GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8150/1
Permit Holder:	Shire of Cuballing
Duration of Permit:	12 September 2019 – 12 September 2024

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. **Purpose for which clearing may be done**
   Clearing for the purpose of road widening.

2. **Land on which clearing is to be done**
   Stratherne Road reserve (PIN 11542346), Cuballing

3. **Area of Clearing**
   The Permit Holder must not clear more than 20 native trees within the area hatched yellow on attached Plan 8150/1a.

4. **Application**
   This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. **Type of clearing authorised**
   This Permit authorises the Permit Holder to clear native vegetation for the activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out works involving clearing for those activities under the *Local Government Act 1995* or any other written law.

PART II – MANAGEMENT CONDITIONS

6. **Avoid, minimise and reduce the impacts and extent of clearing**
   In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in 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.

7. Dieback and weed control

When undertaking any clearing authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the 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.

8. Offset – Lot 434 on Deposited Plan 84296 (being Crown Reserve 2556)

(a) By 12 September 2020, the Permit Holder shall provide to the *CEO* a copy of the executed change in purpose of the area hatched red on attached Plan 8150/1b within Lot 434 on Deposited Plan 84296 (being Crown Reserve 2556) from 'Gravel' to 'Conservation'.

(b) In the event that the change in purpose of Lot 434 on Deposited Plan 84296 (being Crown Reserve 2556) is not achieved in accordance with condition 8(a):

(i) the Permit Holder must submit a new offset proposal for the *CEO*'s approval by 17 October 2020; and

(ii) in preparing an offset proposal in accordance with condition 8(b)(i), the Permit Holder must comply with the principles in the Government of Western Australia's *WA Environmental Offsets Policy* (September 2011) and have regard to the *WA Environmental Offsets Guidelines* (August 2014).

PART III – RECORD KEEPING AND REPORTING

9. Record keeping

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

(a) In relation to the clearing of native vegetation authorised under this Permit:

(i) 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 or decimal degrees;

(ii) the date(s) that the area was cleared;

(iii) the size of the area cleared (in hectares);

(iv) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 6 of this Permit;

(v) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 7 of this Permit; and

(vi) actions taken in accordance with condition 8 of this Permit.

10. Reporting

(a) At least 48 hours prior to commencing clearing authorised under this Permit, the Permit Holder shall advise the *CEO* in writing of the date that clearing is scheduled to commence.

(b) On or before 30 June of each year following the commencement of clearing authorised under this Permit, the Permit Holder must provide to the *CEO* a written report of records required under condition 9 of this Permit.

(c) The Permit Holder must produce the records required under condition 9 of this Permit when required by the *CEO*.

DEFINITIONS

The following meanings are given to terms used in this Permit:

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

dieback means the effect of *Phytophthora* species on native vegetation;

fill means material used to increase the ground level, or fill a hollow;

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;

weed/s means any plant -

(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
(b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or
(c) not indigenous to the area concerned.

Samara Rogers
MANAGER
NATIVE VEGETATION REGULATION

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

19 August 2019

Plan 8150/1(a)

Legend

- CPS areas approved to clear
- Local Government Authorities
- Cadastre
- Roads

Image

N

0 100 200 m

MGA 94
Geocentric Datum of Australia 1994

Samara Rogers
2019.08.19
11:56:47 +08'00'

Officer with delegated authority under Section 20
of the Environmental Protection Act 1986

GOVERNMENT OF
WESTERN AUSTRALIA

Plan 8150/1(b)

Legend

- CPS subject to conditions
- Local Government Authorities
- Cadastre
- Roads

Image

N

0 100 200 m

MGA 94
Geocentric Datum of Australia 1994

Samara Rogers
2019.08.19
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Officer with delegated authority under Section 20
of the Environmental Protection Act 1986

GOVERNMENT OF
WESTERN AUSTRALIA

Government of Western Australia
Department of Water and Environmental Regulation

Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8150/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Shire of Cuballing
Application received date: 26 July 2018

1.3. Property details

Property: Stratherne Road reserve (PIN 11542346)
Local Government Authority: Shire of Cuballing
Localities: YORNANING and CUBALLING

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
	20	Mechanical Removal	Road construction or upgrades

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 19 August 2019

Reasons for Decision:

The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986* (EP Act). It has been concluded that the proposed clearing is at variance to principles (e) and (f), and is not likely to be at variance to the remaining Principles.

