GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9092/2
Permit Holder:	NEWest Alliance
Duration of Permit:	From 28 February 2022 to 28 February 2027

ADVICE NOTE
The funds referred to in condition 7 of this permit are intended for contributing towards the purchase of 1.44 hectares of *native vegetation* in a very good or greater condition that consists of 1.44 hectares of foraging habitat for *Zanda latirostris* (Carnaby's cockatoo) and 0.06 hectares of Banksia woodland of the Swan Coastal Plain Threatened Ecological Community .

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 temporary road diversion, relocation of utility services, road widening and associated infrastructure.

2. Land on which clearing is to be done

Pipidinny Road reserve (PIN 11749609), Eglinton
Lot 9021 on Deposited Plan 426059, Eglinton

3. Clearing authorised

The permit holder must not clear more than 0.441 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 and 2 of Schedule 1.

4. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 28 February 2027.

PART II – MANAGEMENT CONDITIONS

5. 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.

6. 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.

7. Offsets – monetary contributions to the Offset Fund

(a) Prior to undertaking any clearing authorised under clearing permit CPS 9092/1 and no later than 3 March 2023, the permit holder must provide documentary evidence to the CEO that funding of $4,416 has been transferred to the Department of Water and Environmental Regulation for the purpose of establishing or maintaining *native vegetation* as an environmental offset for the clearing activities authorised under clearing permit CPS 9092/1; and

(b) Prior to undertaking any clearing authorised under clearing permit CPS 9092/2 and no later than 28 June 2025, the permit holder must provide documentary evidence to the CEO that funding of $1,114 has been transferred to the Department of Water and Environmental Regulation for the purpose of establishing or maintaining *native vegetation* as an environmental offset for the clearing activities authorised under clearing permit CPS 9092/2.

PART III - RECORD KEEPING AND REPORTING

8. 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 1.

Table 1: 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

No.	Relevant matter	Specifications
		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 5; and (f) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 6.

9. Reporting

The permit holder must provide to the *CEO* the records required under condition 8 of this permit when requested by the *CEO*.

DEFINITIONS

In this permit, the terms in Table 2 have the meanings defined.

Table 2: Definitions

Term	Definition
black cockatoo species	means one or more of the following species: (a) *Zanda latirostris* (Carnaby's cockatoo); (b) *Zanda baudinii* (Baudin's cockatoo); and/or (c) *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo).
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.
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

Term	Definition
	ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS



Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

28 June 2024

Schedule 1

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

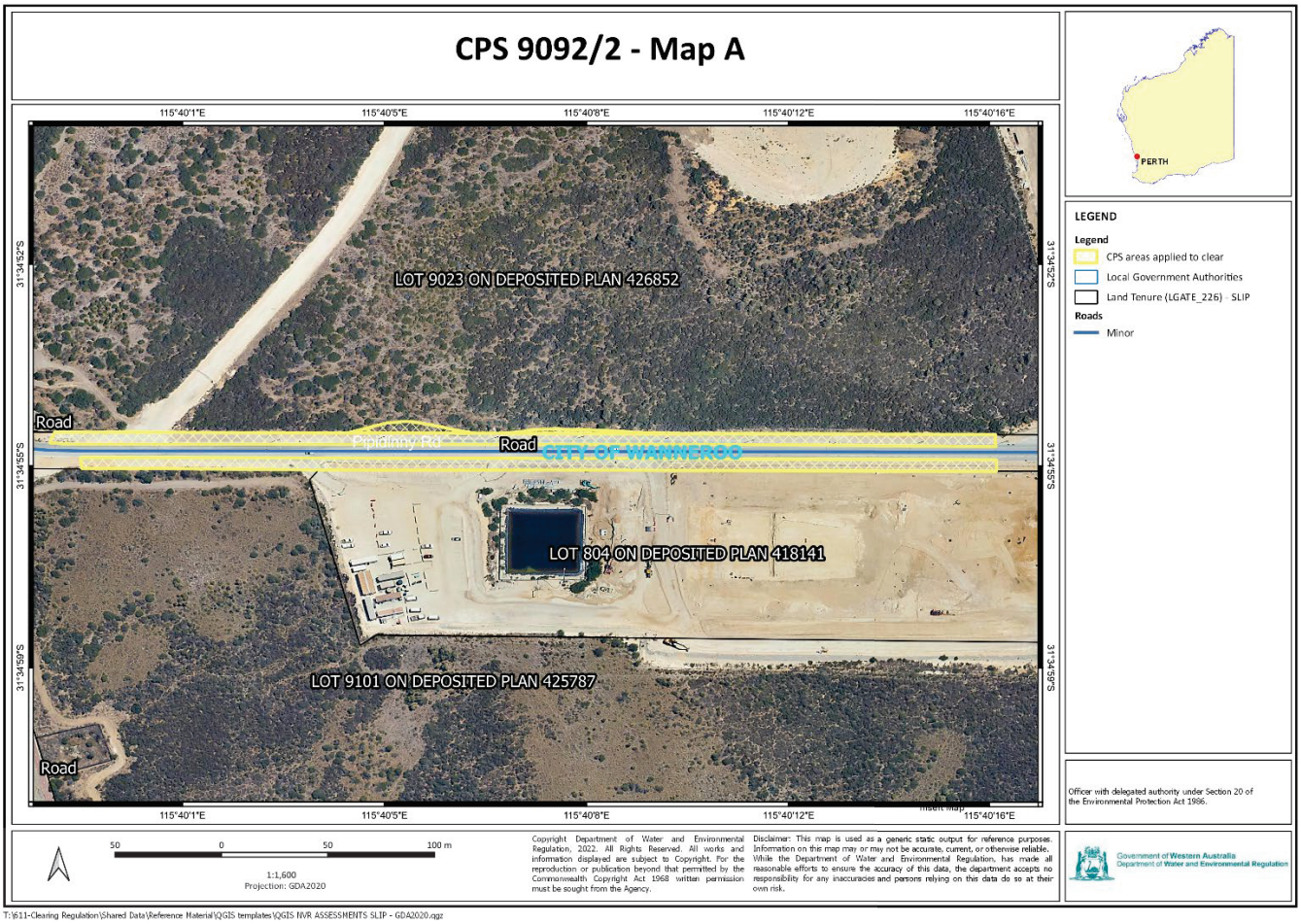


Figure 1: Map of the boundary of the area within which clearing may occur.

