9 April 2024

Native Vegetation Clearing Branch
Department of Water and Environmental Regulation
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JOONDALUP DC WA 6919

Email: info@dwer.wa.gov.au

Dear Sir / Madam,

Lot 104 / 4500 Mitchell Fwy, Yanchep Proposed Surplus Fill Stockpile – Native Vegetation Clearing Permit Application

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1. Executive Summary

A Native Vegetation Clearing Purpose Permit is submitted for a proposal that requires clearing of native vegetation at Lot 104/ 4500 Mitchell Freeway, Yanchep. The site is proposed for the stockpiling of surplus fill material from the Yanchep Rail Extension.

The Public Transport Authority (PTA) requests the Department of Water and Environmental Regulation (DWER) consider the proposal meets Regulation 5 Item 1 for a permanent structure, clearing exemption. Under the determination "the hard stand with components such as drainage and compacted soil meets the definition of a structure".

Otherwise, the application is assessed with clearing of less than 2.4 ha of mostly degraded or completely degraded native vegetation. Avoidance and mitigation actions have been considered with no disturbance of Threatened or Priority Ecological Communities (TEC, PEC) and minimal disturbance of high quality Carnaby Black Cockatoo foraging habitat. The vegetation to be cleared has been assessed as degraded or completely degraded and moderate quality Carnaby's Black Cockatoo foraging habitat with a score of 0 – 4 using the Bamford methodology (AECOM, 2023).

2. Background

The Yanchep Rail Extension (YRE) project forms part of METRONET, a state government program of projects to increase the size of Perth's railway network. The project aims to support the planning of integrated station precincts and the growth of the Perth metropolitan region. The YRE project is an extension to the Northern Suburbs Railway (also known as the Joondalup line) to support existing communities with improved transport connections and create new communities through integrated station precincts. The YRE project includes 14.5 km of railway beyond the existing Butler Station, new stations at Alkimos, Eglinton and Yanchep, and associated infrastructure. NEWest Alliance (NWA) has been appointed by the Public Transport Authority of Western Australia (PTA) as the head contractor for the YRE project. The PTA is proposing to clear native vegetation, required to construct a surplus fill stockpile site to store approximately 400,000 cubic meters of surplus excavated soil from the Yanchep Rail Extension project in a portion of Lot 104 / 4500 Mitchell Freeway, Yanchep.

The material is currently stored as three stockpiles which is on land privately owned under lease agreements which are expiring this year and the landowners are needing the use of the land. This makes this proposed stockpile application an urgent requirement for the project.

The proposed site is approximately 12.4 ha in size, at Lot 104 / 4500 Mitchell Freeway, Yanchep and is an undeveloped piece of land located approximately 52 kilometres from the Perth CBD and 3 kilometres east of the Yanchep township. The site is zoned as a regional road under the Metropolitan Regional Scheme for the future Mitchell Freeway however development is unknown at this stage.

The scope of works within this Native Vegetation Clearing Permit (NVCP) application will involve the minor cut and fill excavations for site preparations such as levelling and surface water drainage to create a pad to store the surplus excavated fill. The site is predominately cleared of native vegetation containing some pockets of mostly degraded or completely degraded native vegetation, trees, and shrubs.

Site access will be through 351 Yanchep Beach Road to the west along current tracks, and minimising further clearing, to allow access for the haul trucks. This is land owned and managed by Development WA. Nature Area Management Services (NAMS) undertook a basic flora and vegetation survey along the entry route to the proposed stockpile. (See

Attachment 1: NEWE L Proposed Offsite Stockpile Access Track Survey) They assessed the vegetation as *Eucalyptus* spp. Open Woodland and *Eucalyptus gomphocephala* (Tuart) Open Woodland with the vegetation condition ranging from Completely Degraded to Degraded. No conservation significant flora species and no threatened/priority ecological communities were identified in the survey area. There was one potential black cockatoo habitat tree recorded within the survey boundary and this will be avoided and buffered from the clearing and trucking activities. There was no black cockatoo individuals or evidence of foraging activities observed on the site.

The PTA commissioned AECOM Australia Pty Ltd to undertake a flora and basic fauna survey and Carnaby's Black Cockatoo habitat assessment of the proposed stockpile site including a 20m buffer. (See Attachment 2). Although vegetation clearing as part of this scope of works has been minimised where possible, native vegetation, generally in a degraded condition, is required to be cleared. Approximately a maximum of 2.4 ha of native vegetation is proposed to be disturbed. The avoidance and mitigation actions that have been applied include avoiding the potential breeding hollow tree, the Banksia Woodlands Swan Coastal Plain (SCP) TEC and Carnaby Black Cockatoo foraging habitat in the northern areas of the site impacts and re-designing the access track avoid native vegetation where possible and minimise impacts to Carnaby Black Cockatoo foraging habitat.

The NVCP application attached to this letter (Attachment 3) is being submitted by PTA and NWA will be constructing the stockpile if the permit to clear vegetation is supported.

The YRE project was previously assessed by the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986* with environmental approval provided and conditions outlined in Ministerial Statement 1100 and 1129. The works proposed in this application are not required for the operation of the YRE project, as the stockpile will be for surplus material from the construction works. The area is also outside of the development envelope for the YRE project.

As this proposal is not a part of the YRE project as assessed and approved by the EPA and is not required for the operation of the project, the PTA considers it appropriate to seek approval for the clearing of native vegetation via a Part V NVCP and not an amendment to the approvals (MS1100 and MS1129). The proposal site is shown in the Figure 1 below.

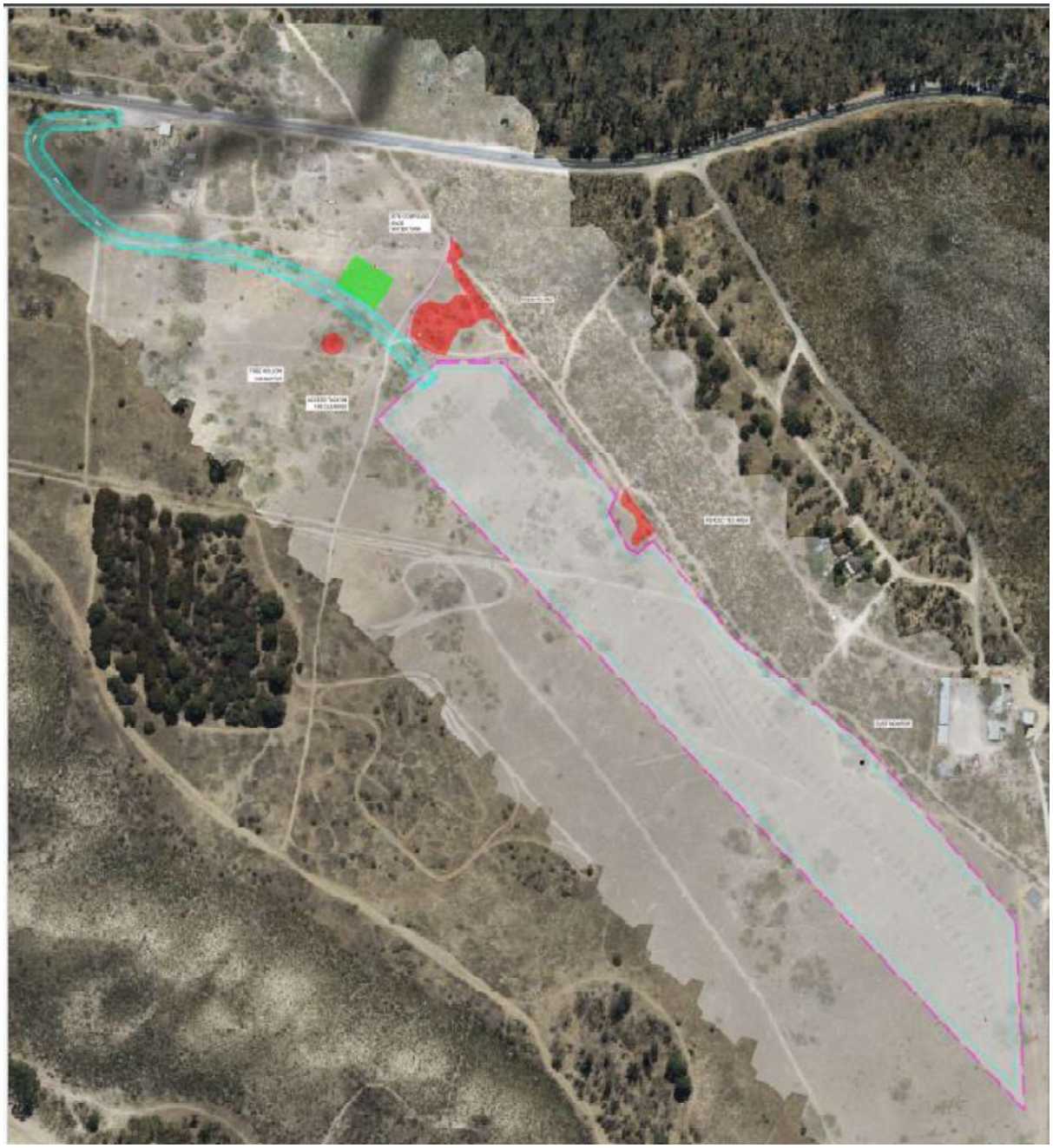

Figure 1 Lot 104, 4500 Mitchell Fwy Yanchep surplus fill stockpile site

The PTA has discussed the submission of the NVCP with the City of Wanneroo who noted that the proposed clearing area (Mitchell Freeway Reserve) is owned and managed by Main Roads WA. Consequently, the City's influence over the land's management, particularly regarding clearing, is limited. If the Department of Water and Environmental Regulation (DWER) invites the City to provide comments, they will offer their input however, they have advised PTA that they are unlikely to have objections to the clearing of vegetation, given that it is within a road reserve and aligns with the intended purpose of the Freeway Reserve.

The PTA discussed the submission of the NVCP with officers from DWER on 15 January 2024. The main points are summarised below.

It is noted the proposed application area is within a mapped Environmentally Sensitive Area (ESA). However, being within the buffer and not the community, Regulation 5 Item 1 for a *permanent* structure, clearing exemption may apply. DWER received legal advice that the hard stand with components such as drainage and compacted soil meets the definition of a structure

and if the proposed clearing is less than 5 hectares in a financial year then the clearing exemptions may apply. The timeline for the stockpile storage is unknown however the extension of the Mitchell Freeway is likely to be around 10 years away and the structure will be *permanent* for that time. It is likely that this permanent structure will then become part of the permanent road structure.

This letter provides a summary of the relevant background information associated with the attached application (Attachment 3 – C2 application form) for a NVCP.

