



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 9157/1
Permit Holder:	Trustees of the Syro-Malabar Eparchy of St Thomas
Duration of Permit:	From 13 August 2021 to 13 August 2026

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 road widening and installation of underground power cable.

2. Land on which clearing is to be done

Kelvin Road reserve (PIN 11597881), Orange Grove
White Road reserve (PIN 1315379), Orange Grove
Un-named Road reserve (PIN 11173379), Orange Grove

3. Clearing authorised

The Permit Holder must not clear more than 0.31 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

PART II – MANAGEMENT CONDITIONS

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

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

- (a) avoid the clearing of *native vegetation*;
- (b) minimise the amount of *native vegetation* to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

5. Weed and dieback management

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

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no known dieback or weed-affected soil, *mulch*, *fill*, or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

6. Directional clearing

The Permit Holder must conduct clearing activities in a slow, progressive manner from one side of the area authorised to be cleared under *condition 3* of this Permit to another, to allow fauna to move into adjacent *native vegetation* ahead of the clearing activity.

7. Priority flora management

- (a) Prior to undertaking any clearing authorised under this Permit, the Permit Holder must engage an *environmental specialist* to demarcate the *priority flora* individuals and relevant *buffers* that are to be retained within the area hatched yellow in Figure 1.
- (b) The Permit Holder is not authorised to clear the *priority flora* species described in Table 1, or any other *priority flora*.

Table 1 - Priority flora identified within the application area (Mattiske Consulting Pty Ltd, 2020).

ID	Taxon	Easting	Northing	Number of individuals
1	<i>Isopogon autumnalis</i>	406896	6456584	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	<ol style="list-style-type: none">(a) the species composition, structure, and density of the cleared area;(b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), 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);

No.	Relevant matter	Specifications
		<p>(e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with <i>condition 4</i> of this Permit;</p> <p>(f) actions taken to minimise the risk of the introduction and spread of weeds and dieback in accordance with <i>condition 5</i> of this Permit; and</p> <p>(g) direction of clearing in accordance with <i>condition 6</i> of this Permit.</p>
2.	In relation to flora management pursuant to <i>condition 7</i>	<p>(a) the name and location of each <i>priority flora</i> species, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;</p> <p>(b) actions taken to demarcate each priority flora species recorded and their relevant buffers; and</p> <p>(c) actions taken to avoid the clearing of <i>priority flora</i> species.</p>

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 have the meanings defined.

Table 2: Definitions


Term	Definition
Buffer	means 10 metres for <i>priority flora</i>
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the <i>Environmental Protection Act 1986</i> .
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.
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
Dieback	means the effect of <i>Phytophthora</i> species on <i>native vegetation</i> .
Environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit, or who is approved by the <i>CEO</i> as a suitable environmental specialist.
EP act	<i>Environmental Protection Act 1986</i> (WA)
Fill	means material used to increase the ground level, or to fill a depression.

Term	Definition
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.
Priority flora	means those plant taxa described as priority flora classes 1, 2, 3 or 4 in the <i>Department of Parks and Wildlife's Threatened and Priority Flora List for Western Australia</i> (as amended).
Weeds	means any plant – (a) that is a declared pest under section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i> ; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

REFERENCES

Mattiske Consulting Pty Ltd. (2021). *Summary of findings for threatened and priority species search of clearing areas at Kelvin Road, Orange Grove*. Supporting documents related to clearing permit application CPS 9157/1. Received by DWER on 2 July 2021. DWER Ref: A2024209.

END OF CONDITIONS


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Erika Eto
 A/MANAGER
 NATIVE VEGETATION REGULATION

*Officer delegated under Section 20
 of the Environmental Protection Act 1986*

21 July 2021

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 (cross-hatched yellow) within which clearing may occur.



Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 9157/1
Permit type:	Purpose permit
Applicant name:	The Trustees of the Syro-Malabar Eparchy of St Thomas
Application received:	22 December 2020
Application area:	0.31 hectares
Purpose of clearing:	Road widening
Method of clearing:	Mechanical
Property:	Kelvin Road reserve (property identification number (PIN) 11597881) White Road reserve (PIN 1315379) Un-named Road reserve (PIN 11173379)
Location (LGA area/s):	City of Gosnells
Localities (suburb/s):	Orange Grove

1.2. Description of clearing activities

The vegetation proposed to be cleared is distributed across three separate areas along Kelvin Road reserve (PIN 11597881), an adjacent un-named Road reserve (11173379) and White Road reserve (PIN 1315379) (see Figure 1, Section 1.5). The native vegetation clearing is required to:

- widen Kelvin Road in accordance with the applicant's Development Approval DA16/00343.01; and
- install an underground power cable across the un-named Road reserve and White Road reserve. The applicant advised that the installation will require clearing of small extents of native vegetation separated from each other approximately 100 metres.

During the assessment of the application, the clearing extent was amended to accommodate changes in:

- the provision of power utilities to the Lot 18 on Plan 13089 on Kelvin Road; and
- the planning of the Kelvin Road widening at Lot 19 on Plan 13089.

The above changes have resulted in the addition of two new areas to the application area and the increase in the extent of the proposed clearing from 0.1 hectares to 0.31 hectares.

1.3. Decision on application

Decision:	Granted
Decision date:	21 July 2021
Decision area:	0.31 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). On 17 February 2021, the Department of Water and Environmental Regulation (DWER) advertised the application for 21 days. On 21 April 2021 and 22 June 2021, the application was re-advertised for seven days to reflect increases in the application area. No public submission were received.

In making this decision, the Delegated Officer had regard for:

- the site characteristics (see Appendix A)
- the clearing principles set out in Schedule 5 of the EP Act (see Appendix B)
- the representative photographs of the vegetation within the application area (see Appendix D)
- summary of findings from the threatened and priority species search of proposed clearing areas at Kelvin Road, Orange Grove (Mattiske Consulting Pty Ltd (Mattiske), 2021a) (see Appendix E)
- relevant datasets available at the time of the assessment (see Appendix F)
- actions taken by the applicant which resulted in the avoidance and minimisation of the extent of the clearing and the mitigation of the impacts of clearing. These included the retention of vegetated buffers for priority flora species which occur within the application area (Section 3.1)
- relevant planning instruments and any other matters considered relevant to the assessment (see Section 3.3)
- advice from the City of Gosnells (the City) on the proposed clearing (Section 3.3).

