GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 7534/1
Permit Holder:	Shire of Goomalling
Duration of Permit:	23 March 2019 to 23 March 2029

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 and reconstruction.

2. Land on which clearing is to be done
Goomalling-Meckering Road reserve (PINS 11719685, 11719266, 11721873, 11719252, 11719764, 11719253, 11719249, and 11719686), Hulongine and Ucarty West.

3. Area of Clearing
The Permit Holder must not clear more than 2.55 hectares of native vegetation within the area shaded yellow on attached Plan 7534/1(a).

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. 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*:

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
(b) ensure that no *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 – Crown Reserve 4237

By 23 March 2020, the Permit Holder shall provide to the *CEO* a copy of the executed change in purpose of Crown Reserve 4237 from 'gravel' to 'conservation'.

9. Offset – Offset Revegetation Plan

Within 12 months of the commencement of clearing, the Permit Holder shall implement and adhere to the *Offset Revegetation Plan for Clearing Permit CPS 7534/1 on Goomalling / Meckering Rd – from SLK 0.00 – 8.00 (Rev1)*, including but not limited to the following actions;

(a) commence *revegetating* and *rehabilitating* the areas hatched red on Plan 7534/1(b) by;
  (i) laying the spoil and topsoil located in situ within Crown Reserve 4237;
  (ii) deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to the *control sites*; and
  (iii) ensuring only *local provenance* seeds and propagating material are used to *revegetate* and *rehabilitate* the area.
(b) establish five 10x10 metre quadrat monitoring sites within the *rehabilitated* area;
(c) water planted vegetation between November and March for the first two years post planting;
(d) fence the *rehabilitated* and *revegetated* area;
(e) implement hygiene protocols by cleaning earth-moving machinery of soil and vegetation prior to entering and leaving the site;
(f) undertake weed control activities on an 'as needs' basis to maintain a minimum 80 per cent weed free state by the end of the project maintenance period;
(g) achieve the following completion criteria after the 10 year monitoring period for areas *revegetated* and *rehabilitated* under this Permit;

Criterion	Aspect	Completion targets	Completion criteria	Monitoring
1	Species richness	Species richness of 10 within the *revegetation* area.	Species richness and number of plants/m^2 in the revegetation areas is at least 80 per cent of that obtained by the average recorded at the *control sites*.	The species and number of plants/m^2 in the revegetation areas will be counted in years 2, 4, 6, 8 and 10.
2	Per cent cover of weeds.	Weeds are on average, in low density at the control sites. A target of <=20 per cent of weed cover has been established for the revegetation.	The revegetation areas have <=20 per cent cover of weeds.	Monitor revegetation areas in years 2, 4, 6, 8 and 10.
3	No declared weeds are present.	Declared Weeds are managed in accordance with the *Biosecurity and Agriculture Management Regulations 2013*	Declared weeds are absent from the rehabilitation.	Monitor the revegetation site for declared weeds by traversing the areas in years 2, 4, 6, 8 and 10.
4	Survival rate to be achieved.	If after planting a survival rate of at least 75 per cent is not achieved, all planted tubestock that have not survived must be replanted within 12 months and monitored for a further 2 years.	The *revegetation* area needs to ensure a survival rate of at least 75 per cent of the species planted is achieved after 10 years, and replant any plants within 12 months of dying.	The number of surviving plants in the *revegetation* areas will be counted in years 2, 4, 6, 8 and 10.

Criterion	Aspect	Completion targets	Completion criteria	Monitoring
5	Target structure	Target structure to be similar to the average structure of the *control sites*.	The rehabilitation area contains the following structure: • Overstorey = 40 per cent • Midstorey = 40 per cent • Understorey = 20 per cent.	Target structure to be assessed in years 2, 4, 6, 8 and 10.
6	Vegetation Condition	Revegetation to good condition	Revegetation area is in good condition	Vegetation condition to be assessed in years 2, 4, 6, 8 and 10.

(h) undertake remedial actions for areas *revegetated* and *rehabilitated* where monitoring indicates that *revegetation* has not met the completion criteria, outlined in 9(g), including;
  (i) *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in the minimum target in 9(g) and ensuring only *local provenance* seeds and propagating material are used;
  (ii) undertake further weed control activities; and
  (iii) biennial monitoring of the *revegetated* and *rehabilitated* site, until the completion criteria, outlined in 9(g) are met.