2.1 Avoidance and Minimisation Measures

The following avoidance and minimisation measures have been considered to eliminate, reduce, or otherwise mitigate the need for and scale of the proposed clearing of native vegetation. Following the flora survey of the area, the flora diversity was considered low, the area is composed of paddock and historically disturbed vegetation which is expected for disturbed or highly modified areas on the Swan Coastal Plain. Of the 12.4 ha site, 8.42 ha was mapped as completely degraded with the remaining 3.29 ha containing two native vegetation communities. 0.36 ha of this was inferred as Banksia Woodland SCP TEC and the remaining native vegetation described as dominated by Coastal Blackbutt (*Eucalyptus todtiana)* trees. This is in the northeast portion of the proposed site and will be protected and avoided. Maximising the height of the stockpile will reduce the footprint and by locating the hardstand to the southern end of the proposed site. The proposed stockpile has been located in the southern portion of the site to minimise impact to native vegetation which is more prevalent and of higher quality in the norther portion of the site.

The project will avoid areas with significant environmental values by using already cleared areas for the proposed works rather than vegetated areas and avoidance of habitat for conservation significant flora/fauna such as quendas, wallabies and snakes and avoiding high quality habitat for black cockatoos, such as habitat trees and foraging species where possible.

The minimisation measures will incorporate staged clearing to assist fauna with relocating to other habitat areas in the vicinity of the clearing. A licenced fauna spotter would also be on site during clearing activities. Where possible the access track will be built on an alignment of an existing track and through areas that are devoid of native vegetation. Work practices such as demarcating and maintaining buffers to conservation significant flora and installing temporary fencing during the clearing and the proposed activity will minimise impacts. Temporary fencing will be erected around the Banksia woodland TEC patches with a 3-metre buffer to the vegetation perimeter. Temporary fencing will also be erected around the one known potential CBC breeding hollow tree with a 10-metre buffer applied.

The footprint design has considered information from the surveys and studies for the best area to minimise impacts from phytophthora dieback into the surrounding bushland. This considers the onsite mechanisms to minimise indirect impacts to adjacent vegetation such as the slope of the land and drainage considerations. Drainage will be retained onsite to avoid any overflow into the adjacent bush forever site (288). The site boundary will also be fenced to prevent any incidental incursion beyond the site boundary.

The proposed clearing is for the stockpiling of surplus fill material from the YRE project. This would be used in the future extension of the Mitchell Freeway which will provide public benefit as the population grows and residential development moves further north from Perth. The reuse of spoil from the YRE project for the future freeway extension project is an example of the work that is ongoing between agencies within the transport portfolio to maximise efficiency any sustainability outcomes across the METRONET program of works.

Rehabilitation is not an option following storage of the surplus fill as the site will eventually all be cleared to develop the Mitchell Freeway extension. This will be a future Main Roads project which is currently unfunded however it is estimated construction could commence in 10+ years.

The proposed footprint for the stockpile is an area which avoids the significant vegetation. This allows for retaining all vegetation interpreted as Banksia Woodlands SCP TEC bordering the Department of Biodiversity, Conservation and Attractions (DBCA) owned and managed bush forever land. These patches of native vegetation to be cleared measure less than 2.4 ha but allows for a stockpile footprint of approximately 8.4 ha. With a stockpile height of approximately 10 m this will accommodate the estimated 400,000 m3 of surplus fill.

A site visit was conducted by a PTA Environment Advisor on the 28 July 2023 to better understand the site conditions, the vegetation proposed to be cleared and the vegetation surrounding the area. Images of the proposed stockpile site are presented in Attachment 4. The proposed surplus fill stockpile area is located south of 379 Yanchep Beach Road, west of 401 Yanchep Beach Rd and east of 351 Yanchep Beach Rd. Drainage of water will be managed around the stockpile in line with PTA/ NWA management processes. This means no water runoff will be allowed to enter the neighbouring properties. Construction of the stockpile and access track is planned to commence from July to August 2024 pending the approval of a NVCP.

The Project Manager, in discussions with Main Roads WA (MRWA) investigated other potential sites. One site, to the north, however, was not deemed suitable due to the requirement for clearing native vegetation to create an access road. The area was also limited in size for the volume of surplus fill that could be stockpiled. The preferred option at Lot 104 / 4500 Mitchell Fwy Yanchep, represents the best option based on constructability, size of footprint, long term access solution and was chosen for the following reasons,

- It is close to the YRE Project, where the material from the existing project stockpiles will be drawn from;
- The site falls within the future Mitchell Freeway extension and the proponent, MRWA, will utilise this material; and
- The site is largely cleared, with only minimal disturbance of vegetation required via a native vegetation clearing permit under Part 5 of the *Environmental Protection Act 1986*.

The stockpiled material will be a maximum height of approximately 10 m.

In support of the NVCP for the proposed construction of the stockpile, a spring flora and basic fauna survey (*Flora and Fauna Survey Lot 4500 Mitchell Freeway, Yanchep*) was performed in accordance with *Technical Guidance-Flora and Vegetation Surveys for Environmental Impact Assessment* (*Environmental Protection Authority, 2016)* by AECOM Australia Pty Ltd. A summary of the survey results is listed below, and the shape files are attached (Attachment 9).

- No Priority or Threatened flora species were identified.
- Two native vegetation communities were mapped including a Banksia Woodland, with one Floristic Community Type (FCT 28 – Spearwood *Banksia attenuata – Eucalyptus woodlands*) and an Acacia Shrubland. One disturbed/altered community was mapped as Paddock cleared.
- The Threatened Ecological Community (TEC) Banksia Woodlands of the Swan Coastal Plain (SCP) was recorded, extending 0.36 ha.
- Vegetation condition ranged from Completely Degraded to Good.
- Three conservation significant fauna species were recorded:
  - Carnaby's Cockatoo (*Zanda latirostris*) listed as Endangered under the

EPBC Act and Biodiversity Conservation Act 2016 (BC Act),

- Quenda (*Isoodon fusciventer*) listed as Priority 4 by Department of - Biodiversity, Conservation and Attractions (DBCA), and

- Black-faced Cuckooshrike (*Coracina novaehollandiae*) listed as Marine under the EPBC Act listed Marine. The Black-faced Cuckooshrike is only protected under the EPBC Act on Commonwealth land.

- Fauna habitats represented potentially suitable habitat for an additional three conservation significant fauna species;
-
  - Black-striped Snake (*Neelaps calonotos*) (listed as Priority 3 by DBCA),

  - The Swan Coastal Plain shield-backed trapdoor spider (*Idiosoma* sigillatum) (listed as Priority 3 by DBCA), and the

  - Western Brush Wallaby (*Notamacropus irma*) (listed as Priority 4 by DBCA).

- One species listed as a Declared Pest s22(2) under the *Biosecurity and Agriculture Management Act 2007* (BAM Act) was recorded being *Echium plantagineum*.
- Plant species recorded include 18 weed species and 42 native species.
- Thirty-nine Coastal Blackbutt – *Eucalyptus todtiana* at DBH of >300mm.

Other studies undertaken on the proposed site are as follows, and reports attached.

- Aboriginal Heritage Survey of Lot 104, 4500 Mitchell Freeway, Yanchep prepared by R & E O'Connor Pty Ltd.
- 4500 Mitchell Freeway Phytophthora Dieback occurrence assessment by Glevan Consulting
- Unexploded Ordnance Field Validation Survey of 4500 Mitchell Freeway, Yanchep, by OPEC Systems Pty Ltd

2.2 Self-assessment of stockpile activity and potential impact to Commonwealth Matters of National Significance

The process includes considering the features of the environment, what is likely to be impacted and the sensitivity to impacts. How significant will the activity be on the environment including both direct and indirect impacts.

The flora and vegetation survey undertaken at the site indicates the native vegetation is of poor quality (mapped as mostly completely degraded and degraded). There does however exist a small area that has been inferred as being vegetation of Banksia Woodlands of the SCP, TEC due to its proximity to the adjacent bush forever site managed by DBCA. Other banksia woodland vegetation ranked as being moderate quality for Carnaby's Black Cockatoo foraging habitat is not sufficient to be classified as Banksia Woodlands SCP TEC. The vegetation is fragmented and scattered amongst what is classed as paddock cleared.

The survey area is part of the future Mitchell Fwy and is immediately adjacent to the Yanchep National Park containing 2,800 ha of vegetation with suitable foraging trees. Clearing of this habitat is unlikely to be detrimental to the ongoing success of Carnaby's

Black Cockatoos. The Banksia Woodlands SPC TEC will be temporarily fenced, and the proposed stockpile will avoid it. There is also a mapped hollow tree which will be protected during the clearing activities.

The assessment resulted in an insignificant impact to the clearing of approximately 1.7 ha of potential CBC foraging habitat with a quality score of 0 – 4 and ranked as negligible to moderate using the Bamford method.

3. Native Vegetation

The establishment and construction of the surplus fill stockpile site will require the clearing of native vegetation up a maximum of 2.4 ha within a total disturbance area of 12.9 ha, (Figure 2). A flora and basic fauna survey and Carnaby's Black Cockatoo habitat assessment have been undertaken. A vegetation survey of a portion of Lot 104 / 4500 Mitchell Fwy Yanchep, was performed in spring 2023 by AECOM Australia Pty Ltd - Attachment 2. At this time the vegetation condition was rated as varying from completely degraded up to good.

A description of the native vegetation at the proposed clearing area at Lot 104 / 4500 Mitchell Fwy Yanchep is provided below based on the biological surveys conducted for the disturbance area. The digital survey information has been provided in accordance with the EPA's *Instructions for the preparation of data packages for the Index of Biodiversity Surveys for Assessments (IBSA)*.

The survey recorded the following vegetation communities (as well as previously cleared areas) within the proposed disturbance area at Lot 104, 4500 Mitchell Fwy Yanchep (Figure 4).

- BmApMp: a Banksia and Eucalypt woodland *(B. attenuata* and *B. menziesii* low woodland) (2.75 ha);
- ArHhCm: a dense Acacia shrubland with low native diversity *(Acacia (lasiocarpa), rostellifera, cyclops* - Tall shrubland) (0.54 ha)
- Paddock: disturbed/cleared areas with sporadic native trees and shrubs *(*Isolated trees (Coastal Blackbutt [*Eucalyptus todtiana*]) over introduced grasses and herbs.) (8.42 ha)

The vegetation condition within the proposed clearing area ranges from Completely Degraded to Degraded (Figure 3). One Declared Plant (*Echium plantagineum)* listed under the *Biosecurity and Agriculture Management Act 2007* (BAM Act) and no Weeds of National Significance (WoNS) was identified in the proposed clearing area. A breakdown of the proposed disturbance area (as shown in Figure 2), vegetation type and condition are summarised in Table 1.

Table 1: Summary of Proposed Disturbance Area and Vegetation Type and Condition at 4500 Mitchell Fwy Yanchep.