The assessment has identified that the proposed clearing:

- will result in the loss of habitat for *Calyptorhynchus latirostris* (Carnaby's cockatoo), *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo), *Calyptorhynchus baudinii* (Baudin's cockatoo) (collectively referred to as black cockatoo herein this report) and *Isoodon fusciventer* (quenda); and
- may result in the introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values.

After consideration of the available information, as well as the applicant's avoidance, minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to lead to appreciable land degradation or have long-term adverse impacts on the environmental values listed above.

The Delegated Officer therefore decided that the impacts of the proposed clearing can be minimised and managed to be acceptable to the impacted environmental values through the imposition of the following management conditions on the clearing permit:

- avoid, minimise and to reduce the impacts and extent of clearing
- weeds and dieback management to minimise the risk of introduction and spread of weeds
- fauna management to enable fauna to move into adjacent habitat ahead of the clearing activities
- priority flora management to ensure that priority flora within the application area is not impacted.

1.5. Site map



Figure 1 Map of the application area. The areas crosshatched yellow indicate the areas authorised to be cleared under the granted clearing permit

2 Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)
- *Aboriginal Heritage Act 1972*.

The key guidance documents which inform this assessment are:

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

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

Given no evidence of avoidance or mitigation measures was provided, the Delegated Officer requested the applicant to demonstrate that such actions were considered. The applicant (2021a) subsequently advised that the application area only includes areas which are necessary to meet the City of Gosnells' safety and Western Power's planning requirements. Development Approval issued by City of Gosnells requires the applicant to widen Kelvin Road by approximately three meters. To minimise the clearing extent, the applicant proposed to widen the more vegetated northern side of Kelvin Road by two metres only and less vegetated southern side by one meter, instead of clearing three metres along the more vegetated northern side. In addition, Western Power advised the applicant that because of the road widening, some power poles will have to be replaced by an underground cable. A clearing footprint of approximately 0.18 hectares was applied for to install the cable, but the applicant advised that only small areas of native vegetation approximately 100 metres from each other will have to be cleared.

During the assessment of the application, the applicant (2021c) committed to avoiding clearing of individuals of *Isopogon autumnalis* (P3), which was recorded along the fence line (See Figure 1 Appendix D) and their respective 10-metre buffers (as conditioned on the clearing permit).

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

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix 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 some biological values, namely black cockatoo foraging habitat, Priority 3 flora species *Isopogon autumnalis*, a state listed threatened ecological community (TEC) and a conservation area. As these environmental values will not be interfered with during and after clearing activities, it is considered that risks to these biological values can be managed through conditions applied in line with sections 51H and 51I of the EP Act.

3.2.1. Environmental value: biological values (biodiversity) – Clearing Principle (a)

Assessment outcomes:

The assessment has identified that the application area

- contains one priority flora species, being *Isopogon autumnalis* (Priority 3)
- does not contain native vegetation which represents priority or threatened ecological communities
- does not provide significant habitat for fauna; and
- is unlikely to reduce the effectiveness of the mapped ecological linkages.

Conditions

The Delegated Officer determined that the following management conditions on the clearing permit will adequately mitigate the potential impacts of the proposed clearing on the above environmental values:

- flora management measures which:
 - does not authorise the applicant to clear any individuals of priority flora
 - requires demarcation of priority flora; and
 - prevents clearing within 10 metres of demarcated individuals; and
- weed and dieback hygiene measures to mitigate the risk of impacts to adjacent native vegetation.

Assessment:

Priority flora

Based on the similarities between the soil and vegetation types within the application area and those present in habitats for priority flora recorded in the local area, the following priority flora were considered to potentially occur within the application area:

- *Calothamnus accedens* (P4) is known from 52 populations with the known distribution of approximately 280 kilometres north-south and 105 kilometres east-west. The closest record is approximately four kilometres from the application area (DBCA, 2021a). Hawkeswood (1984) described the species as erect, slender, usually single-stemmed, much-branched, slightly pubescent shrub to 1.8 metre high. Noting the description, the species is likely to be detectable at any time of the year. Matiske (2021a) did not identify this species within the application area. The proposed clearing is unlikely to impact *C. accedens*.
- *Haemodorum loratum* (P3) is known from 35 populations with the known range of approximately 290 kilometres north-south and 90 kilometres east-west. The closest population has been recorded approximately 1.9 kilometres northeast of the application area (DBCA, 2021a). *H. loratum* is a perennial herb up to 1.2-2 metres high which tends to occupy grey or yellow sand or gravel, and flowers in November (WA Herbarium, 1998-). The search for threatened and priority flora within the application area did not identify this species (Matiske, 2021a). Although Matiske (2021a) did not survey the application area during the flowering time for this species, given its characteristics, *H. loratum* is likely to be detected at any time of the year. The proposed clearing is unlikely to impact this species.
- *Isopogon autumnalis* (P3) is known from 58 populations spread across approximately 250 kilometres north-south and 85 kilometres east-west. The closest populations is recorded approximately 160 metres south of the western end of the application area (DBCA, 2021). *I. autumnalis* is a shrub which flowers in February, March, April, May or June (WA Herbarium, 1998-). The on-site targeted threatened and priority flora species assessment (Matiske, 2021a) undertaken in June recorded two individuals of this species along a southern boundary fence line within the application area (Figure 2).