PART III - RECORD KEEPING AND REPORTING

10. Records must be kept

The Permit Holder must maintain the following records for activities done in 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;
  (ii) the date that the area was cleared; and
  (iii) the size of the area cleared (in hectares).

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

(c) Actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 7 of the Permit;

(d) The date the management order was amended to include 'Conservation' in accordance with condition 8 of the Permit; and

(e) In relation to the revegetation of areas pursuant to condition 9 of this Permit:
  (i) a description of the *revegetation* and *rehabilitation* activities undertaken;
  (ii) the size of the area *revegetated* and *rehabilitated* (in hectares); and
  (iii) the date that the area was *revegetated* and *rehabilitated*.

11. Reporting

(a) The Permit Holder must provide to the *CEO* on or before 30 June of each year, a written report:
  (i) of records required under condition 10 of this Permit; and
  (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.

(b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar, a written report confirming that no clearing under this permit has been carried out, must be provided to the *CEO* on or before 30 June of each year.

(c) Prior to 23 October 2028, the Permit Holder must provide to the *CEO* a written report of records required under condition 10 of this Permit where these records have not already been provided under condition 11(a) of this Permit.

DEFINITIONS

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

CEO means the Chief Executive Officer of the Department responsible for administering the clearing provisions contained within the *Environmental Protection Act 1986;*

control sites means the five (5) 10m x 10m quadrat control sites that were identified along Patterson Rd verge within 150 meters of the *revegetation* and *rehabilitation* area to identify remnant native vegetation species composition and structure, condition, density and weed cover;

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

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

local provenance means native vegetation seeds and propagating material from natural sources within 100 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared;

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;

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

regenerate/ed/ion means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) contained either within the topsoil or seed-bearing *mulch*;

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area;

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area; and

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 Regional Weed Rankings Summary, regardless of ranking; or
(c) not indigenous to the area concerned.

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Mathew Gannaway
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

21 February 2019

Plan 7534/1(a)

Legend

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

Image

0 1 2 3 km

N

MGA 94
Geocentric Datum of Australia 1994

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

GOVERNMENT OF WESTERN AUSTRALIA

Plan 7534/1(b)

Legend

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

Image

N

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MGA 94
Geocentric Datum of Australia 1994

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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.: 7534/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Shire of Goomalling

1.3. Property details

Property: Road Reserve - 11719685, Ucarty West
Road Reserve - 11719266, Hulongine
Road reserve - 11721873, Ucarty West
Road reserve - 11719252, Hulongine
Road Reserve - 11719764, Ucarty West
Road reserve - 11719253, Hulongine
Road reserve - 11719249, Hulongine
Road reserve - 11719686, Hulongine.
Local Government Authority: Shire of Goomalling
Locality: Ucarty West, Hulongine

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.55		Mechanical Removal	Road construction or upgrades

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 20 February 2019
Reasons for Decision:

The clearing permit application was received on 20 March 2017 and 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), may be at variance to Principles (b) and (h), and is not likely to be at variance to any of the other clearing Principles.

Through the assessment, the Delegated Officer has determined that the proposed clearing will impact on vegetation growing in association three minor non-perennial watercourses. The Delegated Officer noted the degraded to completely degraded condition of the vegetation and extent of riparian vegetation proposed for clearing, limited to a maximum width of three metres on one side of the road. Impacts to riparian habitat is considered to be minimal.

The Delegated Officer also determined that the proposed clearing may cause the spread of weeds into adjacent areas of remnant vegetation. To mitigate potential impacts to adjacent remnant vegetation, a weed management condition has been placed on the permit. The weed management condition requires earth-moving machinery to be clean of weeds when entering and exiting the clearing area, ensure that no *weed*-affected soil, mulch, fill or other material is brought into the area to be cleared and restrict the movement of machines and other vehicles to the limits of the area to be cleared.

The Delegated Officer determined that the proposed clearing is likely to have a significant environmental impact considering the loss of remnant vegetation within an extensively cleared area which supports an ecological corridor and habitat for fauna of conservation significance.

Consistent with the WA Environmental Offset Policy (2011) and WA Environmental Offsets Guidelines (2014), and pursuant to section 51I(2)(b) of the EP Act, in order to mitigate the significant environment impacts described above, the Permit Holder is required to provide an offset that comprises of the transfer of Crown Reserve 4237 from ‘gravel’ to ‘conservation’, and revegetation as per the approved offset revegetation plan.