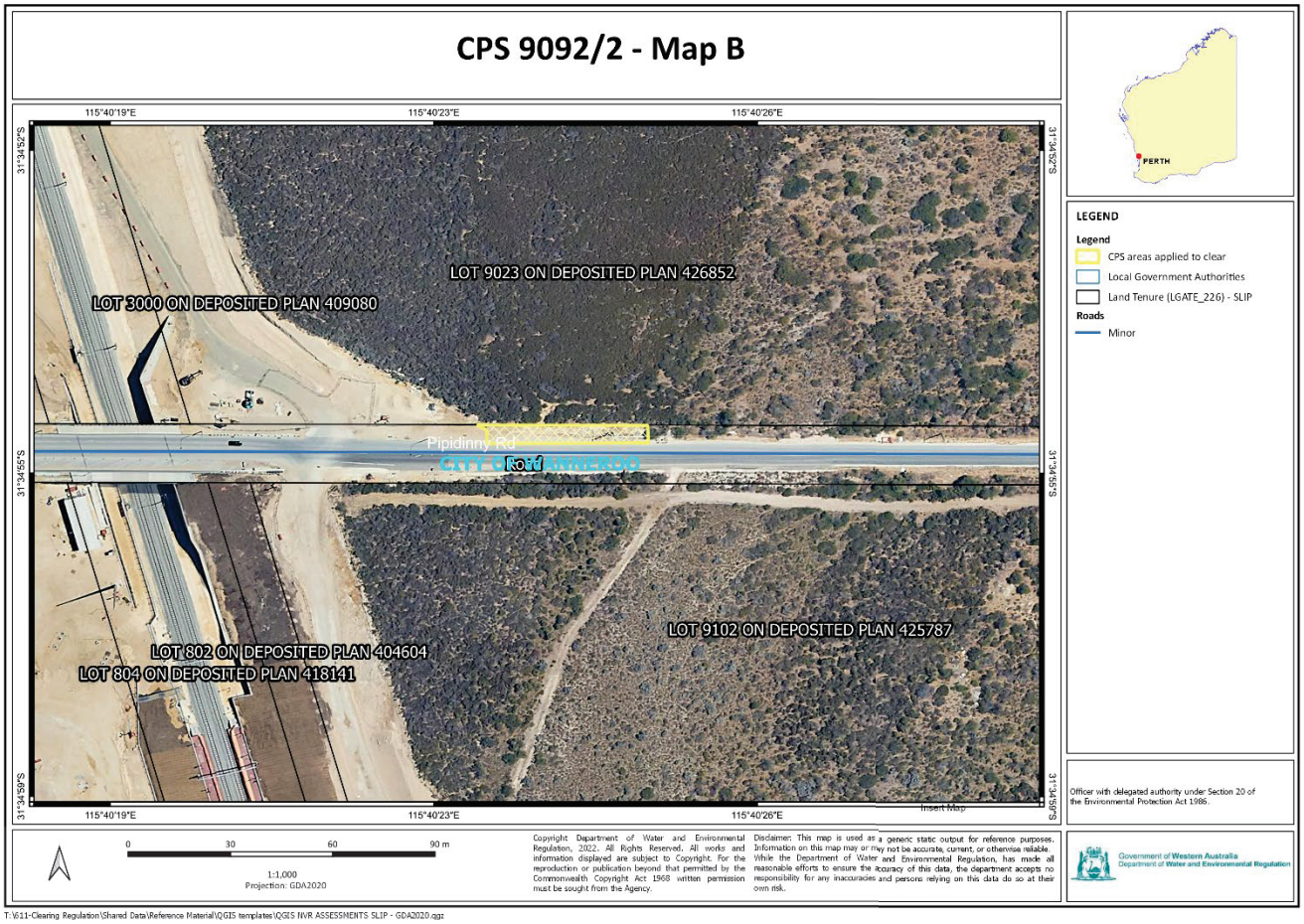


Figure 2: Map of the boundary of the area within which clearing may occur.

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Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9092/2
Permit type:	Purpose permit
Applicant name:	NEWest Alliance
Application received:	11 December 2023
Application area:	0.441-hectare of native vegetation within a 0.614 hectares footprint
Purpose of clearing:	Temporary road diversion, relocation of utility services, road widening and associated infrastructure
Method of clearing:	Mechanical
Property:	Pipidinny Road reserve (PIN 11749609) Lot 9021 on Deposited Plan 426059
Location (LGA area/s):	City of Wanneroo
Localities (suburb/s):	Eglinton

1.2. Description of clearing activities

The amendment is to increase the area of clearing by 0.0327 hectares as designs indicate that the existing road reserve require further battering to meet road safety requirements. CPS 9092/1 (granted on 28 February 2022) allowed for the clearing of 0.4083-hectares of native vegetation within a 0.5958-hectare footprint for temporary road diversion, relocation of utility services, road widening and associated infrastructure. The extent of the clearing footprint has increased under CPS 9092/2 from the previous application and has added an additional property.

1.3. Decision on application

Decision:	Granted
Decision date:	28 June 2024
Decision area:	0.441-hectare of native vegetation within a 0.614 hectares footprint, 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 51KB 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 no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix A), relevant datasets (see Appendix F.1), the findings of a biological and vegetation survey (see Appendix E), the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3). The Delegated Officer also took into consideration the

purpose of the clearing which is for the widening of Pipidinny Road which is required to support the construction of Part 1 of the Yanchep Rail Extension project. This project will support existing communities north of the existing Joondalup train station with improved transport connections and has been formally assessed and approved by the Environmental Protection Authority (EPA) (Ministerial statement MS1100).