It has been determined that the proposed clearing will result in the following residual impact:

- Loss of 20 native trees that are considered significant as a remnant of native vegetation in an area that has been extensively cleared.

Noting that upgrades to the road will provide a public benefit including improved road safety It is considered that the significant residual impact can be counterbalanced through the conservation of 0.37 hectares of Crown Reserve 2556 as an offset.

The proposed clearing includes vegetation growing in an environment associated with a watercourse, however no significant impacts to the environmental values of the watercourse area expected given its highly modified nature and the relatively minimal extent of clearing required at its crossing.

Through the assessment it was identified that the proposed clearing may impact surrounding native vegetation through the introduction or spread of weeds and dieback. A weed management condition has been placed on the clearing permit to minimise the risk of weeds spreading into adjacent areas of remnant vegetation.

Given the above, the Delegated Officer decided to grant a clearing permit subject to avoid/minimise, offset and dieback and weed management conditions.

2. Site Information

Clearing Description

The application is to clear 20 native trees within Stratherne Road reserve (PIN 11542346), Cuballing for the purpose of road widening.

Vegetation Description

The application area is mapped as the 'Avon Wheatbelt' region of the Interim Biogeographic Regionalisation for Australia (IBRA), and is mapped as the following Beard vegetation association:

- 1023, described as Medium woodland; York gum (*Eucalyptus loxophleba*), wandoo (*Eucalyptus wandoo*) and salmon gum (*Eucalyptus salmonophloia*) (Shepherd et al., 2001).

A site inspection of the application area was conducted by Department of Water and Environmental Regulation (DWER) on 10 September 2018. The site inspection identified that vegetation within the application predominantly comprises *Eucalyptus wandoo* over introduced grasses with occasional *Allocasuarina* spp. and native shrubs. Several planted *Callistemon* and *Eucalyptus* species were observed on the northern side of the road.

Reconnaissance and Targeted Flora and Vegetation survey undertaken in May 2019 by Ecoedge identified two vegetation units within the application area:

- Woodland of *Eucalyptus* wandoo and *Allocasuarina huegeliana* over tall open shrubland of *Acacia acuminata* over grassland of **Avena fatua* and **Bromus diandrus* and open herbland of *Dianella revoluta*, **Dittrichia graveolens*, *Hypochaeris glabra* and **Solanum nigrum* on grey-brown sandy loam; and
- Scattered trees of *Eucalyptus wandoo* and *Allocasuarina huegeliana* over mainly introduced annual species of herbs and grasses on yellow-brown sandy loam.

Vegetation Condition

The condition of the vegetation within the application area is considered to be:

- Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994);
  To
- Completely degraded: No longer intact, completely/almost completely without native species (Keighery, 1994).

The condition of the vegetation was determined based on the DWER site inspection (DWER, 2018). Flora survey undertaken by Ecoedge (2019) classified all of the remnant vegetation as completely degraded (Keighery, 1994), with much of the road verge in the application area being previously cleared in the past, especially on the north side of the road.

Soil type

The application area is mapped as the following land subsystems:

- Noombling Subsystem (Dryandra), which is mapped across approximately 87 per cent of the application area, and is described as Long gentle and undulating hillslopes and divides. Colluvium / weathered granite, gneiss and some dolerite. Yellow/brown and grey deep sandy duplexes, brown deep loamy duplexes, sandy gravels and shallow duplexes. Marri-Wandoo / Jam-Sheoak (Department of Primary Industries and Regional Development (DPIRD), 2019); and
- Popanyinning Subsystem (Pumphreys), which is mapped across approximately 13 per cent of the application area, and is described as Broad valley floor; yellow duplex soils and a narrow lower sandy terrace, spoadic sand dunes (DPIRD, 2019).

Comments

The local area is considered a 10 kilometre radius of the application area.