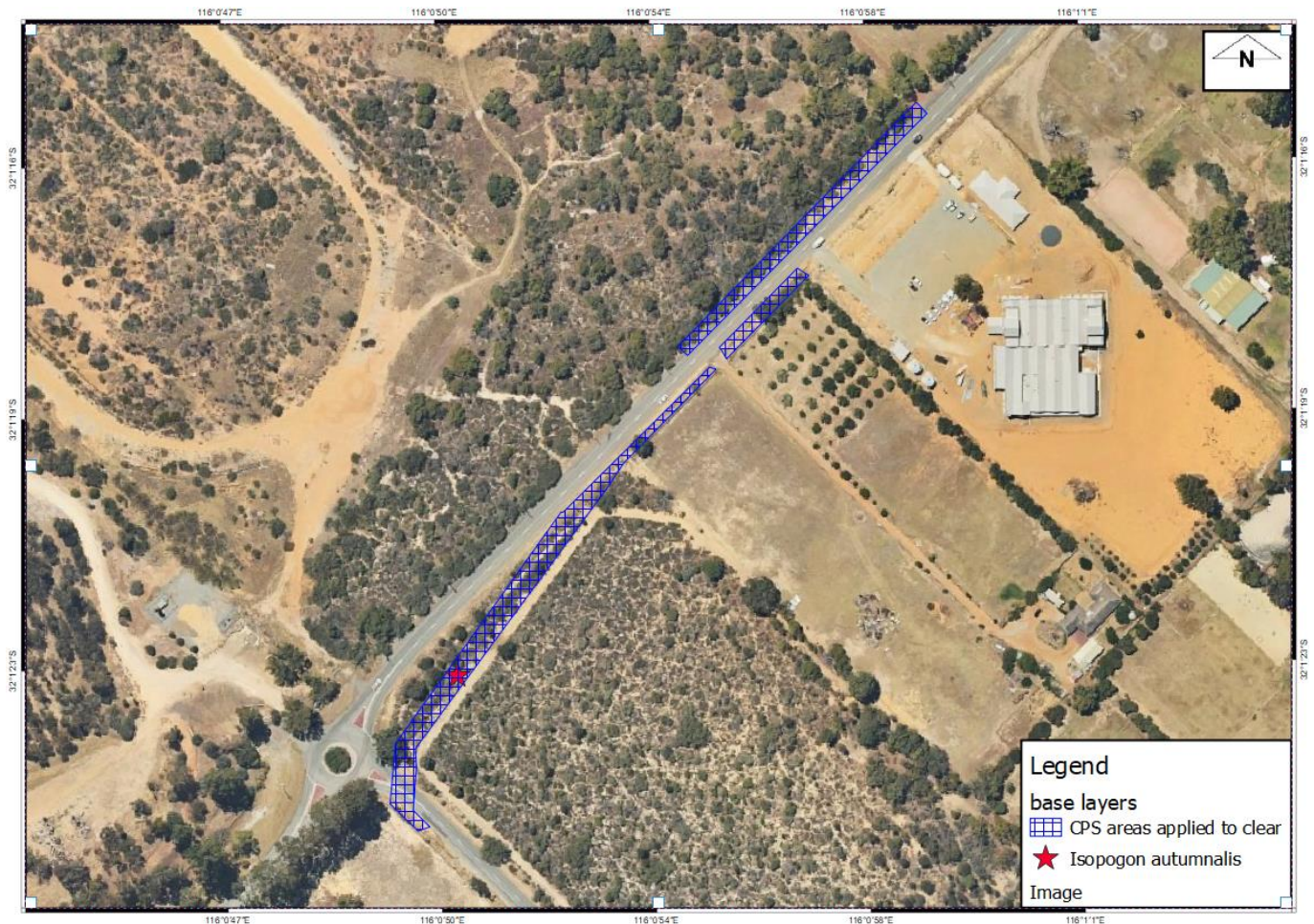


Figure 2 *Isopogon autumnalis* identified within the application area (Mattiske, 2021a)

To mitigate the potential impacts of the proposed clearing on *Isopogon autumnalis*, the applicant committed to avoiding clearing of two individuals identified by Mattiske (2021a) and native vegetation within 10-metre buffers of these individuals. The Delegated Officer reflected this commitment into a management condition and imposed it on the clearing permit.

Threatened Ecological Communities

Two portions of the application area are mapped as the 'Banksia Dominated Woodlands of the Swan Coastal Plain Interim Biogeographic Regionalisation for Australia (IBRA) region', listed as 'Priority 3' ecological community (PEC) by DBCA and as an 'Endangered' threatened ecological community (TEC) under the EPBC Act. Conservation advice for this TEC notes that the Banksia Woodland TEC comprises a dominant tree layer of *Banksia*, including at least one of four key species; *B. attenuata*, *B. menziesii*, *B. prionotes* and/or *B. ilicifolia* (Threatened Species Scientific Community (TSSC), 2016). The tree layer often includes scattered eucalypts and other tree species within or above the Banksia canopy. The understorey is species rich, including sclerophyllous shrubs, sedges and herbs (TSSC, 2016).

A survey undertaken by Mattiske (2021a) identified *Banksia*, *Allocasuarina* and *Eucalyptus* species within the application area. However, Mattiske (2021c) confirmed that the vegetation within the application area does not meet the key diagnostic criteria of the Banksia Woodland TEC.

The clearing activities may introduce dieback and weeds to adjacent remnant vegetation. Therefore, the Delegated Officer has included a condition to manage and reduce the likelihood of dieback and weeds being introduced into adjacent remnant vegetation, as specified in the permit.

3.2.2. Environmental value: biological values (fauna) – Clearing Principle (b)

Assessment outcomes:

The assessment has identified that the application area is not likely to provide significant habitat for conservation significant fauna.

Conditions:

The Delegated Officer determined that the following management conditions on the clearing permit will adequately mitigate the potential impacts of the proposed clearing on the above environmental values:

- Directional clearing to allow terrestrial fauna to disperse ahead of the clearing activity should they occur on site at the time of clearing (as condition on the clearing permit)
- Weed and dieback hygiene measures to mitigate the risk of impacts to adjacent native vegetation.

Assessment:

Noting the habitat requirements, distribution of the species recorded in the local area (a 10-kilometre radius measured from the perimeter of the application area), the mapped vegetation type, condition of the vegetation within the application area and the findings of the flora survey (Mattiske, 2021a), the application area may provide suitable habitat for the following conservation significant fauna species:

- *Calyptorhynchus latirostris* (Carnaby's cockatoo)
- *Calyptorhynchus baudinii* (Baudin's cockatoo)
- *Calyptorhynchus banksii naso* (Forest red-tailed black cockatoo); and
- *Isodon fusciventer* (quenda, southwestern brown bandicoot).

Black cockatoos

The application area is located within the modelled distribution of all three black cockatoos (Commonwealth of Australia, 2012). The seasonal movements of black cockatoos mean they require large areas of habitat for breeding, night roosting and foraging, as well as connectivity between these habitats to assist their movement through the landscape (Commonwealth of Australia, 2012). The assessment has considered the impacts of the proposed clearing on all types of habitat.