Disturbance Area (ha)	Vegetation Type		Condition Rating
	Type	% of total area (8.4 ha)	
1.7	*B. attenuata and B. menziesii* low open woodland	20	Degraded
0.44	Acacia shrubland with low native diversity	6	Degraded
6.23	Paddock cleared Isolated trees (Coastal Blackbutt [*Eucalyptus todtiana*])	74	Completely Degraded

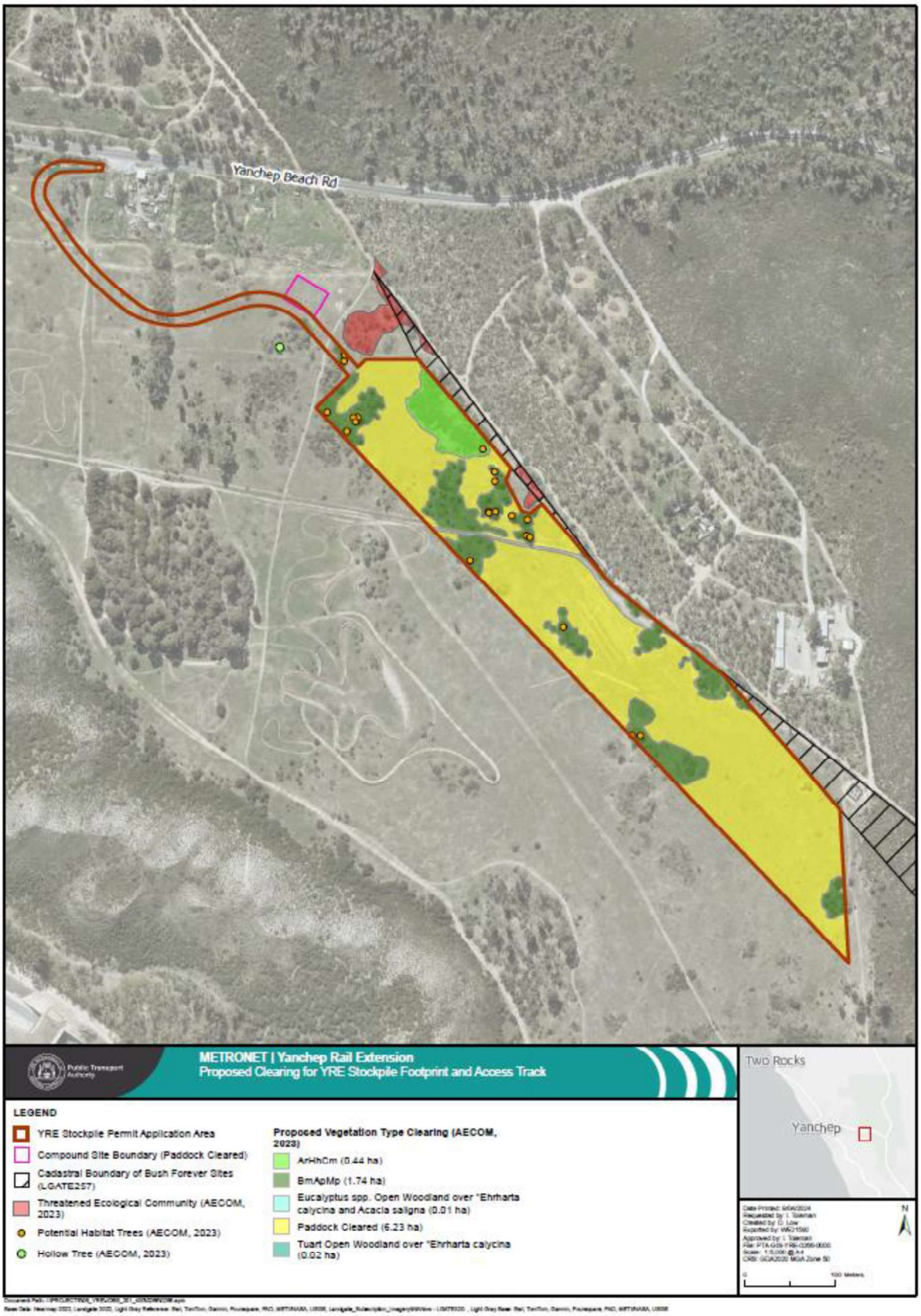

Figure 2 Proposed stockpile boundaries showing vegetation to be cleared.

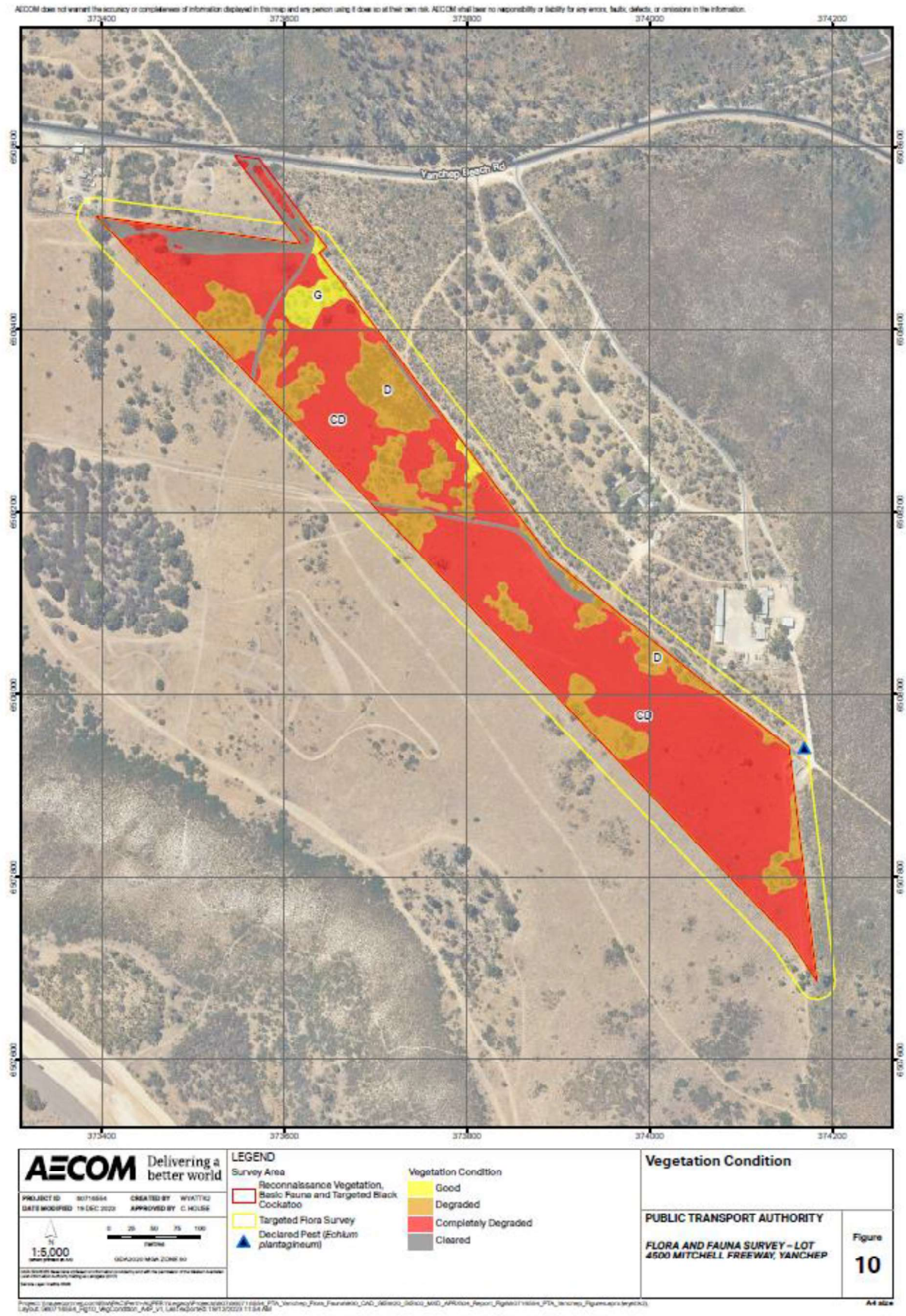

Figure 3 Vegetation condition– extracted from AECOM 2023.

3.1 Banksia Woodlands SCP TEC

The proposed clearing area has a maximum of up 2.4 ha of native vegetation and avoids the Banksia Woodlands of the SCP TEC. (Figure 4). The survey vegetation proposed to be cleared was recorded to range from Completely Degraded to Degraded and includes Banksia Woodlands and isolated trees (Coastal Blackbutt [*Eucalyptus todtiana*]) in cleared paddock.

There is one vegetation community noted that was assessed as being representative of a TEC being Banksia Woodlands of the SCP. This is not within the proposed clearing areas. See Figure 2 for the proposed clearing area.

AECOM Australia Pty Ltd identified likely locations of Banksia Woodlands SCP TEC and patches were considered for interpretation and assessment where there was a dominant or co-dominant overstorey of *B. attenuata, B. menziesii, B. prionotes or B. ilicifolia*. FCT analysis was completed for sample data considered likely to represent the TEC as per the DBCA *Methods for survey and identification of Western Australian threatened ecological communities* (DBCA, 2023) and the EPA *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016). The assessment then determined whether the quality of the patch is suitable to meet Matters of National Environmental Significance (MNES) standards.

One patch was assessed against the key diagnostic characteristics outlined in the DEE (2016) Conservation Advice which were considered as meeting the key characteristics, size and condition threshold to represent the Federally protected community. (Table 2) Two quadrats adjacent to the study area and one relevé in the study area represent FCT 28 Spearwood *Banksia attenuata or Banksia attenuata - Eucalyptus woodlands* were used to confirm the presence (See Appendix E of the report– Floristic Community Type Analysis Results in AECOM, 2023). This FCT is not specifically listed as a Threatened or Priority Ecological Community within Western Australia, however it is regarded as a sub-community of the Banksia dominated woodlands community. Where this community occurs within the Swan Coastal Plain IBRA region it is considered to represent the Banksia Woodlands of the Swan Coastal Plain TEC under the Federal Environmental Protection and Biodiversity Conservation (EPBC) Act.

The Banksia Woodland TEC is mapped for 0.36 ha within the study area. All other areas of vegetation community BmApMp were dominated by *Eucalyptus todtiana* and separated from Patch 1 by a break in Banksia canopy of more than 30 m. None of these areas met the key diagnostic characteristics or condition thresholds based on preliminary observations. They were not dominated by *Banksia s*pp, mapped as Degraded, and less than 2 hectares. These patches are therefore not considered part of the TEC.