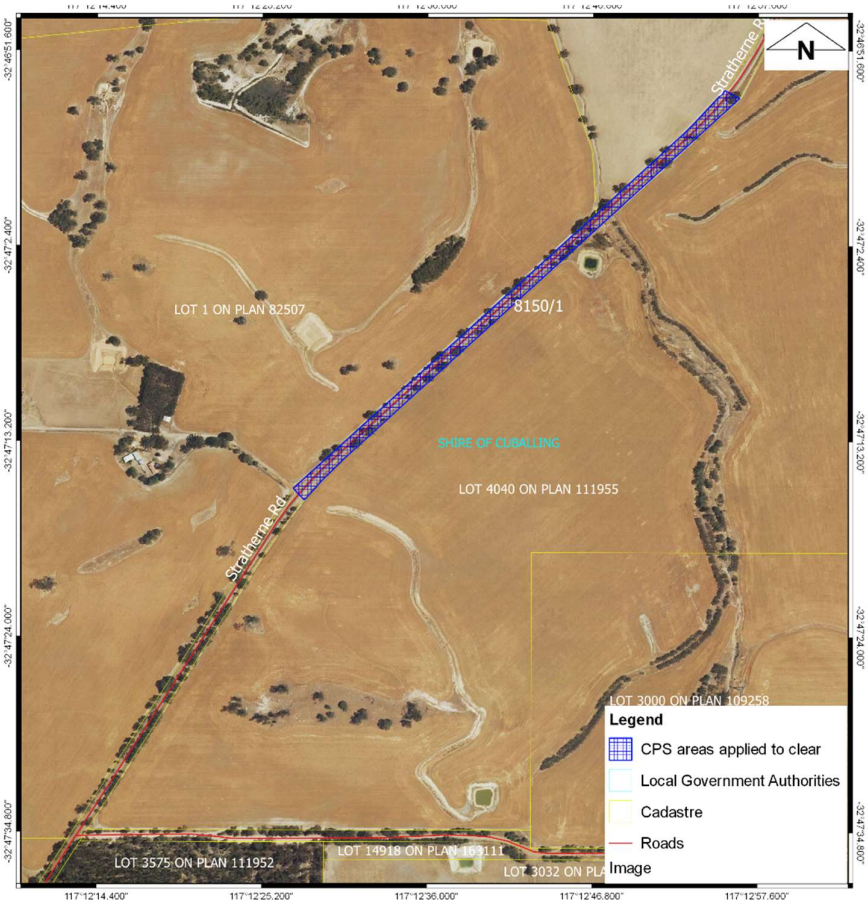

Figure 1 Application area cross hatched blue

Figure 2 Eastern end of the application area (DWER, 2019)

Figure 3 Western end of the application area (DWER, 2019)

3. Minimisation and mitigation measures

The need for clearing has been minimised through minimising clearing selective (Shire of Cuballing, 2018).

4. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biodiversity.

Proposed clearing is not likely to be at variance to this Principle

The applicant proposes to clear 20 native trees within Stratherne Road reserve (PIN 11542346), Cuballing for the purpose of road widening.

Two threatened and three priority flora species have been mapped within the local area. The threatened flora are discussed in Principle (c), the priority flora are discussed below. Based on the similarities shared between the soil and vegetation types in habitats for these flora taxa and within the application area, the following priority flora may occur within the application area:

- *Banksia subpinnatifida* var. *subpinnatifida* (P2) has been recorded approximately 7.7 kilometres from the application area. This species is known from 20 records in the Shires of Cuballing, Narrogin, Pingelly and Wandering, and is typically associated with gravelly loams (Western Australian Herbarium, 1998-);
- *Acacia deflexa* (P3) has been recorded approximately 7.1 kilometres from the application area. This species is known from 42 records from the Jarrah Forest, Avon Wheatbelt and Mallee bioregions, and is typically associated with yellow and gravelly lateritic sand and gravelly sandy loam on plains (Western Australian Herbarium, 1998-); and
- *Hibbertia montana* (P4) has been recorded approximately 8.9 kilometres from the application area. This species is known from 93 records from the central Avon Wheatbelt, northern Jarrah Forest and eastern Swan Coastal Plain, and is typically associated with loam over granite, lateritic soils and gravel on granite rocks, lateritic ridges, boulders and hills (Western Australian Herbarium, 1998-).

The flora survey conducted by Ecoedge (2019) identified nineteen flora taxa (including 8 weeds). The low number of species was attributable to high level of degradation of the road verges, parts of which appear to have been cleared in the past. No priority flora or other flora of conservation significance were found within the application area (Ecoedge, 2019).

As discussed in Principle (b) the application area is not likely to comprise significant habitat for conservation significant fauna species.

As discussed in Principle (c) no threatened flora is, or is likely to occur within the application area given the degraded to completely degraded vegetation condition.