There are no mapped breeding points within the application area. The closest Carnaby's cockatoo breeding point is approximately 8.3 kilometres from the application area. The application area is unlikely to provide breeding habitat for black cockatoos. Breeding habitat for this species is defined as trees of species known to support breeding within the range of the species, which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow (Commonwealth of Australia, 2012). Suitable DBH for nest hollows is 500 millimetres for most tree species (Commonwealth of Australia, 2012). The flora survey (Mattiske, 2021a) did not identify any habitat tree within the application area.

Foraging habitat for Carnaby's cockatoo, Baudin's cockatoo and Forest red-tailed black cockatoo vary (Commonwealth of Australia, 2012). Forest red-tailed black cockatoo forages within jarrah and marri woodlands and forest, and edges of karri forests including wandoo and blackbutt, within the range of the subspecies (DBCAs, 2017a). The species largely feeds on seeds of marri and jarrah, as well as other *Eucalyptus* species and *Allocasuarina* cones (Commonwealth of Australia, 2012). Baudin's cockatoo prefer foraging within eucalypt woodlands and forest, and proteaceous woodland and heath. Its diet consists mainly of seeds from marri but Baudin's cockatoo also feed on various *Banksia* sp., *Hakea* sp. and jarrah, and occasionally insects and insect larvae (DBCAs, 2017b). During the breeding season (October to late January/early February) this species has a preference for marri seeds. Outside the breeding season the species may feed in fruit orchards and tips of *Pinus* spp. (Commonwealth of Australia, 2012). Carnaby's cockatoo feeds on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (*Banksia*, *Hakea* and *Grevillea*), as well as *Allocasuarina* and *Eucalyptus* species, marri and a range of introduced species (Valentine and Stock, 2008).

Foraging habitat for black cockatoos within 7 kilometres of a breeding site is important to adequately support breeding pairs (EPA, 2019). Foraging habitat within 6 kilometres, with overlapping foraging ranges to 12 kilometres, is important to support night roosting sites and maintain habitat connectivity and movement across the landscape (EPA, 2019). As mentioned above, there is a mapped breeding point approximately 8.3 kilometres from the application area, and there are several confirmed black cockatoo roosting sites within the local area, with the closest record approximately 1.2 kilometre from the application area. Based on the photographs supplied by the applicant (Appendix D) and the findings of the flora survey, the application area contains individuals of *Banksia* sp., *Allocasuarina* sp. and *Eucalypt* sp, which provides some foraging opportunities. Evidence of black cockatoo foraging activities was observed on some *Banksia* sp.

Based on the current mapping of potential black cockatoo foraging habitat within the Swan Coastal Plain and Jarrah Forest, there is approximately 10,432 hectares available within the local area. The proposed clearing of 0.31 hectares represents approximately 0.0029 percent of the available foraging habitat. In regard to the closest recorded breeding point (8.3 kilometres from the application area), there is approximately 53 per cent remnant vegetation that is mapped as potential foraging habitat within a 7 kilometre buffer of the breeding point. Even in the unlikely event that any breeding pairs were to travel to the application area, the proposed clearing would impact on approximately 0.0037 percent of habitat available within the 7 kilometre buffer.

Noting the minimal extent of the proposed clearing, the extent of foraging habitat within the local area, and the extent of native vegetation adjacent to the application area that will be retained, the application area is not likely to provide significant foraging habitat that supports breeding or roosting black cockatoos.

Significant habitat refers to the resources (breeding, resting and feeding), connectivity or habitat area for a species or community that is critical for its survival. Noting the minimal extent of the application area, and with regards to the extent of remnant vegetation in the local area (Figure 3), the proposed clearing is unlikely to reduce the amount of food available to roosting or breeding birds.