The assessment identified that the additional proposed clearing to that already authorised under CPS 9092/1 will result in:

- the loss of 0.03231 hectares of native vegetation that provides high value foraging habitat for Carnaby's cockatoo;
- the loss of 0.0108 hectares of native vegetation that represents the Threatened Ecological Community (TEC) Banksia woodland of the Swan Coastal Plain; and
- the potential introduction and spread of weeds and dieback into adjacent vegetation.

After consideration of the available information, cumulative impacts already authorised under CPS 9092/1 and for the broader Part 1 of the Yanchep Rail Extension project, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the environmental impacts of the proposed clearing can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values. The applicant has suitably demonstrated avoidance and minimisation measures, and the offset provided sufficiently counterbalances the impacts to black cockatoo foraging habitat (see Section 4).

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

- avoid and minimise clearing where possible.
- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback; and
- Offset: Applicant to provide a monetary offset contribution, which will be used to acquire 0.29 hectares of native vegetation that includes high value black cockatoo foraging habitat and Banksia Woodland TEC.

1.5. Site maps



Figure 1: Context map of the application area the area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit.

Government of Western Australia
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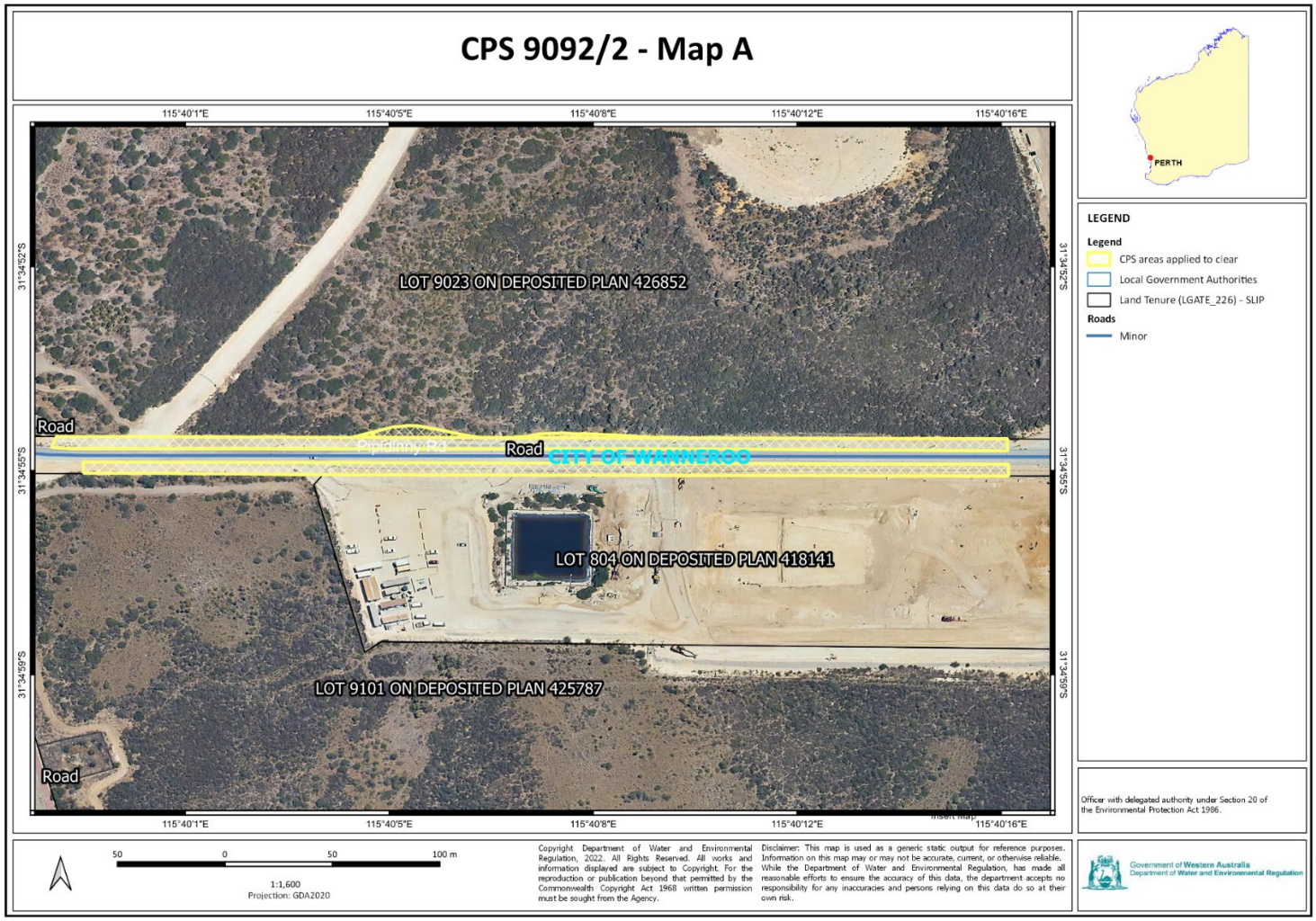


Figure 2: Map A of the application area the area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit.