The Delegated Officer has granted the clearing permit subject to conditions requiring weed management measures and the implementation of an offset.

2. Site Information

Clearing Description

The applicant proposes to clear 2.55 hectares of native vegetation within Goomalling-Meckering Road reserve, for the purpose of road widening and reconstruction (Figure 1).

The proposed clearing is largely confined to the western side of the road (98 per cent) which would be cleared to a maximum width of three metres.

Vegetation Description

The application area is mapped as Beard vegetation association 1049, which is described as medium woodland; wandoo, York gum, salmon gum, morrel and gimlet (Shepherd *et al*., 2001).

A site inspection identified that the application area comprises tall shrubland of jam (*Acacia acuminata*) with scattered areas of medium woodland comprising York gum (*Eucalyptus loxophleba*). The application area includes occasional scattered salmon gum (*Eucalyptus salmonophloia*) and *Allocasuarina* sp. trees. The native understorey vegetation was sparse, with very scattered native shrubs amongst the dominant invasive grasses (DWER, 2017a).

Soil/Landform Type:

Two main soil types have been mapped in the application area:

- Ub98: Hilly with granitic and gneissic rock outcrops: chief soils are hard neutral yellow mottled soils. Small areas of other soils are likely. As mapped, small areas of unit Ms8 may be included.
- Va63: Valley plains and terraces: chief soils are hard alkaline yellow mottled soils. Associated are small areas of a range of soils including laterite or large amounts of ironstone gravels.

Vegetation Condition

The application area has been determined to be in a degraded to completely degraded condition, described as:

- 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).

Comment

The condition and description of the vegetation within the application area was determined via a site inspection undertaken by officers of the former Department of Environment Regulation (now Department of Water and Environmental Regulation [DWER]) on 22 May 2017 (DWER, 2017a).