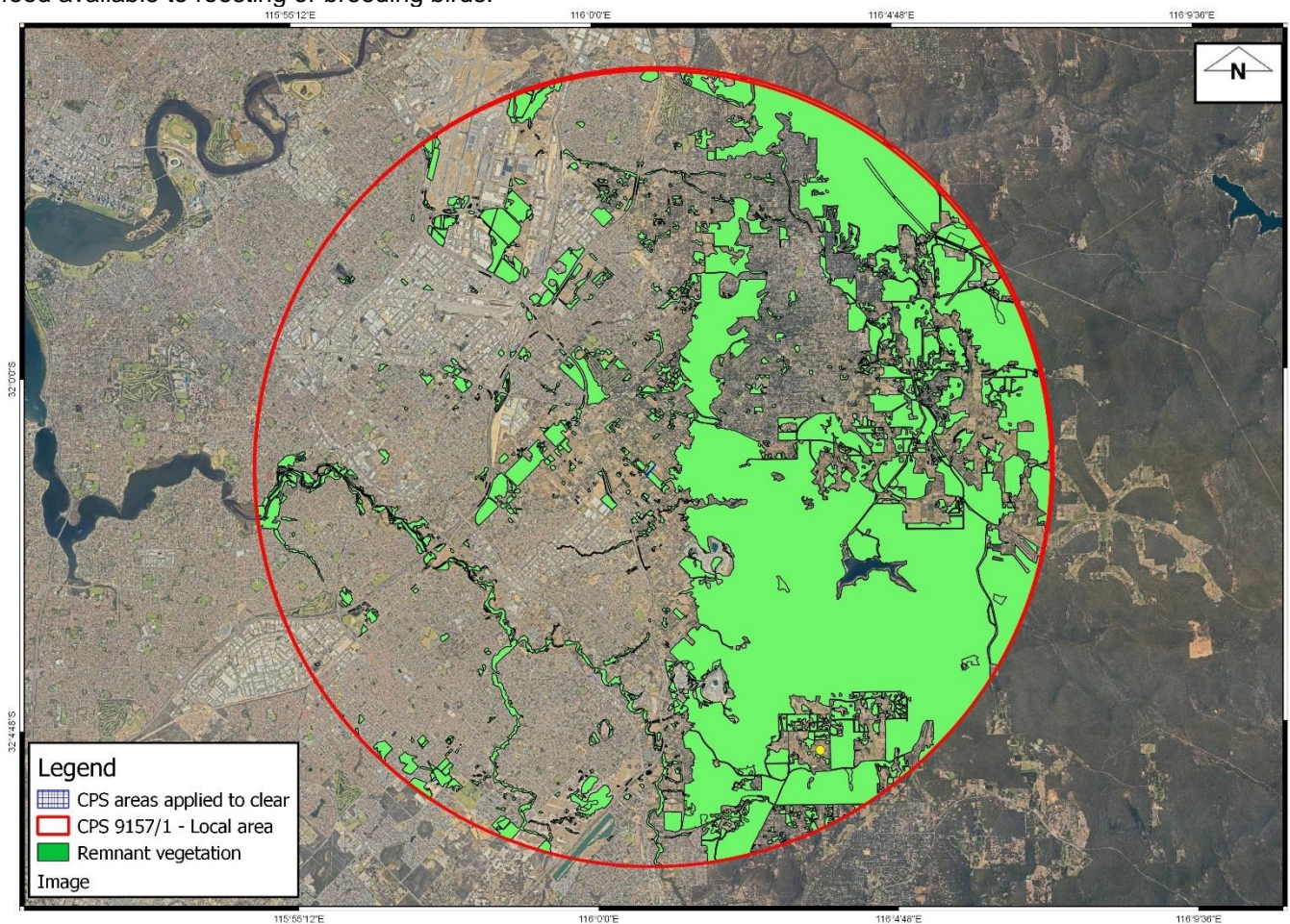


Figure 3 Extent of remnant vegetation in the local area

Taking into account the small extent of the application area and that native vegetation within adjacent properties provides similar or better habitat, the proposed clearing is not likely to restrict black cockatoo ability to migrate across the landscape.

Quenda

Quenda is listed as Priority 4 by DBCA and is known to inhabit scrubby, swampy vegetation with low, dense understorey that is located near watercourses, forest/woodland that is regularly burnt, and in areas of pasture and cropland lying close to dense cover. On the Swan Coastal Plain, Quenda are often associated with wetlands (DEC, 2012a). The City of Gosnells (2021) advised that a survey of the native vegetation at Lots 13 and 14 on Plan 4336, which are adjacent to the application area, identified individuals of quenda. Given this, quenda may intermittently utilise the application area for dispersal. However, considering the extent of the proposed clearing, and that the application area is located immediately adjacent to an existing road, the application area is not likely to provide significant habitat for this species.

3.2.3. Environmental value: biological values (threatened flora) – Clearing Principle (c)

Assessment outcomes:

The application area is unlikely to provide habitat for flora listed as threatened under the BC Act.

Condition:

The Delegated Officer determined that no management conditions are required to be imposed on the clearing permit for this environmental value.

Assessment:

Based on the similarities between the soil and vegetation types within the application area and those present in habitats for threatened flora recorded in the local area, the following threatened flora were considered to potentially occur within the application area:

- *Conospermum undulatum* is an erect, compact shrub which usually occurs on grey or yellow- orange clayey sand and flowers between May and October (WA Herbarium, 1998-). The survey (Mattiske, 2021a) of the application area, which was undertaken during the flowering period of this species, did not identify any individuals of *C. undulatum*. Given this, the application area is unlikely to provide habitat for this species.
- *Thelymitra stellate* is a tuberous, perennial herb which flowers between October and November and inhabits sand, gravel and lateritic loam (WA Herbarium, 1998-). The targeted threatened and priority flora survey (Mattiske, 2021a) did not identify this species within the application area. Given the species is perennial, the survey would have identified *T. stellate* individuals had they been present within the application area. The application area is not likely to provide habitat for this species.
- *Banksia mimica* is a prostrate, lignotuberous shrub which tends to occupy white or grey sand over laterite or sandy loam and flowers in December or January to February (WA Herbarium, 1998-). Mattiske (2021a) identified *Banksia* species within the application area. Any individual plants with the potential to be a threatened or priority species were collected and identified at the WA Herbarium (Mattiske, 2021a). The survey concluded that no threatened flora listed under the BC Act were recorded within the application area. Therefore, the proposed clearing is not likely to impact *B. mimica*.

3.2.4. Environmental value: biological values (threatened ecological communities and conservation areas) – Clearing Principles (d) and (h)

Assessment outcomes:

The assessment has identified that the proposed clearing may result in the spread of weed and dieback into adjacent Bush Forever Site No. 51 and a TEC.

Condition:

The Delegated Officer determined that conditioning the requirement to undertake weed and dieback management will adequately mitigate the potential impacts of the proposed clearing on the above environmental value.

Assessment:

According to available databases, the application area does not occur within conservation areas or mapped TECs. Therefore, the clearing will not result in direct impacts on these environmental values. However, the application area abuts Bush Forever Site No. 51, which is mapped as *Banksia attenuata* woodlands over species rich dense shrublands (floristic community type 20a as originally described in Gibson et al. (1994)) (Figure 3). If not adequately managed, the proposed clearing may indirectly impact these overlapping areas through the spread of weeds and dieback. Weed and dieback management practices will assist in mitigating these impacts.