As discussed in Principle (d), the closest ecological community is the Commonwealth listed threatened ecological community (TEC) Eucalypt woodlands of the Western Australian Wheatbelt which is also the State listed Priority ecological community (PEC). This ecological community is located approximately 140 metres southwest of the application area. Noting a portion of the application area has an overstorey of *Eucalyptus wandoo,* because of its degraded condition it is not likely to meet the criteria of the State-listed “Eucalypt Woodlands of the Western Australian Wheatbelt’ PEC (Ecoedge, 2019).

Noting that the vegetation contains minimal floristic diversity predominantly comprising wandoo and *Allocasuarina* spp., the application area is not a significant habitat for fauna and is not likely to be classified as PEC, the application area is not likely to comprise a high level of biological diversity.

Given the above, the proposed clearing is not likely to be at variance to this 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.

Proposed clearing is not likely to be at variance to this Principle

According to available databases, four fauna species listed under the Wildlife Conservation (Specially Protected Fauna) Notice 2017 have been recorded within the local area (DPaW, 2007-). These are Carnaby's cockatoo (*Calyptorhynchus latirostris*), Burrowing Bettong (inland) (*Bettongia lesueur* subsp. *graii*), numbat (*Myrmecobius fasciatus*) and red-tailed phascogale (*Phascogale calura*).

Black cockatoos breed in large hollow-bearing trees, generally within woodlands or forests or in isolated trees (Commonwealth of Australia, 2012). These species nest in hollows in live or dead trees of karri, marri, wandoo, tuart, salmon gum, jarrah, flooded gum, York gum, powder bark, bullich and blackbutt (Commonwealth of Australia, 2012). Potential nesting trees for black cockatoos are defined as “trees of species known to support breeding within the range of the species which either have a suitable diameter at breast height (DBH) to develop a nest hollow. For most tree species, suitable DBH is 500 millimetres”. For salmon gum and wandoo, suitable DBH is 300 millimetres (Commonwealth of Australia, 2012).

A fauna survey undertaken in April 2019 by Ecoedge (2019) identified 53 habitat tree with the application area which has a DBH greater than 300 millimetres. Of these trees, 46 of them are about 8-10 metres from the road centreline, and hence are considered the least likely trees to require removal. The remaining 7 trees are about 6 or 7 metres from the existing road centreline. These may or may not require removal depending on their actual position in relation to proposed road works. None of these closer trees contain hollows or apparent hollows. Most of the hollows or apparent hollows appeared to only have small (<10 centimetres) entrances into hollows unlikely to accommodate a cockatoo and no evidence of use was apparent. One tree was found to contain a large chimney style hollow but it has been deemed unsuitable for black cockatoo given its position at about 2 metres from ground level making it unfavourable for nesting. The hollow showed no signs of use by any fauna. This tree is also about 9 metres from the road centreline, and is therefore unlikely to require removal. Noting the above, none of the habitat trees were identified as containing hollows suitable for, or in use by Carnaby’s cockatoos (Ecoedge, 2019)

Black cockatoos have a preference for foraging habitat that includes jarrah and marri woodlands and forest heathland and woodland dominated by proteaceous plant species such as Banksia sp., Hakea sp. and Grevillea sp. (Commonwealth of Australia 2012). Given the vegetation types present within the application area, the application area comprises of suitable foraging habitat for black cockatoos. However, noting the extent of the proposed clearing and that no evidence of foraging was observed during the fauna survey (Ecoedge, 2019), the proposed clearing is unlikely to have a significant impact on black cockatoo foraging habitat.

Burrowing Bettong (inland) is listed as presumed extinct under the *Biodiversity Conservation Act 2016* within the Wildlife Conservation (Specially Protected Fauna) Notice 2018. The species was once common over a large part of Australia, from west of the Great Dividing Range to coastal Western Australia. The habitat of the Burrowing Bettong (inland) ranged from open eucalypt or acacia woodland with a grass and shrub understorey to sand ridge desert with spinifex hummocks and sparse shrubs. Favoured habitats are loamy soils and outcrops of limestone of gypseous rock and rises in salt-lake systems (Department of the Environment, 2019). Noting this, the vegetation condition within the application and its isolation from any larger remnant of better quality of native vegetation, the application area is unlikely to comprise suitable habitat for burrowing bettong (inland).