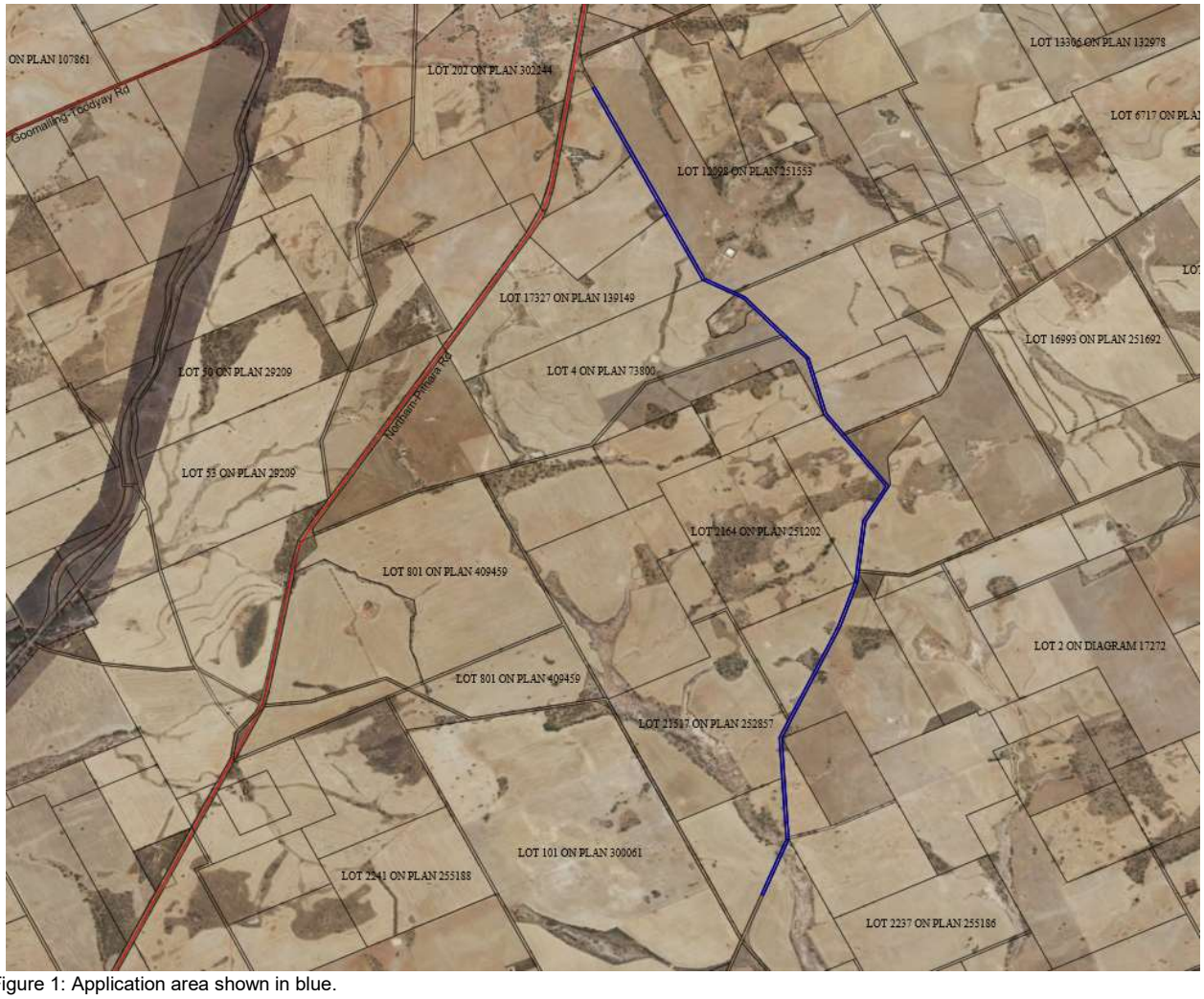

Figure 1: Application area shown in blue.

3. Minimisation and mitigation measures

The applicant proposes to clear within the Goomalling-Meckering Road reserve for widening and reconstruction, to achieve a total clearance area of 14 linear metres for road carriageway and table drains. The applicant intends on shifting the road centreline to the western and southern direction (approximately 98 per cent will be on one side of the road only) by one metre to limit the extent of clearing, with a maximum proposed clearing width of three metres.

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 vegetation within the application area is considered to be in a degraded to completely degraded (Keighery, 1994) condition, with the understorey dominated by non-native grasses (DWER, 2017a). The majority of the application area comprises tall shrubland of *Acacia acuminata* with scattered areas of medium woodland comprising *Eucalyptus loxophleba*. The application area includes occasional scattered *Eucalyptus salmonophloia* and *Allocasuarina* sp. (DWER, 2017a). The native understorey vegetation was sparse, with very scattered native shrubs amongst the dominant invasive grasses. Native understorey species included *Hakea* sp., *Maireana* sp., and species from the family Chenopodiaceae (DWER, 2017a).

According to available datasets there are records of nine priority flora species within the local area (10 kilometre radius of the application area) of which eight of these are mid to understorey species (largely shrubs) (Western Australian Herbarium, 1998-). Noting that the application area is in a degraded to completely degraded (Keighery, 1994) condition, with occasional scattered shrubs amongst invasive grasses which dominate the understorey, the proposed clearing is not likely to contain any priority flora species.

As assessed under Principle (c), the application area is not likely to contain, or provide suitable habitat for any threatened flora species recorded within the local area.

According to available datasets, there are several occurrences of the Eucalypt Woodlands of the Western Australian Wheatbelt ecological community within the local area, which is recognised by the State (as listed by the Department of Biodiversity, Conservation and Attractions [DBCA]) as a Priority 3 Ecological Community and federally as Critically Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). As assessed under Principle (d), the vegetation within the application area is not considered to be representative of this ecological community (DWER, 2017a), and the proposed clearing is unlikely to impact on any occurrences of this community.

As assessed under Principle (b), portions of the application area provide suitable foraging habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*). Noting that suitable foraging habitat is limited to scattered areas of *Eucalyptus loxophleba* woodland and occasional *Eucalyptus salmonophloia* trees, with clearing largely limited to one side of the road, the application area is unlikely to provide significant foraging habitat for Carnaby's cockatoo. A site inspection of the application area did not identify suitable current breeding habitat for this species (DWER, 2017a).

Noting the condition of the vegetation within the application area, and that the application area is unlikely to contain conservation significant flora or fauna or comprise of a threatened or priority ecological community, 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 may be at variance to this Principle

According to available datasets, there are records of five conservation significant fauna species within the local area, being, Carnaby's cockatoo, chuditch (*Dasyurus geoffroii*), shield-backed trapdoor spider (*Idiosoma nigrum*), bilby (*Macrotis lagotis*) and numbat (*Myrmecobius fasciatus*) (Parks and Wildlife, 2007-).