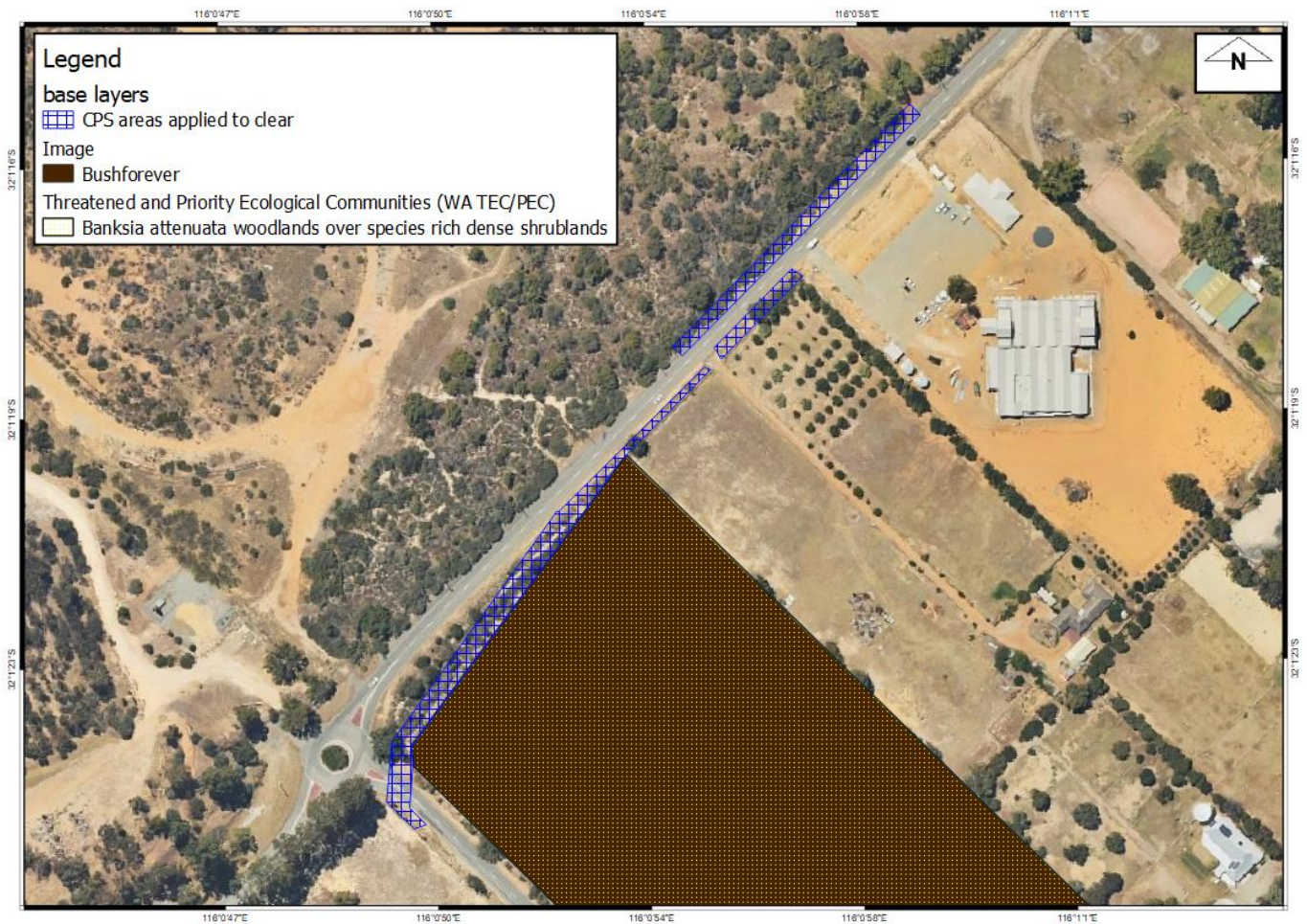


Figure 4 Bush Forever and TECs mapped in the proximity of the application area.

3.3. Relevant planning instruments and other matters

The City of Gosnells (2021) advised that the proposed clearing is to accommodate road widening which is a condition of Development Approval DA16/00343.01. The City of Gosnells provided its summary of the assessment against the ten Clearing Principles and noted that the proposed clearing may result in significant impacts on the environment. The City of Gosnells therefore recommended to conduct the required works at the south-eastern side of Kelvin Road, on the same side as the existing development site. If DWER decides to grant Clearing Permit CPS 9157/1, the City of Gosnells recommended to:

- undertake flora surveys to determine the presence of rare flora
- protect the conservation significant flora identified during surveys prior to and during works
- delineate boundary of works prior to works starting to ensure no encroachment into adjoining conservation significant areas
- prepare and implement a sediment and erosion management plan for the City's approval prior to any works starting
- fence the perimeter of lots 10-14 Kelvin Road, Orange Grove with conservation style fencing on completion of works, to the City of Gosnells' specifications.

DWER considered the City of Gosnells' recommendations and addressed them throughout the decision report, and through the addition of avoid, minimise, weed and dieback, and flora management conditions to the applicant's clearing permit.

No Aboriginal Sites of Significance are been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972 (WA)* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared is consists of 0.31 hectares spread across three patches along Kelvin Road and White Road in Orange Grove. The of native vegetation in the intensive land use zone of Western Australia. The north-eastern portion of the application area on its northern side is adjacent to an approximately 5-hectare patch of native vegetation. The south western portion of the application area is also adjacent to a property which is predominantly remnant vegetation. The surrounding area is predominantly residential properties and semi-rural lots with patches of remnant vegetation.</p> <p>Aerial imagery and spatial data indicates the local area retains approximately 34.6 percent of its original native vegetation cover.</p> <p>The application area occurs in a highly constrained area as part of the Metropolitan Regional Scheme (MRS).</p>
Ecological linkage	Approximately 0.1 hectares of the western portion of the application area intersects regional ecological linkage identified by WALGA's Biodiversity Projects (Del Marco et al., 2004).
Conservation areas	The closest conservation area is the Bush Forever Site Number 51 (adjacent to the southern boundary of the western portion of the application area).
Vegetation description	<p>The application area is mapped by Hedde et al. (1980) within Swan Coastal Plain vegetation complex Forrestfield, which is described as Vegetation ranges from open forest of <i>Corymbia calophylla</i> (Marri) - <i>Eucalyptus wandoo</i> (Wandoo) - <i>Eucalyptus marginata</i> (Jarrah) to open forest of <i>Eucalyptus marginata</i> (Jarrah) - <i>Corymbia calophylla</i> (Marri) – <i>Allocasuarina fraseriana</i> (Sheoak) - <i>Banksia</i> species. Fringing woodland of <i>Eucalyptus rudis</i> (Flooded Gum) in the gullies that dissect this landform. (Shepherd et al, 2001).</p> <p>The mapped vegetation type retains approximately 12.29 percent of the original extent (Government of Western Australia, 2019).</p> <p>Photographs supplied by the applicant (2021b) and the search conducted by Matisse (2021a) indicate that the vegetation within the proposed clearing area consists of native species such as <i>Allocasuarina fraseriana</i>, <i>Eucalyptus</i> sp. and <i>Banksia</i> sp..</p> <p>The absence of significant representation of tree species, apart from two <i>Eucalyptus marginata</i>, the strong presence of Geraldton wax (<i>Chamelaucium uncinatum</i>) and introduced species such as prickly pear, indicates that the vegetation within the application area is not consistent with the mapped vegetation type. Representative photos provided by the applicant are available in Appendix D.</p>
Vegetation condition	<p>Photographs supplied by the applicant (2021b) indicate the vegetation within the proposed clearing area is in Good and Completely Degraded condition (Keighery, 1994) condition.</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix C. Representative photos are available in Appendix D.</p>
Climate and landform	<p>Rainfall: 804 millilitres per annum (BOM, 2021)</p> <p>Temperature: 25.6 degrees Celsius (BOM, 2021)</p> <p>Evapotranspiration: 800 millilitres per annum</p> <p>Geology: Alluvial, shoreline, and eolian deposits</p>
Soil description	The soil is mapped by the Department of Primary Industries and Regional Development (2021) as Forrestfield (D Range) F1 Phase, which is described as: Foot and low slopes < 10% with deep rapidly drained siliceous yellow brown sands, and pale or bleached sands with yellow-brown subsoil. Shrubland of unidentified species (Schoknecht et al., 2004).