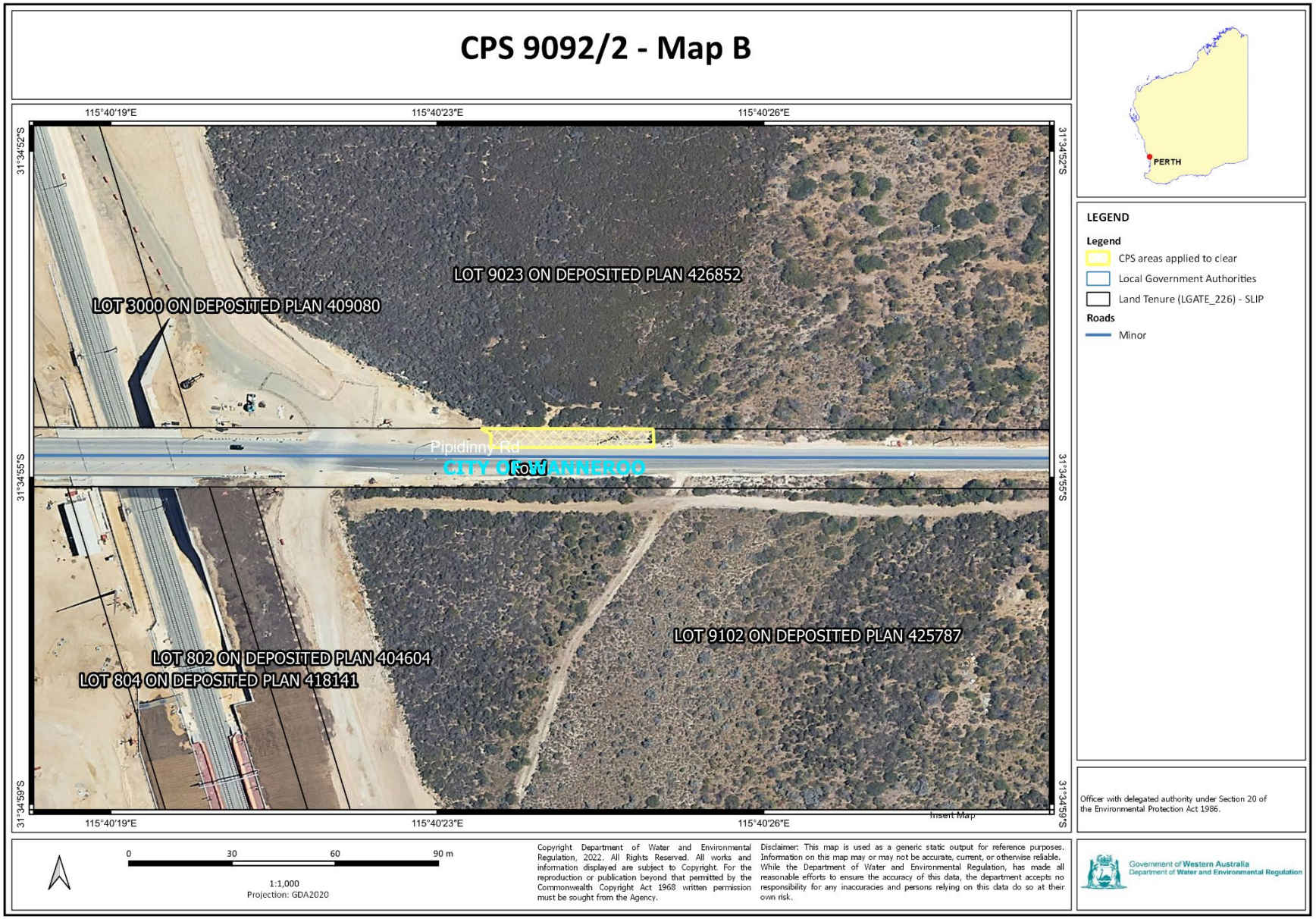


Figure 3: Map B of the application area the area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit.

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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 polluter pays principle
- 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)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)

Relevant policies considered during the assessment include:

- *Environmental Offsets Policy* (2011)

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)
- *Environmental Offsets Guidelines* (August 2014)
- 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

Avoidance and minimisation measures proposed by the applicant have not changed and can be found in the Decision Report for CPS 9092/1.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix A) 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 B) identified that the impacts of the proposed clearing present a risk to biological values (fauna, flora and vegetation). 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 (flora and fauna) - Clearing Principles (a), (b) and (d)

Assessment

Fauna

According to available databases, 19 conservation significant fauna species have been recorded within the local area including 10 priority species with 11 of which being migratory bird species. Based on the distribution of the recorded species, the mapped vegetation types, and the condition of the vegetation within the application area, the application area comprises suitable habitat for *Zanda latirostris* (Carnaby's cockatoo).

Zanda latirostris (Carnaby's black cockatoo)

When considering the habitat of Black Cockatoos, it can be categorized into three distinct groups: breeding, foraging, and roosting. Black Cockatoos typically forage within a 12-kilometre radius of their active breeding site (Commonwealth of Australia, 2022). Following breeding, they will flock in search of food sources within six kilometres of their night roost (Commonwealth of Australia, 2022). However, they may travel up to 20 kilometres or more (Commonwealth of Australia, 2022). To maintain their populations, it is crucial to have an abundance of food resources within the range of breeding and roosting sites. Consequently, foraging resources are evaluated based on known breeding and night roosting sites, primarily within 12 kilometres of a breeding or roosting site (Commonwealth of Australia, 2022).

Roosting habitat

Roost sites are usually located in the tallest trees within a landscape, and in proximity to a food and water supply (Commonwealth of Australia, 2022). According to available datasets, 12 black cockatoo roost sites have been recorded within the local area. During GHD (2021) biological assessment, there were no black cockatoo roosts found within the application area.

Breeding habitat

The application area is located within the modelled potential breeding range of Carnaby's cockatoo. The range of black cockatoo species has contracted west and south from its historical range. Black cockatoo species are known to nest in hollows of live and dead trees, including *Corymbia calophylla* (marri), *Eucalyptus marginata* (jarrah), *Eucalyptus diversicolor* (karri), *Eucalyptus wandoo* (wandoo), *Eucalyptus gomphocephala* (tuart), *Eucalyptus rudis* (flooded gum), and other *Eucalyptus* spp. (Commonwealth of Australia, 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 ≥ 50 centimetres (cm) for most tree species (Commonwealth of Australia, 2022). During GHD (2021) biological assessment, there were no black cockatoo hollows found within the application area. Furthermore, there were no black cockatoo hollows within a 12-kilometre radius of the application area.

Foraging habitat

Carnaby's cockatoo forage on a variety of seeds, nuts, flowers, and plants, including Proteaceous species (*Banksia* spp., *Hakea* spp., and *Grevillea* spp.), as well as *Allocasuarina* and *Eucalyptus* species, marri, and a range of introduced species (Valentine and Stock, 2008). Due to the ongoing loss of black cockatoo foraging habitat, all foraging resources, regardless of size within the known distribution of black cockatoo species, are classified as significant foraging habitats. The application area being mapped as *Acacia saligna* and *Xanthorrhoea preissii* tall shrubland and *Banksia attenuata* and *B. menziesii* low woodland, provides ampul black cockatoo foraging recourses. Furthermore, during GHD's habitat assessment, large flocks of Carnaby's Cockatoo were recorded foraging within and flying over the application area (GHD, 2021). Noting the presence of foraging habitat in proximity to known roosts, the proposed clearing is considered likely to impact significant habitat for Carnaby's cockatoo.