Table 2: Patch 1 Banksia TEC Assessment

<table>
<tr><td>Patch identification and location</td><td>Patch 1 is located on the eastern boundary of the survey area, directly south of Yanchep Beach Road. It is represented by Q1, Q2 and R2.</td></tr>
<tr><td>Key characteristics</td><td>Yes, as below</td></tr>
<tr><td>Location</td><td>Yes, on the Swan Coastal Plain.</td></tr>
<tr><td>Soils and landform</td><td>Yes, on the Spearwood System.</td></tr>
<tr><td>Structure</td><td>Yes, includes and overstorey of B. attenuata and B. menziesii as a low open woodland.</td></tr>
<tr><td>Composition</td><td>Yes, overstorey of B. attenuata and B. menziesii over shrubs, herbs and grasses.</td></tr>
<tr><td>Condition</td><td>Samples sites indicate low native plant species diversity and weed cover ranging from 3.9%-100%. Condition is considered Good as per the Conservation Advice.</td></tr>
<tr><td>Soil type and colour</td><td>Grey-white sand.</td></tr>
<tr><td>Landform</td><td>Undulating sandy terrain.</td></tr>
<tr><td>Tree Data including height, canopy, percent cover and dominance.</td><td>
<table>
<tr><td rowspan="2">Species</td><td colspan="2">Q1</td><td colspan="2">Q2</td><td colspan="2">R2</td></tr>
<tr><td>Height</td><td>Cover</td><td>Height</td><td>Cover</td><td>Height</td><td>Cover</td></tr>
<tr><td>B. attenuata</td><td>400</td><td>10</td><td>200</td><td>7</td><td>400</td><td>6</td></tr>
<tr><td>B. menziesii</td><td>300</td><td>6</td><td>350</td><td>13</td><td>400</td><td>2</td></tr>
<tr><td>E. todtiana</td><td>-</td><td>-</td><td>-</td><td>-</td><td>600</td><td>15</td></tr>
</table>
</td></tr>
<tr><td>Native understory present (%) and diversity.</td><td>
<table>
<tr><td>Species</td><td>Q1</td><td>Q2</td><td>R2</td></tr>
<tr><td>Cover (%)</td><td>50.1</td><td>37.2</td><td>5.8</td></tr>
<tr><td>Diversity total</td><td>20</td><td>24</td><td>7</td></tr>
</table>
</td></tr>
<tr><td>Weed cover (%) and dominant weed species</td><td>
<table>
<tr><td>Species</td><td>Q1</td><td>Q2</td><td>R2</td></tr>
<tr><td>Cover (%)</td><td>3.9</td><td>5.7</td><td>100</td></tr>
<tr><td>Dominant species</td><td colspan="2">No clear dominant</td><td>Ehrharta calycina</td></tr>
</table>
</td></tr>
<tr><td>Size of patch</td><td>Within survey area: 0.36 ha
Estimated total extent: >100 ha</td></tr>
<tr><td>Summary</td><td>This patch is part of the larger Yanchep National Park Banksia Woodland. The patch meets the condition and size thresholds to be considered representative of the Commonwealth listed TEC.</td></tr>
</table>

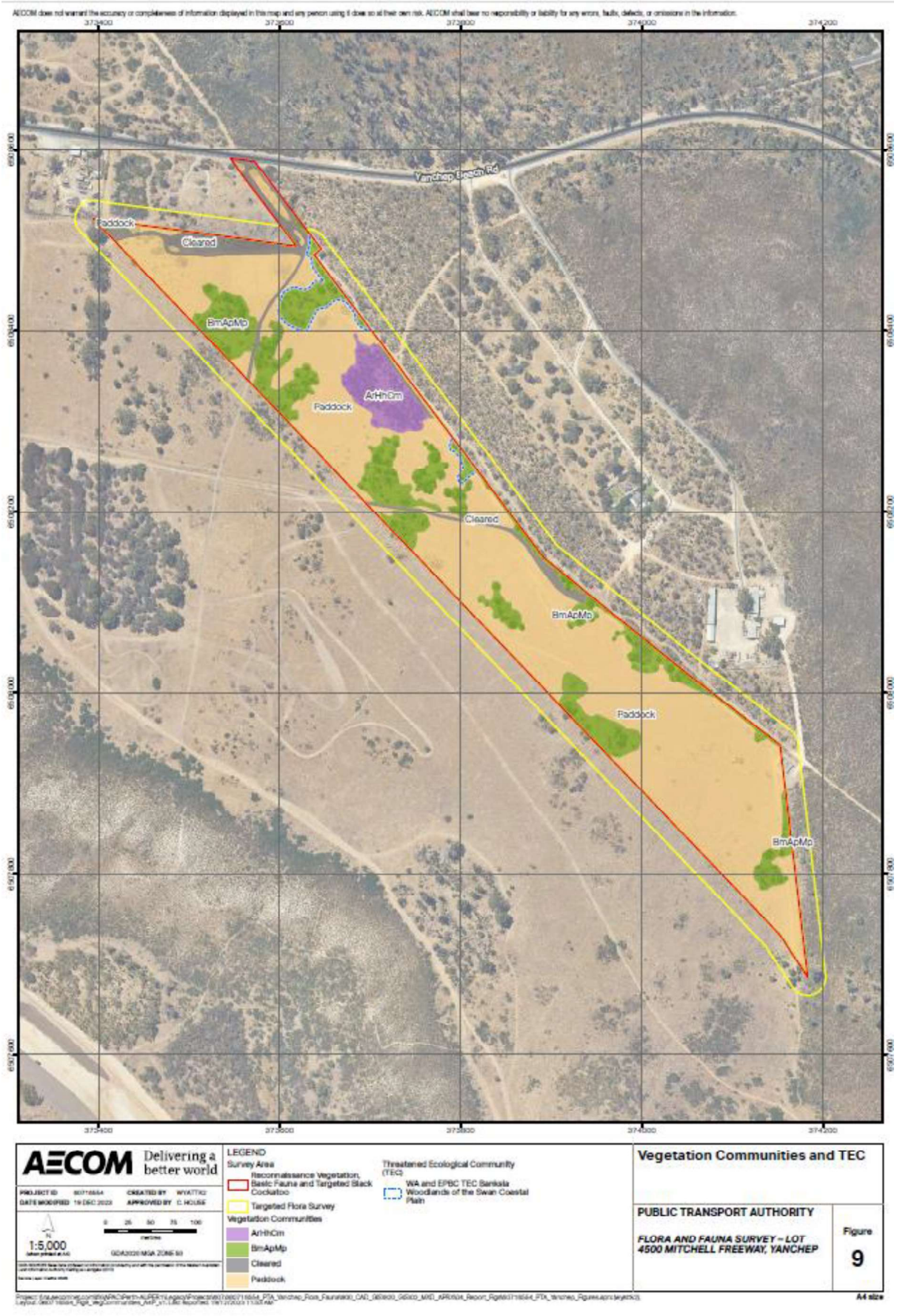

Figure 4 Vegetation Communities and Banksia Woodlands TEC extracted from AECOM 2023

A breakdown of the vegetation condition of the proposed clearing area is summarised in **T**able 3 below. This information is based on GIS data (shapefiles Attachment 9) and is presented in Figure 2.

Table 3: Summary of vegetation condition of the proposed clearing area

Total Area (ha)	Disturbance Type	Vegetation condition (ha)	
		Completely Degraded	Degraded
8.4	Stockpile area	5.4	3.0

4. Threatened Fauna and Fauna Habitats (Carnaby Black Cockatoo)

A basic fauna survey was conducted in accordance with the *Technical Guidance – Terrestrial Fauna Surveys* (EPA, 2020).

Six detailed habitat assessments were completed throughout the survey area (See HA 01 to HA 06 in figure 5) to determine the potential for these habitats to support conservation significant species. Breeding, foraging and roosting assessments, developed based on the current *EPBC Act Referral Guidelines for Three Threatened Black Cockatoo Species* (DAWE, 2022), were completed in the survey area for Carnaby's Black Cockatoo. Breeding habitats were assessed by quantifying the number of trees with potentially suitable hollows and those that have the potential to form hollows (based on their diameter at breast height [DBH]). An assessment of roosting habitat includes consideration of features such as water sources, tall trees, and specific tree species as defined in the Referral Guidelines. Foraging habitat was assessed by calculating a foraging value score, a size threshold of 10 ha applies to foraging habitat. The Bamford (2020) scoring tool was used for the Banksia Woodland fauna habitat resulting in a score of 0 - 4 and being mapped as Moderate Quality. Negligible quality habitat consists of the Paddock cleared and Tall Shrubland habitat types. (See figure 6). Three of the habitat assessment locations were within the southern section of the study site where it is proposed to locate the stockpile.