Given the degraded to completely degraded (Keighery, 1994) condition of the vegetation within the application area, and lack of discrete habitat features for terrestrial fauna, such as hollow horizontal logs, heavy leaf litter or rocky crevices (DWER, 2017a), the application area is considered to provide suitable habitat for one of the abovementioned species, being Carnaby's cockatoo.

Carnaby's cockatoo is classified as Endangered fauna within the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* under the *Biodiversity Conservation Act 2016* and Endangered under the EPBC Act. Carnaby's cockatoo forage on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (*Banksia*, *Hakea*, *Grevillea*), Eucalypts, *Corymbia* species and a range of introduced species (Valentine and Stock, 2008).

The application area contains suitable foraging habitat for Carnaby's cockatoo, largely in the form of scattered *Eucalyptus loxophleba* trees and the occasional *Eucalyptus salmonophloia* trees (DWER, 2017a). Noting the largely scattered occurrence of suitable foraging habitat, and that the majority of proposed clearing is to occur on one side of the road (to a maximum width of three metres), the application area is not likely to comprise significant foraging habitat for Carnaby's cockatoo.

'Breeding habitat' for Carnaby's cockatoo 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. For most tree species, suitable DBH is 500 millimetres (Commonwealth of Australia, 2012). The application area contains 13 trees with a DBH of greater than 500 millimetres. None of these trees contained hollows suitable for breeding for Carnaby's cockatoo (DWER, 2017a).

DBCA undertook a site inspection of the application area and advised that "no Carnaby's cockatoo…birds were observed feeding, nesting or roosting…during the onsite assessment" (Parks and Wildlife, 2017).

The local area has been extensively cleared (refer to Principle (e)). Aerial imagery indicates that the application area functions as an ecological linkage between areas of remnant vegetation in the local area, and is likely to facilitate landscape connectivity and contribute to fauna dispersal between larger isolated bushland fragments in an extensively cleared landscape. While it is noted that clearing will largely occur on the western side of the road (98 per cent) to a maximum width of three metres, given the context of the landscape, it is considered that the application area may be critical for the survival of fauna species within the local area and broader region.

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

To counterbalance the significant residual impacts the proposed clearing will have on the native vegetation, an offset has been proposed to transfer Crown Reserve 4237 from 'gravel' to 'conservation', and revegetation as per the offset revegetation plan.

(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 datasets, there are two species of threatened flora mapped within the local area.

Grevillea christineae is an erect wiry shrub that grows to between 0.5 and 0.6 metres high within moist clay loam and sandy clay soils (Western Australian herbarium, 1998-). The closest record of this species is approximately 8.8 kilometres west of the application area. This record was identified growing within pale brown sandy clay, on a slope in a drainage line amongst woodland of *Acacia acuminata* and *Eucalyptus loxophleba* over open shrubs to one metre beneath.

Caladenia drakeoides is a tuberous, perennial, herb that grows between 0.12 and 0.3 metres high within grey clay sands or red sandy loams in damp situations often on the margins of salt lakes (Western Australian Herbarium, 1998-). The closest record of this species is approximately 2.5 kilometres north of the application area. This record was identified growing within damp sand near a saline watercourse amongst *Callitris preissii* with *Caladenia doutchiae*, *Caladenia flava* and *Caladenia gemmata*.

The majority of the application area is dominated by invasive grasses and lacks native understorey vegetation, and with the exception of three small areas intersected by minor watercourses (which were dry at the time of inspection), wet soils were not identified on site (DWER, 2017a). Minimal clearing of any understorey vegetation within or around the watercourses is proposed, and the application area is not likely to include the abovementioned threatened flora species.

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 datasets the closest recorded threatened ecological community (TEC) to the application area is known as the Eucalypt Woodlands of the Western Australian Wheatbelt (Eucalypt Woodlands), mapped approximately 360 metres west of the northern section of the application area. There are several mapped occurrences of this TEC within the local area.

The approved conservation advice for this TEC states that these woodlands are dominated by a complex mosaic of eucalypt species with a tree or mallet form over an understorey that is highly variable in structure and composition (Threatened Species Scientific Community, 2015).

As discussed within Principle (a), *Acacia acuminata* woodland is the dominant vegetation type within the application area, with scattered areas of *Eucalyptus loxophleba* woodland over an understorey dominated by invasive grasses in a degraded to completely degraded (Keighery, 1994) condition (DWER, 2017a).