Vegetation

Banksia woodland of the Swan Coastal Plain

A TEC has been mapped within the application area, the Banksia woodland of the Swan Coastal Plain (Banksia Woodlands), in a degraded to good (Keighery, 1994) condition.

The Banksia woodland TEC has a prominent tree layer of *Banksia* species with some scattered *Eucalyptus* and other tree species resent with or above the Banksia canopy. It occurs in well drained, low nutrient sandy soils. Particularly within deep Bassendean and Spearwood sands or occasionally Quindalup sands. The woodlands typically include *Banksia attenuata*, *B. Menziesii*, B*. prionotes* and *B. ilicifolia (*DCCEEW, 2016).

Noting that the proposed clearing comprises of approximately 0.0108 hectares of vegetation identified by GHD (2021) as Banksia woodland TEC and the cumulative impacts already authorised under CPS 9092/1 and for the broader Part 1 of the Yanchep Rail Extension project, the proposed clearing is considered likely to significantly impact the current occurrence of this TEC.

Northern Spearwood shrublands and woodland

A Priority Ecological Community (PEC) has been mapped within the application area, Northern Spearwood shrublands and woodland (FCT 24) in degraded (Keighery, 1994) condition.

The Northern Spearwood shrublands and woodlands (FCT24) PEC occurs as heaths or heaths with scattered *Eucalyptus gomphocephala* occurring on deeper soils north from Woodman Point. Banksias found in this community include *Banksia attenuata* and *B. menziesii*. The heathlands in this group typically include *Banksia sessilis, Calothamnus quadrifidus* and *Schoenus grandiflorus*, with other common species including *Hardenbergia comptoniana, Melaleuca systena* and *Xanthorrhoea preissii* (GHD, 2020).

Noting that the proposed clearing comprises approximately 0.001 hectares of vegetation mapped as Northern Spearwood shrublands and woodland, the proposed clearing is not considered likely to significantly impact the current occurrence of this PEC.

Conclusion

Based on the above assessment, the proposed clearing will result in the loss of 0.03231 hectares of native vegetation that is significant foraging habitat for black cockatoos and 0.0108 hectares of Banksia woodland TEC. The proposed clearing is unlikely to significantly impact the Northern Spearwood shrublands and woodland PEC.

For the reasons set out above, and the cumulative impacts already authorised under CPS 9092/1 and for the broader Part 1 of the Yanchep Rail Extension project, it is considered that the proposed clearing will have a significant residual impact on the foraging habitat for Carnaby's cockatoo and Banksia woodland TEC. In accordance with the Government of Western Australia's Environmental Offsets Policy and Environmental Offsets Guidelines, this significant residual impact has been addressed through the conditioning of environmental offset requirements (See Section 4).

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Weed and dieback management activities;
- Offset

3.3. Relevant planning instruments and other matters

Relevant planning instruments and other matters have not changed and can be found in the Decision Report for CPS 9092/1.

4 Suitability of offsets

Through the detailed assessment outlined in Section 3.2 above, the Delegated Officer has determined that the following significant residual impacts remain after the application of the avoidance and mitigation measures summarised in Section 3.1:

- the loss of 0.03231 hectares of high-quality foraging habitat for the Carnaby's cockatoo; and
- the loss of 0.0108 hectares of Banksia woodland TEC.

To counterbalance the above impacts, the application has committed to provide a monetary offset contribution for the purchase of 0.29 hectares of land within the Shire of Gingin to address impacts specific to Carnaby's cockatoo foraging habitat and Banksia woodland TEC.

Offset Adequacy

In assessing whether the proposed offset is adequately proportionate to the significance of the habitat values being impacted, DWER undertook a calculation using the WA Offsets Metric. The calculation determined that the allocation of the following areas of native vegetation to be placed to conservation estate is adequate to counterbalance the significant residual impacts:

- 0.29 hectares of native vegetation in a good to excellent condition that provides suitable foraging habitat for Carnaby's cockatoo; and
- 0.06 hectares of native vegetation in a goof to excellent condition that provided Banksia woodland TEC.

Taking into account the proposed offsets for the related larger project (Part 1 of the Yanchep Rail Extension Project), and the previous assessment CPS 9092/1, it has been established that a 50-hectare land value is, in this instance, appropriate and is consistent with the WA Environmental Offsets Policy September 2011.

Based on unimproved land values for the Shire of Gingin, a 50-hectare parcel would have a market value of $3,840. Therefore, a monetary contribution of $1,114 would be required to fund the acquisition of 0.29 hectares of suitable native vegetation in very good condition that provides high value foraging habitat for the Carnaby's cockatoo and Banksia woodland TEC.

The Delegated Officer considers that this adequately counterbalances the significant residual impacts of the proposed clearing. The justification for the values used in the offset calculation is provided in Appendix D.

End

Appendix A. Site characteristics

A.1. Site characteristics

The information provided below describes the key characteristics of the amendment area proposed to be cleared and is based on the best information available to the department at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix B.

<table>
<tr><th>Characteristic</th><th>Details</th></tr>
<tr><td>Local context</td><td>The area proposed to be cleared are part of discrete expansive tracts of native vegetation, separated from each other by roads and clearing previously undertaken for the Yanchep rail extension corridor. The northern proposed clearing area is adjacent to native vegetation to the north and Pipidinny Road to the south, and the southern proposed clearing area is adjacent to Pipidinny Road to the north and native vegetation to the south. The proposed clearing areas are in the intensive land use zone of Western Australia.