The preferred habitat of the numbat includes hollow horizontal logs, heavy leaf litter, and rocky crevices. None of these habitat features were observed within the application area (DWER, 2018; Ecoedge 2019). Noting this, the application area is not likely to contain suitable habitat for the numbat.

The preferred habitat of the red-tailed phascogale is *Allocasuarina* spp. woodlands with hollow-bearing *Eucalyptus* spp.. The application area includes Allocasuarina species and two eucalypt trees containing hollows were observed (DWER, 2018). The fauna survey conducted by Ecoedge (2019) did not observe any evidence of red-tailed phascogales utilising the vegetation within the application area. Camera traps set up for a period of one month did not detect any evidence of phascogale activity. Noting the vegetation condition within the application and its isolation from any larger remnant of better quality of native vegetation, it is unlikely that the trees within the application area provide significant habitat for the red-tailed phascogale.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

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

Proposed clearing is not likely to be at variance to this Principle

According to available data bases, two threatened flora species have been recorded within the local area:

- *Acacia insolita* subsp. *recurva* has been recorded approximately 9.4 kilometres from the application area. This species is known from nine records from the Shires of Cuballing and Wickepin, and is typically associated with lateritic ridges (Western Australian Herbarium, 1998-). The DWER site inspection (2018) as well as the Ecoedge flora survey (2019) confirmed that the vegetation within the application area predominantly comprised wandoo and *Allocasuarina* spp. over introduced grasses/bare soil and therefore no impacts to this species are expected (DWER, 2018). Department of Biodiversity Conservation and Attractions’ (DBCA) advice (2018a) for the immediately adjacent section of Stratherne road stated that based on desktop information this species was considered unlikely to occur within the application area given its habitat preference (DBCA, 2018a). Noting that the adjacent section of Stratherne road and the application area have the same vegetation and soil type, this advice is applicable for the proposed clearing.

- *Banksia cuneata* has been recorded approximately 9.4 kilometres from the application area. This species is known from 50 records from the Shires of Brookton, Bruce Rock, Cuballing and Quairading, and is typically associated with grey, yellow or yellow-brown sands (Western Australian Herbarium, 1998-). DBCA (2018a) advised for the immediately adjacent section of Stratherne road that based on desktop information this species was considered unlikely to occur within the application area due to the soil type and landscape position being unsuitable. Noting that the adjacent section of Stratherne road and the application area have the same vegetation and soil type, this advice is applicable for the proposed clearing.

The flora survey conducted by Ecoedge (2019) identified nineteen flora taxa (including 8 weeds). The low number of species was attributable to high level of degradation of the road verges, parts of which appear to have been cleared in the past. No threatened flora were identified within the application area (Ecoedge, 2019).

Given the above, the proposed clearing is not likely to be at variance to this 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.

Proposed clearing is not likely to be at variance to this Principle
According to available databases, no TEC's have been mapped within the application or the local area.

The 'Eucalypt woodlands of the Western Australian Wheatbelt', listed as 'Priority 3(iii)' by DBCA, and as an 'Critically endangered' TEC under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) is mapped approximately 140 metres southwest of the application area.

The condition thresholds for the TEC outlined in the '*EPBC Act Approved Conservation Advice (including listing advice) for the Eucalypt Woodlands of the Western Australian Wheatbelt*' states that roadside patches must be 5 metres or more in width to qualify as the TEC (Threatened Species Scientific Committee, 2015). Given the condition of the vegetation and width of the roadside patches being less than 5 metres, the trees proposed to be cleared are not likely to comprise this TEC (DWER, 2019; Ecoedge 2019). Therefore, the application area is unlikely to comprise the whole or part of, or be necessary for the maintenance of a threatened ecological community.

Given the above, the proposed clearing is not likely to be at variance to this 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.

Proposed clearing is at variance to this Principle
The National Objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The application area is located within the Avon Wheatbelt IBRA bioregion. This IBRA bioregion has approximately 18.5 per cent of its pre-European vegetation extent remaining (Government of Western Australia, 2019).

The application area is also mapped in the following Beard vegetation association:
- 1023 which retains approximately 10.84 per cent of its pre-European vegetation.

The local area retains approximately 15.58 per cent native vegetation (approximately 5,219 hectares).

Noting this and the cumulative impact of clearing within Stratherne Road reserve under CPS 7870/1, the vegetation proposed to be cleared is considered a significant remnant within extensively cleared area.