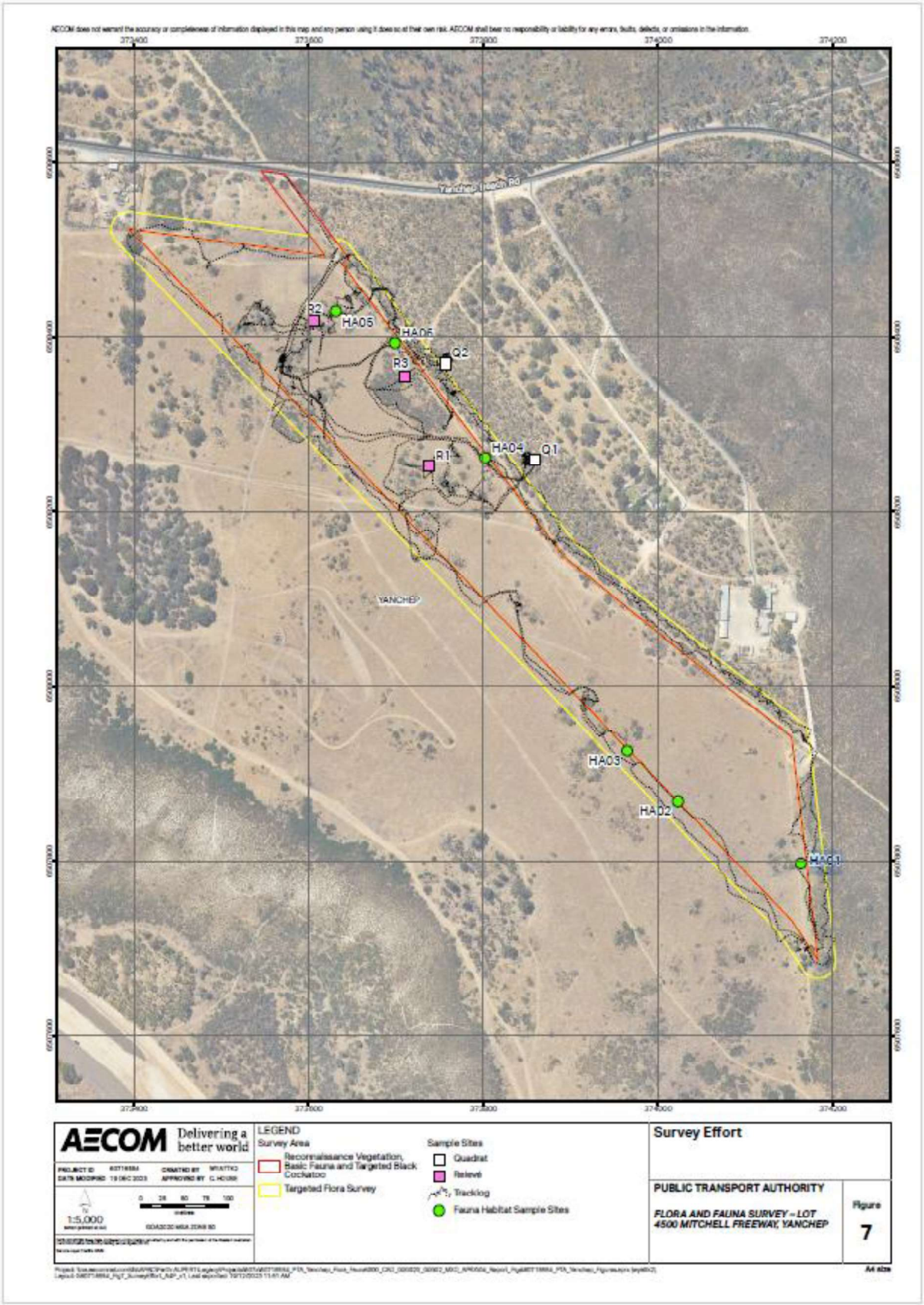

Figure 5 The survey effort showing locations of quadrats (adjacent to study area), relevé and fauna habitat assessments. extracted from AECOM 2023

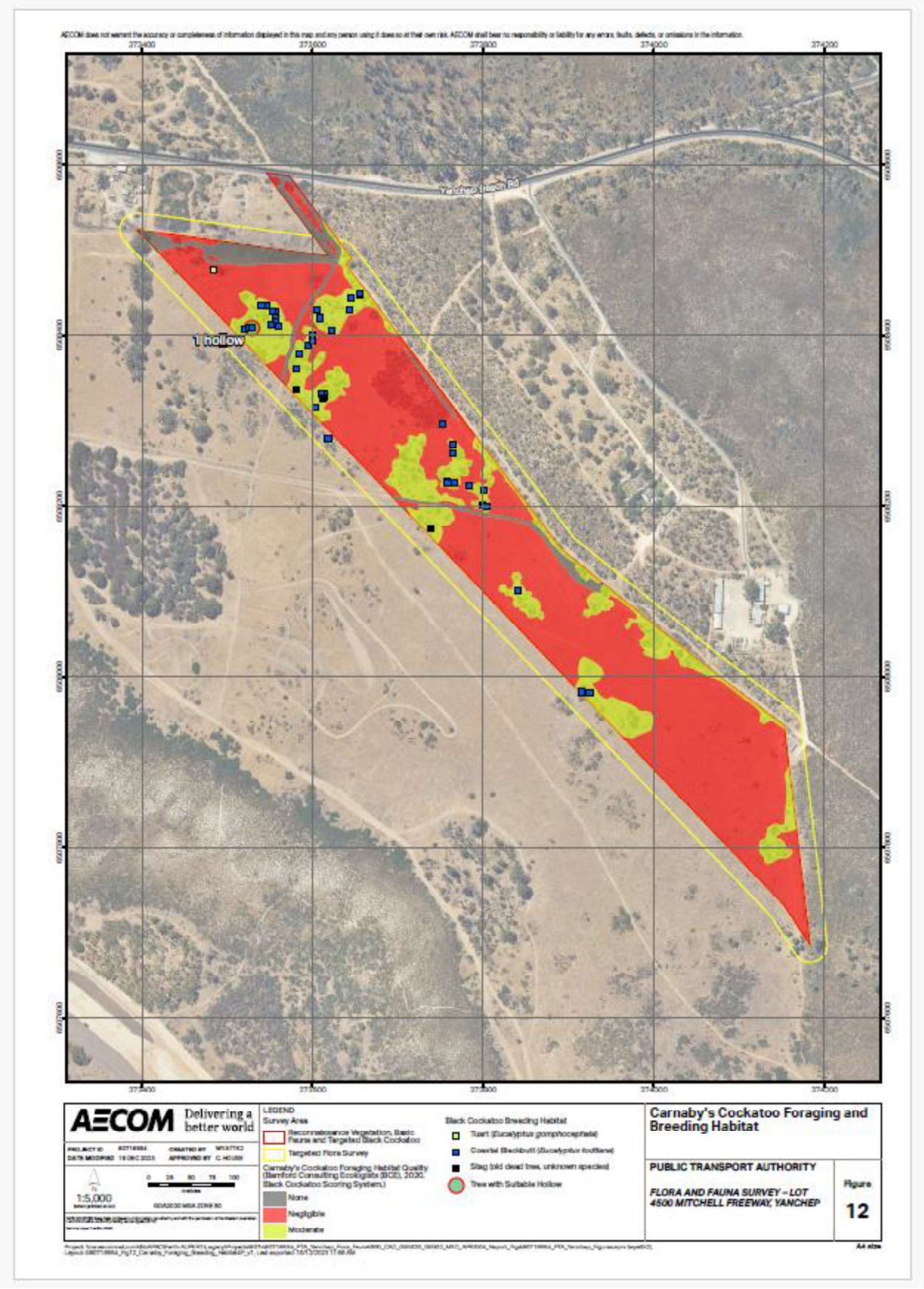

Figure 6: Foraging Habitat Quality for Carnaby's Black Cockatoo–extracted from AECOM 2023

The Banksia Woodlands habitat primarily occurring along the northeastern edge and totalling 2.75 ha (28.0% of the survey area) can provide shelter and foraging habitat for small mammals like Quenda *Isoodon fusciventer* (listed as Priority 4 by DBCA). It would also provide suitable habitat for the Black-striped Snake *Neelaps calonotos* (listed as Priority 3 by DBCA), and the Swan Coastal Plain shield- backed trapdoor spider *Idiosoma sigillatum* (listed as Priority 3 by DBCA). Table 4 illustrates the suitable habitat for significant fauna species within the survey area. This patch is being excluded from the footprint of the stockpile area.

Table 4: Total area (ha) of suitable habitat for significant fauna species within the survey area

Proposed Site Total Area (ha)	Proposed Native Vegetation Clearing Area (ha)	Moderate Value Black Cockatoo Foraging Habitat Area (ha)
12.9	Up to 2.4	2.75

4.1 Foraging

The larger trees (*Banksia* and *Eucalyptus* trees) present within the Banksia Woodlands are suitable foraging species for Carnaby's Cockatoo (listed as Endangered under EPBC Act and Biodiversity Conservation Act). The Western Brush Wallaby *Notamacropus irma* (listed as Priority 4 by DBCA) may also use the Banksia Woodland habitat for foraging and shelter although their preference is for seasonally wet areas with low shrubby thickets.

Paddock cleared is the dominant habitat in the survey area, occurring over 8.42 ha and comprising 72% of the vegetated survey area. The understorey is comprised mostly of weedy grasses and herbs and include isolated trees of *Eucalyptus todtiana,* with very occasional *Banksia* species. Shrubs include sporadic clusters of *Acacia saligna* and *Acacia rostelifera.* They represent foraging opportunities for Carnaby's Cockatoos; however, these isolated trees contain limited small hollows.

The survey area has been assessed as a score of 10 'High-quality foraging habitat' using the DAWE 2022 guidelines for Carnaby's Cockatoo as the survey area contains mature Banksia Woodlands, with suitable foraging species including multiple proteaceous species and *Eucalyptus todtiana* trees.

AECOM Pty Ltd provided a refined foraging habitat value considering characteristics of each fauna habitat type and there being substantial suitable foraging habitat adjacent to the survey area. A Moderate Quality for the Banksia Woodland and Negligible Quality for the Paddock Cleared and Tall Shrubland habitat types were mapped according to the Bamford (2020) scoring tool. This is a realistic score and quality given the degraded and completely degraded condition of the vegetation at the site.

4.2 Breeding

A total of 44 potential nesting trees with a suitable DBH (>300 mm) were recorded (Figure 6). This consisted of 39 Coastal Blackbutt (*Eucalyptus todtiana*), four Stags (unknown dead trees), and one Tuart (*Eucalyptus gomphocephala*). Potential nesting trees are defined by DAWE (2022) as "*trees that have a suitable DBH to develop a nest hollow, but do not currently have hollows. Trees suitable to develop a nest hollow in the future are 300-500 mm DBH*".

One potentially suitable nesting tree, a Coastal Blackbutt, was found to have a hollow with a potentially suitable entrance size for Black Cockatoos. This tree has been subject to a fire and the hollow is on the horizontal. A suitable nesting tree is defined by DAWE (2022) as "*trees with suitable nesting hollows present, although no evidence of use*". No active Black Cockatoo breeding activity or nesting was observed during the field survey.
One potential habitat tree Tuart (*Eucalyptus gomphocephala*) for threatened black cockatoos (DBH greater than 500 mm) was identified within the survey area. This tree is in the northern section of the site and is being avoided by the proposed stockpile footprint and clearing area. This will have a 10m buffer around it to ensure no damage during the construction of the stockpile and deposition of material. There is also another tree in the Development WA land (351 Yanchep Beach Road) where the access track is proposed which was surveyed by NAMS and found to have hollows. Two hollows (with entrance opening > 200 mm diameter) were recorded on this habitat tree. This will also be avoided.

4.3 Roosting

No roosting sites were observed within the survey area. The desktop study confirmed that twenty-one Carnaby's Cockatoo roosting sites are known to occur within 30 km of the survey area. Six of these occur within 15 km and two within 1 km of the survey area. Refer to Figure 7.