Spatial data indicates the local area (10-kilometre radius from the centre of the area proposed to be cleared) retains approximately 55 per cent of the original native vegetation cover.</td></tr>
<tr><td>Ecological linkage</td><td>The application areas are not within any mapped ecological linkages. The closest mapped ecological linkages (Gnangara Mound Ecological Linkages) are 640 meters east of the application area and 940 meters west of the application area.</td></tr>
<tr><td>Conservation areas</td><td>The application area is not within any conservation areas. The closest conservation area to the application area is the Yanchep National Park approximately 485 meters east of the application area.</td></tr>
<tr><td>Vegetation description</td><td>A vegetation survey (GHD, 2020) conducted within the original application area indicates the vegetation proposed to be cleared within the amendment area consists of:
<table>
<tr><th>Vegetation code</th><th>Description</th><th>Hectares</th></tr>
<tr><td>VT01:</td><td>Acacia saligna and Xanthorrhoea preissii tall shrubland</td><td>0.02006</td></tr>
<tr><td>VT03</td><td>Banksia sessilis and Spyridium globulosum tall shrubland</td><td>0.00141</td></tr>
<tr><td>VT04:</td><td>Banksia attenuata and B. menziesii low woodland</td><td>0.01083</td></tr>
</table>
This is inconsistent with the mapped vegetation type(s):
<table>
<tr><th>Vegetation complex</th><th>Vegetation description</th></tr>
<tr><td>Quindalup Complex (55)</td><td>Described as Coastal dune complex consisting mainly of two alliances - the strand and fore-dune alliance and the mobile and stable dune alliance. Local variations include the low closed forest of Melaleuca lanceolata (Rottnest Teatree) - Callitris preissii (Rottnest Island Pine), the closed scrub of Acacia rostellifera (Summer-scented Wattle) and the low closed Agonis flexuosa (Peppermint) forest of Geographe Bay (Heddle et at, 1980).</td></tr>
</table>
The mapped vegetation type retains approximately 60.49 per cent of the original extent (Government of Western Australia, 2019).</td></tr>
<tr><td>Vegetation condition</td><td>GHD (2020) indicates the vegetation within the amendment proposed clearing area is largely in Degraded to Good condition, condition (Keighery, 1994), distributed as Degraded (0.031 hectares) and Good (0.001 hectares).

The full Keighery (1994) condition rating scale is provided in Appendix C. Representative photos are available in Appendix E.</td></tr>
<tr><td>Climate and landform</td><td>The climate experienced in the application area is Mediterranean, characterized by hot and dry summers and cool and wet winters. According to the Bureau of Meteorology (2023), the proposed clearing area has an average annual rainfall of 800 millimetres.</td></tr>
</table>

<table>
<tr><th>Characteristic</th><th>Details</th></tr>
<tr><td></td><td>The elevation of the application area slowly falls from east to west being 40 meters Isohyet to 30 meters Isohyet.</td></tr>
<tr><td>Soil description</td><td>The following soil types are mapped within the application areas:
<table>
<tr><td>Name</td><td>Karrakatta shallow soils Phase</td></tr>
<tr><td>Soils</td><td>211Sp__Kls</td></tr>
<tr><td>Description</td><td>described as Low hills and ridges. Bare limestone or shallow siliceous or calcareous sand over limestone. Dense low shrub dominated by Dryandra sessilis, Melaleuca huegellii and species of Grevillea</td></tr>
</table>
<table>
<tr><td>Name</td><td>Quindalup South oldest dune Phase</td></tr>
<tr><td>Soils</td><td>211Qu__Q1</td></tr>
<tr><td>Description</td><td>Described as the oldest phase, dunes or remnants with low relief. Calcareous sands have organic staining to about 30 centimetres, overlying pale brown sand with definite cementation below 1 meter.</td></tr>
</table></td></tr>
<tr><td>Land degradation risk</td><td>The degradation risk factors mapped over the application area are detailed below:
<table>
<tr><th></th><th>211Sp__Kls</th><th>211Qu__Q1</th></tr>
<tr><td>Wind erosion</td><td>H1</td><td>M2</td></tr>
<tr><td>Water erosion</td><td>L1</td><td>M2</td></tr>
<tr><td>Salinity risk</td><td>L1</td><td>L1</td></tr>
<tr><td>Phosphorous export</td><td>L2</td><td>M1</td></tr>
<tr><td>Waterlogging</td><td>L1</td><td>L1</td></tr>
<tr><td>Subsurface acidification</td><td>L2</td><td>L1</td></tr>
<tr><td>Acid sulphate soils</td><td>L1</td><td>L1</td></tr>
<tr><td>Flooding</td><td>L1</td><td>L1</td></tr>
<tr><td>Floodplains</td><td>L1</td><td>L1</td></tr>
</table>
Key
<table>
<tr><td>L1</td><td>Low</td><td><3%</td><td>of the map has a high to extreme risk</td></tr>
<tr><td>L2</td><td>Low</td><td>3-10%</td><td>of the map has a high to extreme risk</td></tr>
<tr><td>M1</td><td>Medium</td><td>10-30%</td><td>of the map has a high to extreme risk</td></tr>
<tr><td>M2</td><td>Medium</td><td>30-50%</td><td>of the map has a high to extreme risk</td></tr>
<tr><td>H1</td><td>High</td><td>50-70%</td><td>of the map has a high to extreme risk</td></tr>
<tr><td>H2</td><td>High</td><td>>70%</td><td>of the map has a high to extreme risk</td></tr>
</table></td></tr>
<tr><td>Waterbodies</td><td>The closest waterbody to the application area is Pipidinny Swamp, a Conservation Category Wetland, located approximately 865 meters northeast of the application areas.</td></tr>
<tr><td>Hydrogeography</td><td>
<table>
<tr><td>Hydrological Zone</td><td>Southwest</td></tr>
<tr><td>Basin</td><td>Swan Coastal (616)</td></tr>
<tr><td>Hydrographic Catchment</td><td>Swan Coastal and Yanchep Coastal Lakes</td></tr>
</table>
<table>
<tr><td>RIWI Act Surface Water and Irrigation District</td><td>Yes</td><td></td></tr>
<tr><td>RIWI Act Rivers</td><td>No</td><td></td></tr>
<tr><td>RIWI Act Groundwater Areas</td><td>Yes</td><td>Perth ground water area and Yanchep groundwater area</td></tr>
<tr><td>CAWS Act Clearing Control Catchment</td><td>No</td><td></td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Characteristic</th><th>Details</th></tr>
<tr><td></td><td>
<table>
<tr><td>Public Drinking Water Source Areas</td><td>Yes</td><td>Zone Priority 3</td></tr>
<tr><td>Wellhead Protection Zone</td><td>No</td><td></td></tr>
<tr><td>Reservoir Protection Zone</td><td>No</td><td></td></tr>
</table>
The salinity of the application area is mapped at 500-1000 total dissolved solids milligrams per litre.
</td></tr>
<tr><td>Flora</td><td>According to available database, 22 conservation significant flora species have been recovered within the local area (10-kilometre buffer). 12 of which are found on the same or similar soil type as the application areas.
No threatened or priority flora have ben recorded within the application area (GHD 2020; 2021).</td></tr>
<tr><td>Ecological communities</td><td>There are records of three TEC’s and three priority ecological communities (PEC’s) within the local areas (10-kilometre buffer), all of which are found on the same soil type as the application areas. Vegetation in the application area represents the Banksia Woodland TEC and Northern Spearwood shrublands and woodlands (FCT24) PEC.</td></tr>
<tr><td>Fauna</td><td>According to available database, 19 conservation significant fauna species have been recorded within the local area comprising of 10 priority species, 11 migratory species and two other specially protected species and 13 known black cockatoo roost sites within the local area. The application area contains foraging habitat for black cockatoos.</td></tr>
</table>