Characteristic	Details
Land degradation risk	The mapped soil type has a high risk of wind erosion and subsurface acidification. All other mapped soil degradation risks are low.
Waterbodies	A nonperennial tributary of the Canning River is mapped approximately 100 metres north of the application area. No mapped wetlands are located within the application area. The closest wetland is a resource enhancement wetland 840 metres to the south west.
Hydrogeography	The application area is: <ul style="list-style-type: none"> • mapped at the boundary of a proclaimed Perth Groundwater Area • not mapped within any proclaimed Surface Water Areas and Irrigation District • not mapped in Public Drinking Water Source Areas • not mapped within Clearing Control Catchments under Part 2A of the <i>Country Areas Water Supply Act 1947</i>.
Flora	There are records of 100 flora species of conservation significance within the local area. Seven of these are found on the same soil type as the application area. A targeted assessment search for Priority and Threatened species was conducted by Mattiske Consulting on 23 June and 28 June 2021 (Mattiske, 2021a). One conservation significant flora species <i>Isopogon autumnalis</i> (P3) was found within the survey area. <i>Conospermum undulatum</i> (T), which is known to occur near the survey area, was not recorded. No other conservation significant species were recorded during the targeted assessment.
Ecological communities	Fifteen conservation significant ecological communities are recorded within the local area. The application area is located within the mapped Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region ecological community, and immediately adjacent to the <i>Banksia attenuata</i> woodlands over species rich dense shrublands (floristic community type 20a as originally described in Gibson et al. (1994)). The vegetation within the application area is not representative of any of these ecological communities (Mattiske, 2021c).
Fauna	There are records of 34 fauna of conservation significance within the local area and a known black cockatoo roost site approximately 1 kilometre away. An onsite survey found evidence of black cockatoo foraging on some <i>Banksia</i> species within the application area (Mattiske, 2021a).

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	1,501,221.93	579,813	38.62	38.45	14.85
Vegetation complex					
Forrestfield Complex: Open Forest and Fringing Woodland	22,812.92	2,803.36	12.29	381	1.67

*Government of Western Australia (2019a)

A.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F), and biological survey information (Mattiske, 2021a), impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features?	Suitable vegetation type?	Suitable soil type?	Distance of closest record to application area (km)	Are surveys adequate to identify?
<i>Banksia mimica</i>	T	Yes	Yes	Yes	0.456	Yes
<i>Calothamnus accedens</i>	4	Yes	Yes	Yes	4	Yes
<i>Conospermum undulatum</i>	T	Yes	Yes	Yes	0.005	Yes
<i>Darwinia apiculata</i>	T	Yes	Yes	Yes	4.46	Yes
<i>Haemodorum loratum</i>	3	Yes	Yes	Yes	2.18	Yes
<i>Isopogon autumnalis</i>	3	Yes	Yes	Yes	0	Yes
<i>Thelymitra stellata</i>	T	Yes	Yes	Yes	1.65	Yes

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

A.4. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F), and biological survey information (Mattiske, 2021a), impacts to the following conservation significant required further consideration.

Species name	Conservation status	Suitable habitat features?	Suitable vegetation type?	Distance of closest record to application area (km)	Are surveys adequate to identify?
<i>Calyptorhynchus baudinii</i> (Baudin's cockatoo)	EN	Yes	Yes	1.74	Yes
<i>Calyptorhynchus latirostris</i> (Carnaby's cockatoo)	EN	Yes	Yes	0	Yes
<i>Calyptorhynchus banksii naso</i> (forest red-tailed black cockatoo)	VU	Yes	Yes	1.07	Yes
<i>Isoodon fusciventer</i> (quenda, southwestern brown bandicoot)	P4	Yes	Yes	0.36	No

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

A.5. Ecological community analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F), and biological survey information (Mattiske, 2021a), impacts to the following conservation significant required further consideration.

Community name	Conservation status	Suitable habitat features?	Suitable vegetation type?	Suitable soil type?	Distance of closest record to application area (km)	Are surveys adequate to identify?
<i>Banksia attenuata</i> woodlands over species rich dense shrublands (floristic community type 20a as originally described in Gibson et al. (1994))	EN	N	N	Y	0	N/A
Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	P3	N	N	Y	0	N/A

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

A.6. Land degradation risk table

Risk categories	Land Unit 1
Wind erosion	H2>70% of map unit has a high to extreme wind erosion risk
Water erosion	L1: <3% of map unit has a high to extreme water erosion risk
Salinity	L1: <3% of map unit has a high to extreme water erosion risk
Subsurface Acidification	H2>70% of map unit has a high to extreme wind erosion risk
Flood risk	L1: <3% of map unit has a high to extreme water erosion risk
Water logging	L1: <3% of map unit has a high to extreme water erosion risk
Phosphorus export risk	L2: 3-10% of map unit has a high to extreme phosphorus export risk