Table 5: Carnaby's Black Cockatoo Foraging and Potential Breeding Habitat Area and Significant Fauna Species Habitat Area

Species	**Area of Suitable Habitat (ha)**			**Total (ha)**
	Banksia Woodland	**Paddock Cleared**	**Tall Shrubland**	
Carnaby's Cockatoo (*Zanda latirostris*)	2.75	8.42	0.54	11.71
Quenda (*Isoodon fusciventer*)	2.75	8.42	0.54	11.71
Black-striped Snake (*Neelaps calonotos*)	2.75		0.54	3.29
Swan Coastal Plain shield-backed trapdoor spider (*Idiosoma sigillatum)*	2.75			2.75
Western Brush Wallaby (*Notamacropus irma*)	2.75	8.42	0.54	11.71
Proposed area for clearing	1.7	6.70	0.0	8.4

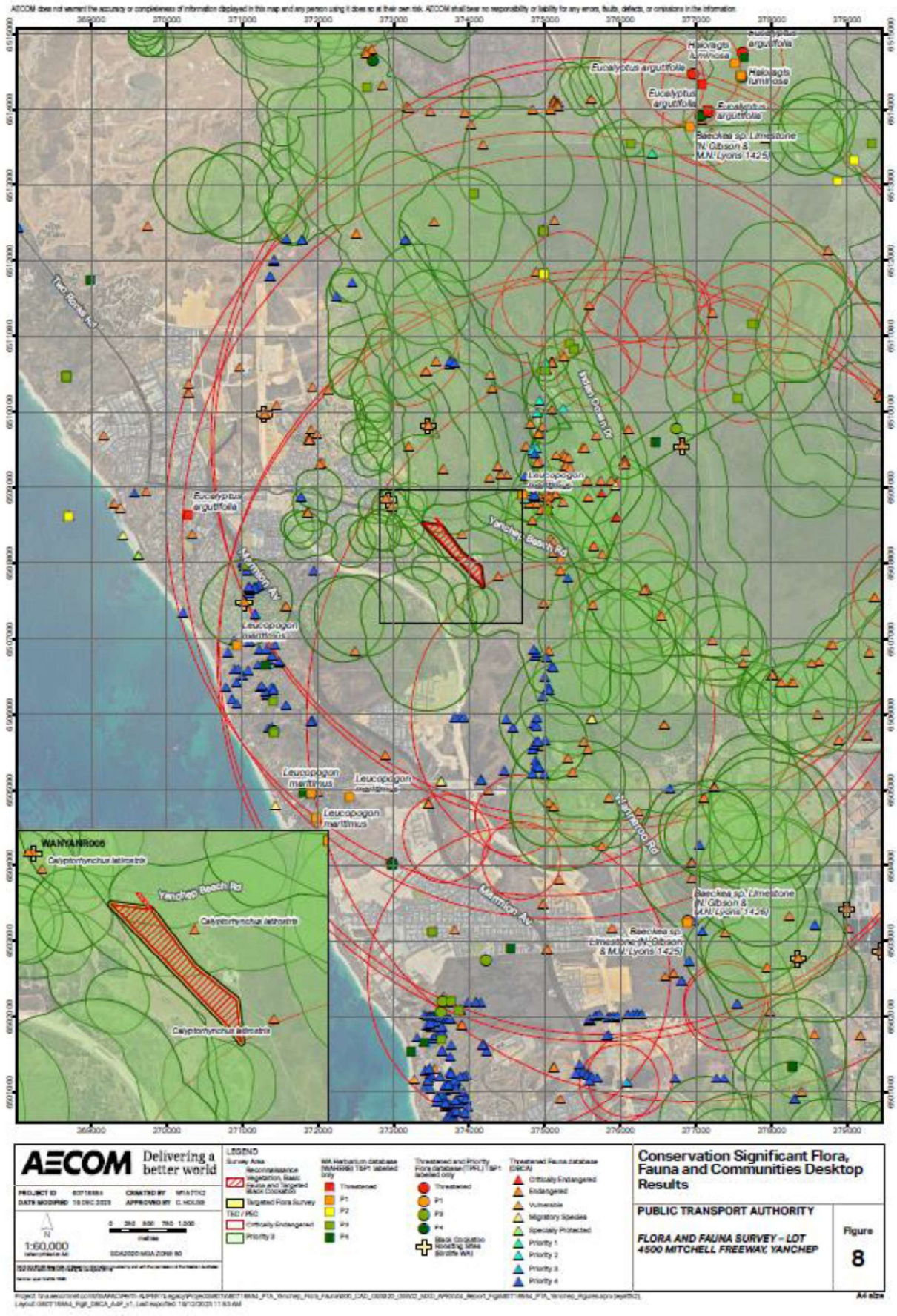

Figure 7 Desktop assessment of Conservation Significant Flora, Fauna and Vegetation Communities. extracted from AECOM 2023

5. Environmental Management

Environmental management measures such as Phytophthora Dieback and weed management protocols will be employed by the PTA and NWA to reduce the impacts on environmental values including flora, vegetation, ecological communities, fauna, fauna habitat and biological diversity.

The PTA will ensure the following management measures are implemented to minimise impacts to environmental values during the ground disturbance and clearing works:

- Survey personnel will flag/demarcate clearing areas prior to clearing works commencing.
    - The PTA (or its Contractor) will issue internal ground disturbance permits prior to any clearing works.
- Pre-start meeting will be held with contractors to highlight the requirements to stay within approved clearing areas and minimise impacts to vegetation.
- All clearing and survey works will be supervised by environmental personnel.
    - Phytophthora Dieback assessment identified the soils of the study area are calcareous and not conducive to *Phytophthora cinnamomi* (if present) causing significant disease symptoms and no Phytophthora Dieback was observed.
    - Machinery and equipment will be inspected at the site entry point to confirm it is soil and vegetation free to prevent the introduction of weeds and disease.
    - Licensed fauna spotters to be present during clearing of native vegetation to supervise dispersal and the relocation of any fauna and identification of any potential injured fauna. Any injured fauna will be taken to a wildlife carer for treatment.

5.1 Flora, Vegetation and Ecological Communities

To manage the impacts from clearing on flora, fauna, and ecological communities several strategies have been developed:

- Survey personnel will flag/demarcate clearing areas prior to clearing works commencing.
- Pre-start meeting will be held with contractors to highlight the requirements to stay within approved clearing areas and minimise impacts to vegetation.
- Temporary fencing will be installed on the site perimeter and vegetation to be protected.

5.2 Fauna

To manage the impacts to clearing on fauna and fauna habitat, several strategies including licensed fauna spotters to be present during clearing of native vegetation to supervise dispersal and the relocation of any fauna and identification of any potential injured fauna. Any injured fauna will be taken to a wildlife carer for treatment will be implemented:

5.3 Phytophthora Dieback

Most of the proposed clearing areas are not conducive to *Phytophthora cinnamomi*. Appropriate hygiene protocols will be implemented to ensure the risk of spreading dieback is carefully managed and minimised. The measures within the Construction Environmental Management Plan for the YRE project will be applied to these works.

5.4 Weeds

One species listed as a Declared Pest s22(2) under the *Biosecurity and Agriculture Management Act 2007* (BAM Act) was recorded. (*Echium plantagineum*) found on the southeast boundary of the study area. Weed management protocols will be implemented to control weed species within the proposed clearing areas during construction.

5.5 Rehabilitation and Offsets

As this proposal is for the future construction of the Mitchell Freeway there are limited opportunities for rehabilitation. Offsets are not proposed as residual impacts to significant factors are considered below the threshold for offsets.

6. **EPBC Referral**

The proposed clearing activities covered by this NVCP application have not been referred to the Commonwealth Department of Climate Change, Energy the Environment and Water (DCCEEW). A self-assessment of the impacts from the surplus fill stockpile upon Matters of National Significance was undertaken. The action due to the size of the clearing area being less than 2 ha of a TEC (no TEC will be cleared) and less than 10 hectare of cockatoo foraging habitat for a foraging score of 0 – 4 (Bamford method), was deemed not to have a significant impact on a matter protected under the EPBC Act (*EPBC Approved Conservation Advice 2016*). This application will not be requested to be assessed under the bilateral agreement or an accredited assessment. The stockpile boundaries will also avoid the Banksia Woodland SCP TEC and the potential habitat tree with a hollow.

7. **Native Vegetation Clearing Permit**

Attached is an Application for a clearing permit to clear native vegetation (purpose permit) Form C2 (Attachment 3), whereby PTA seeks approval under section 51E of the *Environmental Protection Act (1986)* to clear up to 2.4 ha of native vegetation located at 4500 Mitchell Fwy, Yanchep. The vegetation is proposed to be cleared through mechanical means. The information in this letter and attachments aims to provide context of the proposed works and the environmental matters to guide DWER in their assessment process.

The PTA is applying to clear up to a maximum of 2.4 ha of native vegetation within a 12.4 ha proposed site (Figure 1) in accordance with the attached Clearing Permit Application (Form C2) As described in the above sections. The proposed clearing areas contain vegetation that is mostly Completely Degraded and Degraded. Extensive areas within the surplus fill stockpile area have already been cleared. For this NVCP application the vegetation proposed to be cleared relates to areas of native vegetation only.

An assessment of the native vegetation within the proposed clearing areas has been completed against the ten clearing principles using the DWER guideline '*A Guide to the Assessment of Applications to Clear Native Vegetation, Under Part V Division 2 of the Environmental Protection Act 1986*' (DWER, 2014). This has been provided in Attachment 8.

8. **Certificates of Title and Landowners Authority**

The PTA does not own the parcel of land covered by this NVCP application. All proposed clearing is in a future road owned and managed by MRWA. MRWA has provided written authorisation (Attachment 6) for PTA to undertake the proposed clearing within the portions covered by this application. Development WA has provided authority to use its land to access the stockpile site. The application for a clearing permit (purpose permit) Form C2 is enclosed (Attachment 3) for your consideration. The Certificate of Titles for 4500 Mitchell Fwy are included (Attachment 6): Should you require any further information regarding the above, please contact Mr Ian Toleman, Environment Advisor at PTA, on Ian.Toleman@pta.wa.gov.au or 9326 3432.

