leaves)

C.5. Ecological community analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix G.1), and biological survey information, impacts to the following conservation significant ecological communities required further consideration.

Community name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Banksia Woodlands of the Swan Coastal Plain vegetation community	EN (EPBC Act), P3 (BC Act).	Y	Y	Y	0	N/A	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

Appendix D. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: While the area proposed to be cleared contains habitat for conservation significant fauna and is part of a patch of the Banksia Woodlands TEC/PEC, the vegetation is not likely to comprise a high level of biodiversity given the vegetation condition and small scale of clearing proposed.	Not likely to be at variance	Yes *Refer to Sections 3.2.1 and 3.2.2 above.*
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The area proposed to be cleared contains foraging habitat for black cockatoo species and habitat for other conservation significant fauna species.	At variance	Yes *Refer to Section 3.2.1, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: The area proposed to be cleared is unlikely to contain habitat for flora species listed as threatened under the BC Act due to the degraded nature of the vegetation within the site.	Not likely to be at variance	No
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: Vegetation within the proposed clearing areas is part of a patch of the Banksia Woodlands EPBC Act listed threatened ecological community.	At variance	Yes *Refer to Section 3.2.2, above.*
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The extent of the mapped vegetation type is consistent with the national objectives and targets for biodiversity conservation in Australia (to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001)). The proposed clearing areas are very minor fragments of a very large contiguous corridor of vegetation and as such the proposed clearing is not considered likely to weaken or fragment any ecological linkages.	Not likely to be at variance	No
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."*	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Assessment: Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.		
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: The proposed clearing areas are not associated with wetlands or watercourses.	Not likely to be at variance	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: Although mapped soil types within the application area have a high risk of wind erosion, phosphorus export and subsurface acidification, noting the extent of the application area and the condition of the vegetation, the proposed clearing is not likely to have an appreciable impact on land degradation.	Not likely to be at variance	No
Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."* Assessment: Given the distance to the nearest waterbodies and the extent of the clearing, the proposed clearing is unlikely to impact surface or ground water quality.	Not likely to be at variance	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.	Not likely to be at variance	No

Appendix E. Vegetation condition rating scale

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

Considering its location, the Keighery (1994) scale below was used to measure the condition of the vegetation proposed to be cleared.

Measuring vegetation condition for the Southwest and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.

Condition	Description
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact, and the area is completely or almost completely without native species. These areas are often described as ‘parkland cleared’ with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix F. Biological survey information excerpts and photographs of the vegetation

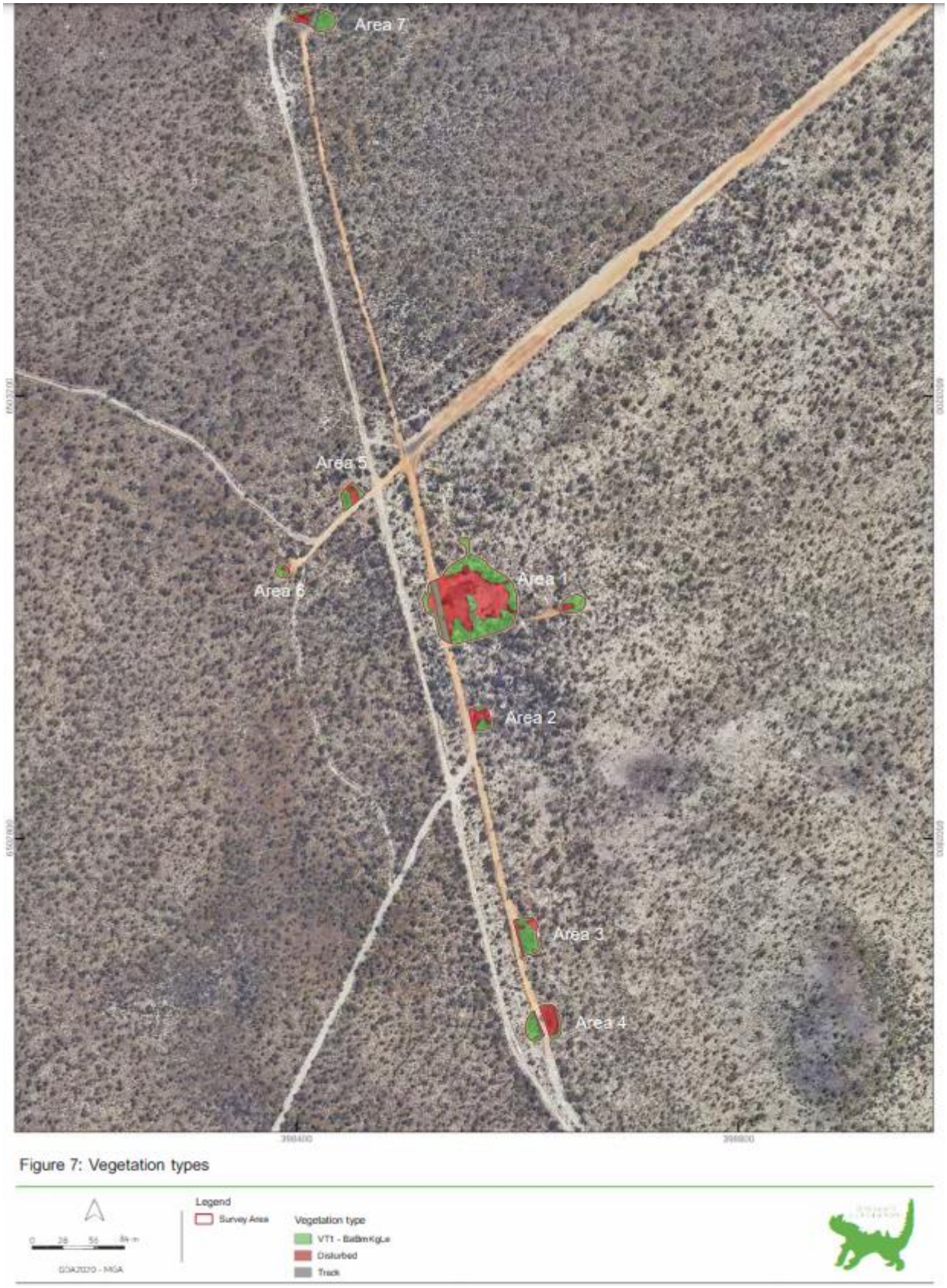

Figure F.1. – Vegetation types mapped within proposed clearing areas (Western Ecological, 2023)

Figure F.2. – Vegetation condition mapped within proposed clearing areas (Western Ecological, 2023)

Photo 8 – ACM Impacted Area 1C West End Looking North

Photo 22 – ACM Impacted Area 1E Looking East

Photo 23 – ACM Impacted Area 1F Looking North West

Photo 3 – ACM Impacted Area 2 Looking East

Photo 4 – ACM Impacted Area 3

Photo 8 – ACM Impacted Area 4B

Photo 2 – ACM Impacted Area 5

Photo 3 – ACM Impacted Area 6

Photo 3 – ACM Impacted Area 7

Figure F.3. Photos of vegetation within proposed clearing areas.

Appendix H. Sources of information

H.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available
- Soil Landscape Mapping – Systems

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

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