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>The application area contains <i>Banksia</i>, <i>Eucalyptus</i> and <i>Allocasuarina</i> sp. which may provide habitat for black cockatoos (Mattiske 2021a). One priority flora species <i>Isopogon autumnalis</i> (P3) was found within the application area. The applicant has committed to retaining 10-meter vegetated buffers for priority flora to mitigate the potential impacts on them.</p>	May be at variance	Yes See section 3.2.1.
<p><u>Principle (b):</u> <i>“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.”</i></p> <p><u>Assessment:</u></p> <p>The application area contains habitat for conservation significant fauna (black cockatoos and quenda). No black cockatoo habitat trees were recorded within the application area (Mattiske, 2021a).</p>	May be at variance	Yes See section 3.2.2.
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>No threatened species were recorded during a targeted, threatened and priority flora survey (Mattiske, 2021a). As the area proposed to be cleared is predominantly along an existing road in Completely Degraded condition and consists of introduced species, the application area is unlikely to contain habitat necessary for the continued existence of flora species listed under the BC Act.</p>	Not likely to be at variance	Yes See section 3.2.3.
<p><u>Principle (d):</u> <i>“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.”</i></p> <p><u>Assessment:</u></p> <p>The application area does not contain species that can indicate the occurrence of a TEC listed under the BC Act (Mattiske 2021c). However, the application area abuts a mapped TEC. Weed and dieback management condition will be placed on the clearing permit to prevent any potential spread to this TEC.</p>	May be at variance	Yes See section 3.2.4.
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The application area is within the Perth Metropolitan Area where the Environmental Protection Authority (EPA) has a modified objective to retain at least 10 percent of the pre-clearing extent of vegetation complexes for defined constrained areas (EPA, 2008). The extent of native vegetation in the local area is consistent with this objective.</p> <p>The mapped vegetation complex within the application area (Forrestfield Complex) has 12.29 percent remaining. The vegetation observed within the application area (Mattiske, 2021a) does not represent this complex.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
The vegetation within the application area is not considered to be a significant remnant of native vegetation in an area which has been extensively cleared.		
<p><u>Principle (h):</u> <i>“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.”</i></p> <p><u>Assessment</u></p> <p>Bush Forever Site Number 51 is adjacent to the western portion of the application area. Given that the proposed clearing is separated from this Bush Forever site by a fire break and clearing activities will be confined to the road reserves, it is unlikely to have significant impacts to this site. Weed and dieback management condition will be placed on the clearing permit to prevent any potential spread to the nearby remnant vegetation.</p> <p>The proposed clearing is not likely to have an impact on the environmental values of other nearby conservation areas.</p>	May be at variance	Yes See section 3.2.4.
Environmental value: land and water resources		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>Given no water courses or wetlands are recorded within 100 metres of the application area, the proposed clearing is unlikely to impact on - or off-site hydrology and water quality.</p>	Not at variance	No
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soil is highly susceptible to wind erosion and subsurface acidification. All other land degradation risks are low. Noting the extent and location of the clearing adjacent to an existing road where there are no mapped water bodies, the proposed clearing is not likely to have an appreciable impact on land degradation.</p>	Not likely to be at variance	No
<p><u>Principle (i):</u> <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.”</i></p> <p><u>Assessment:</u></p> <p>Given no watercourses, wetlands or Public Drinking Water Source Areas are recorded within the application area, and the that the closest watercourse is a small nonperennial tributary of the Canning River 100 metres to the north of the application area, the proposed clearing is unlikely to impact surface or ground water quality.</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>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.</p> <p>Given no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging.</p>	Not likely to be at variance	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.
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. Photographs of the application area (Applicant, 2021b)



Figure 5a Photo showing western end of application area, facing east.



Figure 5b Photograph showing application area, facing west towards White Road.



Figure 5c Photograph on the northern side of Kelvin road showing dense remnant vegetation inside the lots to the north.

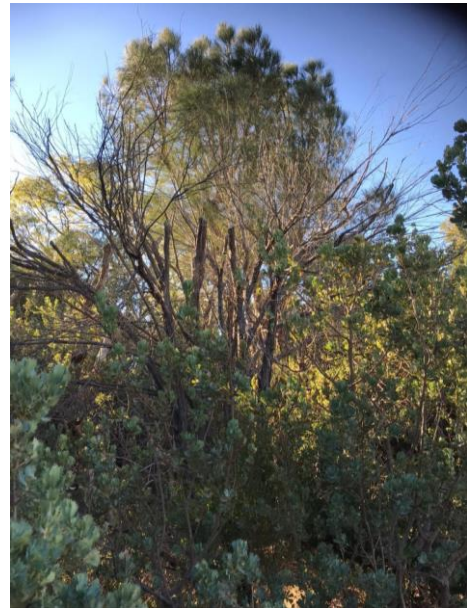


Figure 5d Photograph showing dense vegetation on the northern side of the road, inside the lots to the north



Figure 5e Photograph at western end of application area facing west towards White Road.



Figure 5f Photograph of the northern portion of the application area

Appendix E. Summary of biological surveys

In June 2021, the applicant commissioned Matisse Consulting Pty Ltd to carry out a survey of the application area. The areas assessed for flora and vegetation and fauna habitat occur mainly on the fringes of Kelvin Road. The survey was extended towards the less disturbed areas near the fence on the southern section to check for any flora issues (see Figure 6).



Figure 6 Boundary of the flora and fauna survey report (Matisse, 2021a)

The search was conducted by two experienced botanist in two days. The botanists visited and traversed each site searching within and around the application area for threatened and priority species and also potential habitat trees for black cockatoo. Any individual plants with the potential to be a threatened or priority species were collected and identified at the Western Australian Herbarium. Collections were taken utilising valid collection licences to collect flora for scientific purposes, issued under the BC Act.

Trees observed in the proposed clearing sites and immediate area were mostly *Banksia* or *Allocasuarina* spp. and two *Eucalypt* individuals not showing evidence of habitat use. Larger *Eucalyptus* spp. suitable for black cockatoos nesting were observed but well outside the range of any impacts. No other trees with diameters greater than 50 centimetres were present within the alignments and therefore there is no likelihood of suitable hollows for the black cockatoos within the application area.

No threatened were identified within the application area. In particular, *Conospermum undulatum* (T), which is known to occur near the application area, was not recorded on the surveyed areas. The Priority 3 flora species *Isopogon autumnalis* was discovered near the fence line. At the time of the survey, individuals were either healthy or slightly stressed with some possessing old flower heads. Identifications were confirmed at the Western Australian Herbarium. No potential cockatoo habitat trees were found within or surrounding the proposed clearing areas. Evidence of foraging was observed on some of the *Banksia* species.

Appendix F. References

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)
- Cadastre (LGATE-218)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Environmentally Sensitive Areas (DWER-046)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- 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
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