Yours sincerely

Environment Manager, OMTID

Attachments

Attachment 1 – NEWE L Proposed Offsite Stockpile Access Track Survey
Attachment 2 - Flora and Fauna Survey Lot 4500 Mitchell Freeway, Yanchep by AECOM Australia, Pty Ltd, Spring 2023
Attachment 3 – Surplus Stockpile Area - Proposed Native Vegetation Clearing Permit Application (Form C2)

Attachment 4 - Site Images: 4500 Mitchell Fwy, Yanchep PTA Site Survey Photographs

	
Entrance to proposed stockpile site	*Acacia rosti*
	
E. todtiana	*Banksia menziesii*
	
Anthoceris littorea	Degraded Banksia woodland
	
Proposed stockpile area looking south	Communication tower and powerlines

Attachment 5 – Summary of Carnaby's Black Cockatoo Habitat Assessment (Extracted from report by AECOM)

Species	Tree Height	DBH (cm)	Tree Health	No. of Hollows	Size of Hollow (cm)	Hollow Height above ground (m)	Evidence of Use	Northing	Easting
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	33	Alive	0	NA	NA	Occupancy: No signs	6507982.41	373915.47
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	35	Alive	0	NA	NA	Occupancy: No signs	6507982.18	373924.69
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	32	Alive	0	NA	NA	Occupancy: No signs	6508101.36	373840.16
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	30	Alive	0	NA	NA	Occupancy: No signs	6508271.70	373764.69
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	57	Alive	0	NA	NA	Occupancy: No signs	6508261.27	373765.09
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	40	Alive	0	NA	NA	Occupancy: No signs	6508228.26	373758.30
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	40	Alive	0	NA	NA	Occupancy: No signs	6508226.77	373758.40
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	35	Alive	0	NA	NA	Occupancy: No signs	6508228.13	373765.76
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	42	Alive	0	NA	NA	Occupancy: No signs	6508223.50	373783.57
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	54	Alive	0	NA	NA	Occupancy: No signs	6508219.08	373800.82
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	33	Alive	0	NA	NA	Occupancy: No signs	6508199.57	373803.46
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	34	Alive	0	NA	NA	Occupancy: No signs	6508278.76	373618.11
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	31	Alive	0	NA	NA	Occupancy: No signs	6508327.49	373614.22
Coastal Blackbutt (*Eucalyptus todtiana*)	10-15m	42	Alive	0	NA	NA	Occupancy: No signs	6508331.31	373614.65
Coastal Blackbutt (*Eucalyptus todtiana*)	10-15m	46	Alive	0	NA	NA	Occupancy: No signs	6508331.12	373609.96
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	31	Alive	0	NA	NA	Occupancy: No signs	6508315.90	373602.76
Coastal Blackbutt (*Eucalyptus todtiana*)	10-15m	48	Alive	0	NA	NA	Occupancy: No signs	6508360.31	373581.24
Coastal Blackbutt (*Eucalyptus todtiana*)	10-15m	39	Alive	0	NA	NA	Occupancy: No signs	6508378.49	373585.11
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	37	Alive	0	NA	NA	Occupancy: No signs	6508388.31	373594.48
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	82	Alive	0	NA	NA	Occupancy: No signs	6508393.21	373599.62
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	31	Alive	0	NA	NA	Occupancy: No signs	6508400.16	373600.26
Coastal Blackbutt (*Eucalyptus todtiana*)	10-15m	30	Alive	0	NA	NA	Occupancy: No signs	6508410.54	373560.17
Coastal Blackbutt (*Eucalyptus todtiana*)	10-15m	53	Alive	0	NA	NA	Occupancy: No signs	6508417.96	373556.85
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	34	Alive	0	NA	NA	Occupancy: No signs	6508423.07	373557.32
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	30	Alive	0	NA	NA	Occupancy: No signs	6508427.68	373556.37
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	31	Alive	0	NA	NA	Occupancy: No signs	6508427.61	373553.04
Coastal Blackbutt (*Eucalyptus todtiana*)	10-15m	53	Alive	0	NA	NA	Occupancy: No signs	6508435.06	373546.93
Coastal Blackbutt (*Eucalyptus todtiana*)	10-15m	41	Alive	0	NA	NA	Occupancy: No signs	6508435.44	373540.22
Coastal Blackbutt (*Eucalyptus todtiana*)	10-15m	38	Alive	0	NA	NA	Occupancy: No signs	6508407.94	373519.59
Coastal Blackbutt (*Eucalyptus todtiana*)	10-15m	68	Alive	0	NA	NA	Occupancy: No signs	6508409.40	373526.24
Coastal Blackbutt (*Eucalyptus todtiana*)	10-15m	96	Alive	1	25 x 25	5	Occupancy: No signs	6508408.71	373529.07
Coastal Blackbutt (*Eucalyptus todtiana*)	10-15m	68	Alive	0	NA	NA	Occupancy: No signs	6508412.13	373551.12
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	34	Alive	0	NA	NA	Occupancy: No signs	6508429.45	373604.43
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	33	Alive	0	NA	NA	Occupancy: No signs	6508296.67	373751.76
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	*31*	Alive	0	NA	NA	Occupancy: No signs	6508447.88	373655.19
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	34	Alive	0	NA	NA	Occupancy: No signs	6508449.38	373656.07
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	35	Alive	0	NA	NA	Occupancy: No signs	6508443.26	373644.64

Species	Tree Height	DBH (cm)	Tree Health	No. of Hollows	Size of Hollow (cm)	Hollow Height above ground (m)	Evidence of Use	Northing	Easting
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	*30*	Alive	0	NA	NA	Occupancy: No signs	6508429.28	373643.78
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	45	Alive	0	NA	NA	Occupancy: No signs	6508405.50	373622.34
Coastal Blackbutt (*Eucalyptus todtiana*)	5-10m	35	Alive	0	NA	NA	Occupancy: No signs	6508420.49	373609.30
Stag	10-15m	*62*	Dead	0	NA	NA	Occupancy: No signs	6508174.20	373737.91
Stag	5-10m	50	Dead	0	NA	NA	Occupancy: No signs	6508201.54	373799.68
Stag	5-10m	50	Dead	0	NA	NA	Occupancy: No signs	6508326.47	373612.16
Stag	5-10m	67	Dead	0	NA	NA	Occupancy: No signs	6508336.96	373581.07
Tuart (*Eucalyptus gomphocephala*)	10-15m	85	Alive	0	NA	NA	Occupancy: No signs	6508476.34	373483.27

Attachment 8: Ten Clearing Principles Assessment (Extracted from AECOM 2023)

Background	Source/Tool for Assessment	Conclusion
Principle (a) - Native vegetation should not be cleared if it comprises a high level of biological diversity		
The clearing area does not occur within a Biodiversity Hotspot as identified by the Threatened Species Scientific Committee for the Australian Government. DBCA flora, fauna, and communities' database searches identified 96 significant fauna species as potentially occurring, 36 significant flora species that may potentially occur, and 15 significant ecological communities occurring within 1 km, 10 km, and 20 km of the survey area respectively. No conservation significant threatened or priority flora were recorded during the field survey, as stated in Section 6.1.1. Four priority species were identified in the desktop assessment but were not found within the survey area. Areas of native vegetation within the reconnaissance survey area were mostly considered in Degraded condition. Paddocks and cleared areas with scattered native shrubs and trees were mapped as Completely Degraded. Completely degraded vegetation made up 8.42 ha (72%) of the survey area. Degraded vegetation contributed 2.93 ha (25%) and only 0.36 ha (3%) was mapped as 'Good' condition. Cleared areas were not included in condition calculations. Yanchep National Park is located immediately east of the site and contains approximately 2,800 ha of vegetation including native vegetation including Banksia Woodlands in likely better condition than the survey area. One patch of Commonwealth listed Banksia Woodland TEC, is mapped for 0.36 ha within the survey area and represents the western edge of a larger patch that extends through Yanchep NP for greater than 100 ha to the east. The TEC was recorded in 'Good' condition and is believed to be representative of FCT 28, with two quadrats and one relevé found to represent this FCT. FCT28 represents a Commonwealth protected TEC and is not listed as priority or threatened for protection under WA legislation. Flora diversity was lower than is typical for FCT 28, with an average of 31 species compared to a typical richness of 56, as stated in Section 6.2.2. In conclusion, this vegetation was not considered to represent a high level of diversity. Based on this assessment, it is considered that native vegetation within the clearing area does not represent a high level of biological biodiversity.	• Reconnaissance Flora, Vegetation and Targeted Black Cockatoo Survey • Aerial photography • DBCA GIS database • Publicly available GIS layers (data.gov) • PMST report • EP Environmental Factor Guideline – Flora and Vegetation (EPA, 2016) • Regional Botanical Province and Sub region Descriptions (Beard, 1990) • WA Herbarium Florabase (2023) • DCCEEW SPRAT Species Profile and Threats database	The Proposal is unlikely be at variance with this clearing principle.

Background	Source/Tool for Assessment	Conclusion
Therefore, the proposal is unlikely to be at variance with this clearing principle.		
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 proposed clearing contains two native vegetation types: 1. ArHhCm - *Acacia rostellifera*, *Macrozamia fraseri* and *Jacksonia sternbergiana* tall closed shrubland over *Hibbertia hypericoides* and *Acacia?saligna* low shrubland over *Corynotheca micrantha* and *Ptilotus polystachyus* sparse forbland. 2. BmApMp - *Banksia menziesii, Banksia attenuata* and *Eucalyptus todtiana* low open woodland over *Acacia pulchella, Jacksonia sternbergiana* and *Hibbertia hypericoides* low open shrubland over *Mesomelaena pseudostygia, Burchardia congesta* and *Conostylis aculeata* sparse forbland. A Desktop search (using DBCA and PMST data) of Threatened and Priority Fauna databases determined that 96 conservation significant fauna species have been previously recorded within 10 km of the proposed clearing area. Evidence indicating the presence of three conservation significant fauna species was identified during the survey. **Carnaby's Cockatoo (Endangered)** During the survey, a total of 44 potential nesting trees and one potentially suitable nesting tree with suitable DBH (>300 mm) were identified within the survey area. No roosting sites were observed. Under the Bamford (2020) scoring tool, only 2.75 ha of Banksia Woodland was mapped as suitable for Black Cockatoo foraging. Carnaby's Cockatoo was observed foraging and resting within the survey area. Aerials suggest the presence of native vegetation north and east of the survey area that likely also contains suitable foraging species such as *Eucalyptus todtiana, Eucalyptus gomphocephala*, or proteaceous species. Additionally, five of the 15 Threatened or Priority Ecological Communities identified within 20km of the survey area contain Banksia trees suitable for Carnaby's Cockatoo foraging. There are three confirmed roosting sites within 3 km east of the survey area located in Yanchep National Park which also contains Banksia and Eucalyptus species suitable for foraging. The nearest breeding site is approximately 22 km south. Given the proposed clearing is only 2.75 ha of foraging habitat and Yanchep National Park immediately adjacent contains 2800 ha of vegetation with suitable foraging trees, clearing of this habitat is unlikely to be detrimental to the ongoing success of Carnaby's Cockatoo.	• Reconnaissance Flora, • Vegetation and Targeted • Black Cockatoo Survey • Aerial photography • DBCA GIS database • Publicly available GIS layers • (data.gov) • PMST report • WA Museum (2023) • DCCEEW SPRAT Species • Profile and Threats database	The Proposal is unlikely be at variance with this clearing principle.