One of the contra-indicators for the Eucalypt Woodlands community outlined within the approved conservation advice is "a dominant presence of non-eucalypt species in the tree canopy, for instance *Acacia acuminata* (jam) or *Allocasuarina huegeliana* (rock sheoak)" (Threatened Species Scientific Community, 2015). Noting that the *Acacia acuminata* woodland is the dominant vegetation type, the application area is not considered to be representative of this TEC. Furthermore, the vegetation condition does not meet the minimum vegetation condition thresholds to be considered an occurrence of this TEC, with the minimum vegetation condition considered for this TEC being good to degraded (Threatened Species Scientific Community, 2015).

Given the above, the application area is not likely to comprise the whole or a part of, or be necessary for the maintenance of a TEC and 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 Interim Biogeographic Regionalisation of Australia (IBRA) Bioregion which retains 18.51 per cent of its pre-European vegetation extent (Government of Western Australia, 2018). The Beard

vegetation association (1049) mapped over the application area retains 6.8 per cent of its pre-European vegetation extent within the Avon Wheatbelt Bioregion.

The local area retains approximately 16 per cent vegetation cover, which the application area represents approximately 0.034 per cent of the remaining vegetation within the local area and the proposed clearing would reduce the extent of native vegetation within the local area to 38,925 hectares.

Noting the current vegetation extents for the bioregion, and mapped Beard vegetation association (1049) within the bioregion and local area, which are all below the 30 per cent threshold, the application area is considered to be within an extensively cleared area.

While Beard vegetation association 1049, described as medium woodland; wandoo, York gum, salmon gum, morrel & gimlet (Shepherd et al., 2001), has been extensively cleared within the Bioregion, the application area is dominated by woodland of *Acacia acuminata* with some areas of York gum woodland, and is therefore not considered truly representative of this vegetation type.

As discussed under Principle (b), the vegetation within the application area provides an ecological linkage between areas of remnant vegetation in the local area, and is likely to facilitate landscape connectivity and contribute to fauna dispersal between larger isolated bushland fragments in an extensively cleared landscape. Therefore the vegetation within the application area is considered to be significant as a remnant with an extensively cleared area.

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

To counterbalance the significant residual impacts the proposed clearing will have on the native vegetation remaining within the local area, an offset has been proposed to transfer Crown Reserve 4237 from 'gravel' to 'conservation', and revegetation as per the offset revegetation plan.

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed lands (ha)	Extent remaining in all DBCA managed lands (proportion of Pre-European extent) (%)
IBRA bioregion:					
Avon Wheatbelt	9,517,110	1,761,226	18.51	174,961	9.93
Beard vegetation association in IBRA bioregion:					
1049 (Avon Wheatbelt)	833,385	56,618	6.8	3,375.83	5.96

(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

The application area is intersected by three minor non-perennial watercourses, which all occur within the southern portion of the application area. There are no wetlands or major watercourses mapped within the application area.

Riparian vegetation in the form of samphire shrubs were identified growing in association with the southernmost of these watercourses next to a culvert in the road, therefore the application area contains vegetation growing in association with a watercourse (DWER, 2017a).

Given the above, the proposed clearing is at variance to this Principle. The vegetation associated with these watercourses is considered to be in a degraded to completely degraded (Keighery, 1994) condition, and noting that the proposed clearing will be limited to three metres on one side of the road at these three locations, impacts to riparian habitats within the local area are expected to be minimal.

(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

The application area has been mapped (by the former Department of Agriculture and Food Western Australia) within the following land unit subsystems :

- Greenhills York Subsystem (majority of the application area) which is typified by red soils of the Avon Valley but also includes areas of similar, but often greyer and lighter textured soils to the east of the valley;
- Ewarts 1 Phase which consists of hillslopes containing sand and loamy sand over yellowish clay soils, with some gravel ridges, and some heavier soils that often occur immediately below a breakaway; and
- Greenhills 4 subsystem which comprises tributaries of the Mortlock River, expressing as flat narrow valleys with saline soils, semi-wet soils and grey sandy duplexes, vegetated by Wandoo-Salmon-York Gum woodlands, east of Northam and Beverley.

A site inspection identified that the soils within the application area comprised of loamy sands (DWER, 2017a).

Noting the condition of the vegetation, extent of proposed clearing and the shape of the application area whereby clearing would be confined to one side along an existing road, the proposed clearing is not likely to cause appreciable land degradation in the forms of salinity, wind or water erosion.