A.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	1,50221.93	579,813.47	38.62	222,916.97	14.85
Vegetation complex					
Heddle vegetation complex 55**	54,573.87	33,011.64	60.49	6,632.92	5,994.64
Local area					
10km radius	20,662.74	11,364.77	55.00	-	-

*Government of Western Australia (2019a)

**Government of Western Australia (2019b)

A.3. Flora analysis table

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

Species 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]
Baeckea sp. Limestone (N. Gibson & M.N. Lyons 1425)	P1	Y	Y	N	3.3	4	Y
Conostylis pauciflora subsp. *euryrhipis*	P4	Y	Y	Y	1.7	11	Y

Species 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]
Conostylis pauciflora subsp. *pauciflora*	P4	N	N	Y	1.2	2	Y
Eucalyptus argutifolia	T	Y	Y	Y	4.7	7	Y
Haloragis luminosa	P1	Y	Y	N	9.9	2	Y
Hibbertia leptotheca	P3	N	Y	Y	2.9	6	Y
Jacksonia sericea	P4	Y	Y	N	9.9	1	Y
Lepidium pseudotasmanicum	P4	N	Y	Y	3.8	3	Y
Leucopogon maritimus	P1	Y	Y	Y	1.1	6	Y
Leucopogon sp. Yanchep (M. Hislop 1986)	P3	Y	Y	Y	3.8	15	Y
Melaleuca sp. Wanneroo (G.J. Keighery 16705)	Y	N	N	N	9.6	5	Y
Pimelea calcicola	P3	Y	Y	N	5.8	5	Y
Stylidium maritimum	P3	Y	N	Y	1.6	14	Y
Styphelia filifolia	P3	Y	Y	N	9.2	1	Y

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

A.4. Fauna analysis table

Species name	Conservation status	Suitable habitat features ? [Y/N]	Most recent record	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Birds						
Calyptorhynchus latirostris (Carnaby's cockatoo)	EN	Y	2019	0.19	508	Y
Falco peregrinus (Peregrine falcon)	OS	Y	1980	7.4	6	Y
Mammals						
Isoodon fusciventer (Quenda, southwestern brown bandicoot)	P4	Y	2018	3.1	47	Y
Notamacropus irma (western brush wallaby)	P4	Y	2018	3.8	5	Y
Reptiles						
Neelaps calonotos (black-striped snake, blackstriped burrowing snake)	P3	Y	1995	3.6	4	Y
Ctenotus gemmule (Jewelled South West Ctenotus)	P3	Y	-	5.0	-	Y
Invertebrates						
Synemon gratiosa (Graceful sunmoth)	P3	Y	2012	0.035	300	Y

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

A.5. Ecological community analysis table

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]
Aquatic Root Mat Community Number 1 of Caves of the Swan Coastal Plain	CR	N	N	Y	2.18	7	Y
Banksia Woodlands of the Swan Coastal Plain ecological community	P3	Y	Y	Y	1.58	80	Y
Melaleuca huegelii - M. systena shrublands of limestone ridges (floristic community type 26a as originally described in Gibson et al. 1994)	CR	N	Y	Y	0.65	40	Y
Northern Spearwood shrublands and woodlands	P3	Y	Y	Y	7.36	12	Y
Tuart (*Eucalyptus gomphocephala*) woodlands and forests of the Swan Coastal Plain	P3	Y	Y	Y	0.90	89	Y
Woodlands over Sedgelands in Holocene dune swales of the southern Swan Coastal Plain (floristic community type 19 as originally described in Gibson et al. 1994)	CR	N	Y	Y	1.36	1	Y