Background	Source/Tool for Assessment	Conclusion
Quenda (Priority 3) Quenda (*Isoodon fusciventer*) were recorded via distinct foraging evidence (diggings) identified within the survey area. Suitable habitat was recorded for all three vegetation communities, with the two native communities (ArHhCm & BmApMp) providing the most suitable habitat, containing open and closed shrublands used for shelter. Aerial's suggest similar habitat is presented in the surrounding area, therefore clearing is unlikely to represent a significant loss of habitat for the species. Other fauna species found to have a 'high' likelihood of occurrence include the Black-striped Snake (*Neelaps calonotos*), Swan Coastal Plain shield-backed trapdoor spider (*Idiosoma sigillatum*), and Western Brush Wallaby (*Notamacropus irma*). No direct or indirect evidence that would suggest the presence of these species within the survey area was found during the field survey. As a result of the proposed clearing, it is likely that habitat containing breeding, sheltering, and feeding sites for at least five conservation significant species within the survey area would be lost or reduced. However, the native vegetation within the survey area is not considered to represent habitat which is the whole of, or is necessary for the maintenance of, significant habitat. Based on the above information it is considered unlikely that the proposed clearing is at 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		
No Threatened or Priority flora species were recorded during the survey. The desktop assessment identified no threatened flora species with a high likelihood of occurrence in the survey area. Given no conservation significant species were identified during the field survey, and the presence of neighbouring cleared paddocks and limited adjoining vegetation south and west of the survey area, the proposed clearing would not provide a significant buffer for potential threatened species. The native vegetation proposed to be cleared therefore does not include, nor is it necessary for the continued existence, of any threatened flora. The clearing is consequently not at variance to this principle.	• Reconnaissance Flora, • Vegetation and Targeted • Black Cockatoo Survey • Aerial photography • DBCA GIS database • Publicly available GIS layers • (data.gov) • PMST report • WA Museum (2023) • DCCEEW SPRAT Species • Profile and Threats database	The Proposal is unlikely be at variance with this clearing 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		
One patch of Commonwealth listed Banksia Woodland TEC, is mapped for 0.36 ha within the survey area and represents the western edge of a larger	• Reconnaissance Flora, • Vegetation and Targeted	The Proposal is unlikely be at variance with this clearing principle.

<table>
<tr><th>Background</th><th>Source/Tool for Assessment</th><th>Conclusion</th></tr>
<tr><td>patch that extends through Yanchep NP for greater than 100 ha to the east. The TEC was recorded in ‘Good’ condition and is believed to be representative of FCT 28, with two quadrats and one relevé found to represent this FCT. FCT28 represents a Commonwealth protected TEC and is not listed as priority or threatened for protection under WA legislation. Additionally, it is estimated there is 81,800 ha of Commonwealth listed Banksia Woodlands TEC within reserves mostly within the Perth subregion and Swan Coastal Plain bioregion. Removal of 0.36 ha of this TEC is not anticipated to impact upon the area.
The desktop assessment identified two other TECs that have a buffer that overlaps with the survey area, and an additional TEC which occurs directly adjacent to the survey area (within 1 km). These TECs were not recorded during the field survey.
Given FCT28 is not protected as threatened or priority at a state level, and given the substantial amount of Banksia Woodland within nearby reserves, the small patch of proposed clearing is unlikely to be at variance with this principle.</td><td>• Black Cockatoo Survey
• Aerial photography
• DBCA GIS database
• Publicly available GIS layers
• (data.gov)
• PMST report
• WA Museum (2023)
• DCCEEW SPRAT Species Profile and Threats database</td><td></td></tr>
<tr><td colspan="3">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.</td></tr>
<tr><td>Vegetation Associations
The high-level vegetation associations in this area have been mapped by Beard (2013) as the Vegetation Association 949 (Low woodland; Banksia) and 1007 (Mosaic: Shrublands; Acacia lasiocarpa & Melaleuca acerosa heath / Shrublands; Acacia rostellifera & Acacia cyclops thicket). The status of the remaining pre-European vegetation is shown in Table 2 below.
Table 2 Beard et al. (2013) vegetation association’s percentage remaining
<table>
<tr><td></td><td></td><td colspan="3">Percent Remaining (%)</td></tr>
<tr><td>Vegetation Association</td><td>Description</td><td>Western Australia</td><td>Swan Coastal Plain IBRA Region</td><td>City of Wanneroo</td></tr>
<tr><td>949</td><td>Low woodland; Banksia</td><td>56.42</td><td>57.28</td><td>46.30</td></tr>
<tr><td>1007</td><td>Mosaic: Shrublands; Acacia lasiocarpa & Melaleuca acerosa heath / Shrublands; Acacia rostellifera & Acacia cyclops thicket</td><td>68.05</td><td>68.68</td><td>59.94</td></tr>
</table></td><td>• Reconnaissance Flora,
• Vegetation and Targeted
• Black Cockatoo Survey
• Aerial photography
• DBCA GIS database
• Publicly available GIS layers
• (data.gov)
• CAR Reserve Analysis
• Report 2b</td><td>The Proposal is unlikely be at variance with this clearing principle.</td></tr>
</table>

Background	Source/Tool for Assessment	Conclusion
The survey area is located approximately 52 km north of Perth CBD and is therefore not as constrained as more urban areas of the Swan Coastal Plain. The percentage of vegetation remaining at a State (WA), IBRA Region, and local level (City of Wanneroo) for Vegetation Associations 949 and 1007 are above the 30% retention objective to protect Australia's biological diversity. The limited clearing of each vegetation association that is proposed is unlikely to reduce these figures below the 30% retention objective. **Vegetation Complex** Vegetation complex mapping undertaken by Heddle *et al.* (1980) indicates the basic relationship between vegetation, soils and rainfall. The survey area falls within the Cottesloe Complex North (Vegetation System Complex 51) described as a "low open forest and low woodland and closed heath." As of 2018, there was 57.89% remaining of this vegetation complex across the Swan Coastal Plain and 68.35% remaining within the City of Wanneroo (Government of Western Australia, 2019). This is above the 30% retention objective and the limited clearing of native vegetation proposed is unlikely to reduce the remaining extent to below the identified trigger levels. The proposal is therefore unlikely to be at variance with this Principle.		
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 across the Spearwood System, described as sand dunes and plains with yellow deep sands, pale deep sands and yellow/brown shallow sands. The survey area also intersects with the Karrakatta Sand Yellow Phase, which includes low hilly to gently undulating terrain with yellow sand over limestone at 1-2 m. The average annual rainfall in the local area according to the Australian Bureau of Meteorology is 638.5 mm, as recorded at Gingin Aero WA (station number 9178). The site is approximately 30 mAHD, with a generally gentle slope. As the area has moderate annual rainfall and a slight slope, it is unlikely to heavily contribute to an increased potential for wind/water erosion and on-site/off-site runoff. Acid Sulfate Soils (ASS) risk has not been assessed for the survey area, however the DWER publicly available dataset confirms the areas east of the survey area near the two conservation wetlands have a high-moderate risk of ASS occurring. Localised soil acidity may occur as a result of exposure of pyritic material to air and rainfall as a result of clearing. Vegetation at the site is mapped as Vegetation Association 949 and 1007, characterised as Low woodland; Banksia, and Mosaic: Shrublands; *Acacia*	• Reconnaissance Flora, • Vegetation and Targeted • Black Cockatoo Survey • Aerial photography • DBCA GIS database • Publicly available GIS layers • (data.gov) • Department of Primary • Industries and Regional • Development – Wind Erosion website	The Proposal is unlikely be at variance with this clearing principle.

Background	Source/Tool for Assessment	Conclusion
lasiocarpa & *Melaleuca acerosa* heath / Shrublands; *Acacia rostellifera* & *Acacia cyclops* thicket respectively. The proposed clearing of up to 3.29 ha of native vegetation is unlikely to cause appreciable land degradation. This is supported by the vegetation being in mostly degraded or completely degraded condition and most of the land surrounding the survey area to the west, and south comprising heavily cleared areas and paddocks. The presence of the two wetlands to the east are unlikely to increase the likelihood of potential land degradation given they are located 1 km away and are outside the area of affect.		
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 proposed clearing area intersects a strip of approximately 0.24 ha of an un-named conservation reserve (no. 29246), 15 ha in size, occurring along the east side of the survey area (LGATE-227). The proposed clearing also intersects approximately 0.01 ha of Yanchep National Park conservation reserve (no. 9868), 2800 ha in size, in the north-east and south-east corners of the survey area. The intersect areas of the conservation reserves are very small, particularly in relation to Yanchep Nation Park, and are therefore unlikely to have a significant impact on the environmental values. Parts of the interest area have been graded as ‘Good’ condition; based on aerial imagery, this condition looks to be representative of vegetation within the reserve to the east. Given the size of the conservation reserves being impacted, it is unlikely the proposed clearing will be at variance with this principle.	• Reconnaissance Flora, • Vegetation and Targeted • Black Cockatoo Survey • Aerial photography • DBCA GIS database • Publicly available GIS layers (data.gov)	The Proposal is unlikely be at variance with this clearing 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 were no surface water features or vegetation associated with watercourses noted on or in the vicinity of survey area during the field survey. However, there are two conservation wetlands located approximately 1 km east of the survey area. Given the distance of the proposed clearing from the wetlands, disturbances caused from clearing are unlikely to significantly impact surface water quality of the wetlands. ASS risk has not been mapped for the entire survey area, however there is a high-moderate risk of ASS occurring at the wetlands located 1 km east. The survey area also intersects a Protection Area 3 Public Drinking Water Source Area – Perth Coastal and Gwelup Underground Water Pollution Control Area.	• Reconnaissance Flora, • Vegetation and Targeted • Black Cockatoo Survey • Aerial photography • DBCA GIS database • Publicly available GIS layers (data.gov)	The Proposal is unlikely be at variance with this clearing principle.

Background	Source/Tool for Assessment	Conclusion
Given the extensive clearing (likely for agricultural use) that already surrounds the survey area, the additional clearing of 3.29 ha of native vegetation, is unlikely to result in significant changes to the water table. The proposed clearing is therefore 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.		
The closest wetlands are located 1 km east of the site, at a distance where clearing is unlikely to affect the area. The DWER 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)." Furthermore, the cleared nature of the surrounding land and mostly degraded vegetation condition renders the clearing of this vegetation unlikely to increase or exacerbate the incidence of flooding. Therefore it is unlikely the proposed clearing will be at variance with this principle.	• Reconnaissance Flora, • Vegetation and Targeted • Black Cockatoo Survey • Aerial photography • DBCA GIS database • Publicly available GIS layers (data.gov)	The Proposal is unlikely be at variance with this clearing principle.

Attachment 9: Studies carried out on proposed surplus fill stockpile site.

- Aboriginal Heritage Survey of Lot 104, 4500 Mitchell Freeway, Yanchep prepared by R & E O'Connor Pty Ltd.
- 4500 Mitchell Freeway Phytophthora Dieback occurrence assessment by Glevan Consulting
- Unexploded Ordnance Field Validation Survey of 4500 Mitchell Freeway, Yanchep, by OPEC Systems Pty Ltd

Attachment 10: Shape files

9. References

Banksia Woodlands of the Swan Coastal Plain: a nationally protected ecological community Department of the Environment and Energy, 2016

Environment Protection and Biodiversity Conservation Act 1999 (s 266B) Approved Conservation Advice (incorporating listing advice) for the Banksia Woodlands of the Swan Coastal Plain ecological community, August 2016

Referral guideline for 3 WA threatened black Cockatoo species – Commonwealth of Australia 2022

Technical Guidance-Flora and Vegetation Surveys for Environmental Impact Assessment (Environmental Protection Authority, 2016