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 may be at variance to this Principle

There is one mapped conservation area within the local area, being an un-named nature reserve located 6.9 kilometres south west of the application area. The next closest conservation areas to the application area are two un-named nature reserves located 15 kilometres north east and 17 kilometres east, as well as Eaton Nature Reserve located 16 kilometres east and Walyormourning Nature Reserve located 18 kilometres north.

As discussed within Principles (b) and (e), aerial imagery indicates that the application area functions as an ecological linkage between areas of remnant vegetation in the landscape. While only one of these conservation areas occurs within the local area, given the extent to which the local area, and Bioregion have been previously cleared, the application area may contribute towards fauna dispersal between these conservation areas, and the proposed clearing may therefore impact on the environmental values of these areas.

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

To counterbalance the significant residual impacts the proposed clearing will have on the native vegetation, an offset has been proposed to transfer Crown Reserve 4237 from 'gravel' to 'conservation', and revegetation as per an offset revegetation plan.

(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 under Principle (f), the application area intersects three minor non-perennial watercourses. A site inspection identified that the vegetation within the application area surrounding these watercourses is in a degraded to completely degraded (Keighery, 1994) condition (DWER, 2017a).

Noting the condition of the vegetation surrounding these watercourses, and the minimal extent of vegetation proposed for clearing within close proximity to these watercourses (limited to three metres width on one side of the road), the proposed clearing is not likely to further deteriorate the quality of surface water.

Groundwater salinity over the application area has been mapped between 14,000 and 35,000 milligrams per litre per total dissolved solids (northern and central portion) and greater than 35,000 milligrams per litre total dissolved solids (southern portion). A site inspection identified areas of dryland salinity within paddocks adjacent to the application area (DWER, 2017a). Noting the condition and extent of clearing, the proposed clearing is not likely to result in a significant rise in groundwater levels.

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

The average rainfall of the local area is 400 millimetres per annum. The topography of the application area ranges from 220 to 300 metres above sea level with the lower lying portions associated with the minor watercourses (discussed under Principle (f)). The soils identified within the application area, being loamy sands (DWER, 2017a), are not considered a high risk for flooding given their moderate permeability.

Noting the soil type, vegetation condition, extent of the proposed clearing, linear shape of the application area and relatively low annual rainfall of the local 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.

The application was advertised online for a period of 21 days on 6 April 2017 by the former Department of Environment Regulation, inviting submissions.

One submission was received in relation to the proposed clearing. The submission recommended a number of rural road upgrade practices for the local government to follow, including a number of engineering options, should a clearing permit be approved (Submission, 2017). The Department is unable to assess whether engineering solutions for reducing clearing have been applied. The Department has assessed the potential environmental impacts of the proposed clearing, and it is the Applicant who has the expertise to determine suitable engineering controls.

There are no Aboriginal Sites of Significance mapped within the application area.

5. Offset

While it was acknowledged that the applicant minimised clearing by keeping clearing to one side of the road, it is considered that significant residual environmental impacts remained whereby the proposed clearing would reduce the extent of native vegetation within an extensively cleared landscape and decrease the effectiveness of an ecological linkage, contributing towards landscape fragmentation and limitations in fauna dispersal (DWER, 2017b).

To counterbalance the significant residual impacts the proposed clearing will have on native vegetation, an offset has been proposed to transfer Crown Reserve 4237 from 'gravel' to 'conservation', and revegetation as per an offset revegetation plan.

DWER has assessed the suitability of the offset proposal to counterbalance the impacts using the Commonwealth Offset Assessment Guide calculator and it has been determined that 3.2 hectares of the proposed offset site within Crown Reserve 4237 is adequate to counterbalance the impact of clearing 2.55 hectares of native vegetation within Goomalling-Meckering Road reserves.

The proposed offset comprises the transfer of Crown Reserve 4237 and revegetation of 3.2 ha of native vegetation to good or better condition. The balance of area with Crown Reserve 4237 (0.78 ha) can be banked for other authorised clearing, pending the same revegetation requirements as for this Clearing Permit.

6. References

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GIS Databases:

- SAC Bio Datasets (Accessed June 2017)
- Hydrography, linear
- Department of Agriculture and Food Western Australia Subsystems
- Parks and Wildlife Tenure
- Aboriginal Sites of Significance
- Rainfall – Annual Mean
- Topographical Contours.