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

Appendix B. 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: The vegetation within the application area provides high value foraging habitat for the threatened Carnaby's cockatoo, and the vegetation represents the PEC, 'Northern Spearwood shrublands and woodland' (FCT 24).	May be at variance *(as per CPS 9092/1)*	Yes *Refer to Section 3.2.1, 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 high value foraging habitat for the threatened Carnaby's cockatoo.	At variance *(as per CPS 9092/1)*	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: A flora survey of the application area (GHD, 2020) and flora analysis (GHD, 2021) did not identify suitable habitat for threatened flora species. Given this, and the predominately degraded to completely degraded condition of the vegetation under application, the proposed clearing is not likely to be at variance to this principle.	Not likely to be at variance *(as per CPS 9092/1)*	No *Refer to CPS 9092/1*
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: The application area does contain vegetation that is representative of Banksia woodland TEC.	At variance *(as per CPS 9092/1)*	Yes *Refer to Section 3.2.1, 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: Aerial imagery and spatial data indicate that the local area (10-kilometre radius) retains approximately 55 per cent of the original native vegetation cover. This is consistent with the national objectives and targets for biodiversity conservation in Australia and therefore the proposed clearing does not occur within an extensively cleared area. Additionally, the vegetation proposed to be cleared is not considered to be part of a significant ecological linkage or a significant remnant of vegetation.	Not likely to be at variance *(as per CPS 9092/1)*	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."* Assessment: Given the distance to the nearest conservation area and the lack of ecological linkage within the proposed clearing area, the proposed clearing is not likely to impact the environmental values of nearby conservation areas.	Not likely to be at variance *(as per CPS 9092/1)*	No
Environmental value: land and water resources		

Assessment against the clearing principles	Variance level	Is further consideration required?
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: There are no watercourses or wetlands occurring within the application area. A flora survey of the application area did not identify riparian vegetation (GD, 2020). Given this, the proposed clearing is unlikely to impact vegetation growing in an environment associated with a watercourse or wetland.	Not likely to be at variance *(as per CPS 9092/1)*	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils are highly susceptible to wind and water erosion. However, noting the relatively small extent of the proposed clearing and that it is linear in nature, the proposed clearing is not likely to cause appreciable land degradation.	Not likely to be at variance *(as per CPS 9092/1)*	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 no watercourses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact surface water quality. The application area falls within the priority 3 zone of the Perth Coastal and Gwelup Underground Water Pollution Control Area however not within a wellhead protection zone. Given this, the low salinity risk mapped within the application area and the relatively small extent of the proposed clearing, it is considered unlikely for the proposed clearing to impact groundwater quality.	Not likely to be at variance *(as per CPS 9092/1)*	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. Given no watercourses or wetlands are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging.	Not likely to be at variance *(as per CPS 9092/1)*	No

Appendix C. 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 scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from:

Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

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

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.

Condition	Description
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 D. Offset calculator value justification

Offset calculation and justification for significant residual impact to western Australian black cockatoo habitat.

Calculation	Score (Area)	Rationale
Conservation significance		
Description	Vegetation that provides black cockatoo foraging habitat	Banksia woodland TEC and *Acacia saligna* environment that constitutes Black cockatoo habitat
Type of environmental value	Species (Flora/fauna)	Black cockatoo habitat *Zanda latirostris* (carnabys cockatoo) foraging and potential breeding habitat.
Conservation significant of environmental value	Rare/threatened species – endangered	*Zanda latirostris* (Carnaby's cockatoo)
Landscape level value impacted	Yes/no	No
Significant impact		
Description	Carnaby's cockatoo foraging habitat	Carnaby's cockatoo primary foraging habitat.
Significant impact (hectares)	0.03231 hectares	
Quality (scale)	7.00	NEWest Alliance provided a biological assessment that identified the application area as having 0.01 hectares of vegetation with a high quality foraging habitat and 0.02 hectares having a low quality foraging habitat. Using the foraging quality scoring tool template, the habitat was considered a 7.
Offset		
Description	Monetary contribution	
Proposed offset (area in hectares)	0.29	
Current quality of offset site	8.00	It is assumed the Department will be able to purchase good quality vegetation on the northern Swan Coastal Plain
Future quality without offset	8.00	As above. No change to the input value.
Future quality WITH offset	8.00	As above. No change to the input value.
Tine until ecological benefit (years)	1.00	No change to ecological values is expected, therefore the minimum value is input.
Confidence in offset result (%)	0.9	the Department is confident that an acquisition will occur; monetary contributions for offsets with low likelihood of being acquitted will generally not be accepted.
Duration of offset implementation (maximum 20 years)	20.00	As the acquired land will be incorporated into the conservation estate, it will be protected in perpetuity. The maximum value is therefore applied.

Time until offset site secured (years)	3.00	Accounts for the delay in finding a property, conducting due diligence and negotiating the acquisition with DBCA.
Risk of future loss WITHOUT offset (%)	15.0%	It is assumed the Department will be purchasing a lot that is currently zoned Rural.
Risk of future loss WITH offset (%)	5.0%	The purchased Lot will be placed in conservation estate.
Offset ratio (Conservation area only)	N/A	

Appendix E. Biological survey information excerpts and photographs of the vegetation (GHD, 2020)

Vegetation type	Vegetation type description	Landform and Substrate	Extent (ha)	Notes and sample locations	Representative photograph
Acacia saligna and *Xanthorrhoea preissii* tall shrubland (VT01)	*Acacia saligna, Xanthorrhoea preissii* tall shrubland over mixed introduced sparse herbland/grassland.	Slopes of dunes with brown sandy soils	0.10 ha	Releve 4	
Banksia sessilis and *Spyridium globulosum* tall shrubland (VT03)	*Banksia sessilis, Spyridium globulosum* tall shrubland over *Calothamnus quadrifidus, Melaleuca systena* low shrubland over open sedgeland *Mesomelaena pseudostygia, Desmocladus flexuosus.*	Dune swales with brown sandy soils	2.59 ha	Quadrats 3 and 7. Likely to represent Northern Spearwood shrublands and woodlands (FCT 24) (PEC)	
Banksia attenuata, B. menziesii low woodland (VT04)	*Banksia attenuata, B. menziesii* low woodland over shrubland *Calothamnus quadrifidus, Hakea trifurcata, Hibbertia hypericoides, Xanthorrhoea preissii* over sparse sedgeland *Mesomelaena pseudostygia, Desmocladus flexuosus.*	Undulating plain with brown-yellow sandy soils	0.49 ha	Quadrats 2 Represents Banksia woodlands (TEC) / Banksia dominated woodlands (PEC)	
Planted (VT12)	Planted locally non-native trees and shrubs.		0.07 ha	-	

Appendix F. Sources of information

F.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
- Wheatbelt Wetlands Stage 1 (DBCA-021)

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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