Given the above, the proposed clearing is at variance to this Principle.

An offset to conserve 0.37 hectares of Crown Reserve 2556 is considered to address the residual impacts to clearing a significant remnant in an extensively cleared area.

Table 1 Native vegetation statistics

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DBCA Managed Lands (%)
IBRA Bioregion*				
Avon Wheatbelt	9,517,109.95	1,761,187.42	18.51	1.84
Beard vegetation association in Bioregion*				
1023	1,522,680.40	165,123.60	10.84	1.13

* Government of Western Australia. (2019). 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth.

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

Proposed clearing is at variance to this Principle

According to available databases, a minor, non-perennial watercourse (ID 20506) has been mapped in the application area. The presence of a watercourse was confirmed by DWER (2018) site inspection. The watercourse intersects the application area in its north eastern portion.

No distinctive riparian vegetation was recorded during the site inspection, however vegetation within the application area is considered to be growing in association with this wetland. Therefore the proposed clearing is at variance to this Principle.

Noting the type and condition of the vegetation within the application area and the small amount of vegetation to be cleared, the impacts are not likely to be significant.

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Proposed clearing is not likely to be at variance to this Principle

Primary soils within the application area are mapped by the DPIRD (2019) and described as:

- Noombling Subsystem (Dryandra), which is mapped across approximately 87 per cent of the application area, and is described as Long gentle and undulating hillslopes and divides. Colluvium / weathered granite, gneiss and some dolerite. Yellow/brown and grey deep sandy duplexes, brown deep loamy duplexes, sandy gravels and shallow duplexes. Marri-Wandoo / Jam-Sheoak; and
- Popanyinning Subsystem (Pumphreys), which covers approximately 13 per cent of the application area, and is described as Broad valley floor; yellow duplex soils and a narrow lower sandy terrace, spoadic sand dunes

Table 2 Risk degradation summary

Risk categories	Noombling Subsystem (Dryandra)	Popanyinning Subsystem (Pumphreys)
Wind erosion	10-30% of map unit has a high to extreme wind erosion risk	10-30% of map unit has a high to extreme wind erosion risk
Water erosion	3-10% of map unit has a high to extreme water erosion risk	10-30% of map unit has a high to extreme water erosion risk
Salinity	10-30% of map unit has a moderate to high salinity risk or is presently saline	10-30% of map unit has a moderate to high salinity risk or is presently saline
Subsurface Acidification	10-30% of map unit has a high subsurface acidification risk or is presently acid	10-30% of map unit has a high subsurface acidification risk or is presently acid
Flood risk	<3% of the map unit has a moderate to high flood risk	10-30% of the map unit has a moderate to high flood risk
Water logging	<3% of map unit has a moderate to very high waterlogging risk	10-30% of map unit has a moderate to very high waterlogging risk
Phosphorus export risk	10-30% of map unit has a high to extreme phosphorus export risk	10-30% of map unit has a high to extreme phosphorus export risk

As described in Table 2, the mapped soil types do not pose high land degradation risk. Noting this, the extent of the proposed clearing and the condition of the vegetation within the application area, the proposed clearing is not likely to cause appreciable land degradation.

Given the above, the proposed clearing is not likely to be at variance to this 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.

Proposed clearing is not likely to be at variance to this Principle

According to available databases, a number of privately managed and Department of Biodiversity, Conservation and Attractions (DBCA) managed conservation areas occur within the local area. The nearest conservation area is located approximately three kilometres from the application area. The Montague State Forest, Rosedale Nature Reserve, Yornaning Nature Reserve, and an un-named Nature Reserve are located approximately 3.9 kilometres west, approximately 5.6 kilometres south-west, approximately 4.8 kilometres north-west and approximately 6.2 kilometres west of the application area, respectively.

Available aerial imagery indicates that the application area does not function as an ecological linkage between these conservation areas. Noting their distances from the application area, the proposed clearing is not likely to have an impact on the environmental values of these conservation areas.

Given the above, the proposed clearing is not likely to be at variance to this 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.

Proposed clearing is not likely to be at variance to this Principle

As discussed in Principle (f), according to available databases, a minor, non-perennial watercourse (ID 20506) has been mapped in the application area. The presence of a watercourse was confirmed by DWER (2018) site inspection. The watercourse intersects the application area in its north eastern portion. The proposed clearing may increase run-off and sedimentation within the watercourse, however this impact is likely to be minimal and short-term.

Groundwater salinity within the application area is mapped between 7,000-14,000 milligrams per litre total dissolved solids which is considered to be saline and highly saline (Mayer, Ruprecht & Bari, 2005). 10-30 per cent of the Noombling Subsystem (Dryandra) and Popanyinning Subsystem (Pumphreys) map units have a moderate to high salinity risk or is presently saline (DPIRD, 2019). Noting this, the extent of the proposed clearing and the condition of the vegetation within the application area, the proposed clearing is not likely to cause deterioration in the quality of underground water in the form of salinity.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Proposed clearing is not likely to be at variance to this Principle

Less than 3 per cent of the Noombling Subsystem (Dryandra) map unit and between 10-30 per cent of the Popanyinning Subsystem (Pumphreys) map unit has a moderate to high flood risk (DPIRD, 2019). Noting this, the extent of the proposed clearing and the condition of the vegetation within the application area, the proposed clearing is not likely to cause, or exacerbate, the incidence or intensity of flooding.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

Planning instruments and other relevant matters.

No Aboriginal sites of significance have been mapped within the application area.

The clearing permit application was advertised on the DWER website on 3 August 2018 with a 21 day submission period. No public submissions have been received in relation to this application.

5. Applicant's submissions

On 5 October 2018, DWER wrote to the applicant outlining that impacts to the Wheatbelt Woodlands TEC and significant remnant vegetation were identified during the assessment as well as potential impacts to fauna. The applicant was invited to provide additional advice regarding proposed measures to avoid and minimise impacts. Advice was also sought whether the applicant could avoid trees with hollows identified during the DWER site inspection (2018).

On 25 February 2019, the applicant advised that an experienced botanist and zoologist were engaged and are undertaking flora and fauna surveys in support of the clearing permit.

On 10 June 2019, the applicant was invited to provide additional advice regarding proposed measures to avoid and minimise impacts and offset unavoidable impacts.

On 11 June 2019, the applicant advised that they are prepared to relinquish a portion of Crown Reserve 2556 as an offset for the clearing by amending the reserve purpose from 'Gravel' to 'Conservation'. In addition the applicant acknowledged that the proposed clearing has the potential to impact on the environmental values of the adjacent remnant vegetation through increased edge effects and the introduction and spread of weeds and dieback. The applicant committed to reduce these risks by clearing only vegetation that is required to widen the Stratherne Road, purchasing gravel sourced from the area for use as road building materials to limit the risk of introduction and spread of dieback, and continuing the active management of roadside weeds after construction.

6. Consideration of variances following applicant's submission / further information

Given no changes to the application area were proposed by the applicant, the variances against the clearing principles were not updates.

It is noted that upgrades to the road will provide a public benefit including improved road safety.

It is considered that the proposed impacts to significant remnant vegetation are of a scale that can be offset through the conservation of a portion of Crown Reserve 2556 as proposed by the applicant. Further details on the offset are provided in Section 7.

7. Suitability of Proposed Offset

The offset site is located approximately 20 kilometres northeast of the application area. The offset site is mapped as the same Beard vegetation association as the application area and the DWER site inspection identified that it is also dominated by wandoo and *Allocasuarina* spp. (DWER, 2018). It is considered that the offset site contains environmental values that relate to those being lost.

To determine what offset size would be adequately proportionate to the significance of the environmental values being impacted, DWER undertook a calculation using the Commonwealth Offsets Assessment Guide. The calculation indicated that the conservation of 0.37 hectares is required. The applicant has agreed to relinquish a 0.37 hectare portion of Crown Reserve 2556.

Given the above, the conservation of 0.37 hectares of Crown Reserve 2556 is considered adequate to counterbalance the significant residual impacts of the proposed clearing consistent with the *WA Environmental Offsets Policy September 2011*.

8. References

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GIS databases:

- CPS Areas applied to clear
- NatureMap (conservation significant fauna)
- DAFWA Subsystems V5
- Soils of WA
- Vegetation Complexes – Swan Coastal Plain
- Managed Tenure
- Environmentally Sensitive Areas
- TPFL Data March 2019
- WAHerb Data March 2019
- Aboriginal Sites Register
- IBRA Vegetation WA
- WA TECPEC
- Land Degradation Hazards