



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

<b>Purpose Permit number:</b>	CPS 6100/1
<b>Permit Holder:</b>	Shire of Murray
<b>Duration of Permit:</b>	16 April 2016 – 16 April 2021

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 construction.

**2. Land on which clearing is to be done**

Lot 4857 on Plan 2087, Barragup

**3. Area of Clearing**

The Permit Holder must not clear more than 1.31 hectares of native vegetation within the area hatched yellow on attached Plan 6100/1.

**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 etc 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

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

## 7. Dieback and weed control

When undertaking any clearing or other activity 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 *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. Flora management

- (a) Prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *botanist* to conduct a *targeted flora survey* of the Permit Area for the presence of rare flora listed in the *Wildlife Conservation (Rare Flora) Notice* and *priority flora*.
- (b) Where rare flora or *priority flora* are identified in relation to condition 8(a) of this Permit, the Permit Holder shall engage a *botanist* to map the *critical habitat* of the identified rare or *priority flora* within the Permit Area.
- (c) Prior to undertaking any clearing authorised under this Permit, the Permit Holder shall provide the results of the *targeted flora survey* in a report to the CEO.
- (d) If rare or *priority flora* are identified within the Permit Area, the *targeted flora survey* report must include the following:
  - (i) the location of each rare or *priority flora*, either as the location of individual plants, or where this is not practical, the areal extent of the population and an estimate of the number of plants, 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 species name of each rare or *priority flora*, identified;
  - (iii) the methodology, used to survey the Permit Area and to establish the *critical habitat* of flora;
  - (iv) the extent of the *critical habitat* of the identified rare or *priority flora* shown on a map; and
  - (v) a site description of the *critical habitat* of rare or *priority flora* found.
- (e) Where rare or *priority flora* are identified under condition 8(a) of this Permit, the Permit Holder shall ensure that no clearing of *critical habitat* of the identified rare or *priority flora* occurs, unless first approved by the CEO.

## 9. Surface Water management

Prior to undertaking any clearing authorised under this Permit, the Permit Holder shall:

- (a) prepare a Surface Water Management Plan in order to account for the water quality deterioration risk of clearing and the end land use;
- (b) submit the Surface Water Management Plan to the CEO; and
- (c) implement and adhere to the Surface Water Management Plan submitted under condition 7(b) of this permit.

## DEFINITIONS

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

**botanist:** means a person who holds a tertiary qualification in environmental science or equivalent, and has a minimum of 2 years work experience in identification and surveys of flora native to the bioregion being inspected or surveyed, or who is approved by the CEO as a suitable botanist for the bioregion;

**critical habitat:** means any part of the Permit Area comprising of the habitat of flora or fauna species and its population, that is critical for the health and long term survival of the flora or fauna species and its population;

**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;

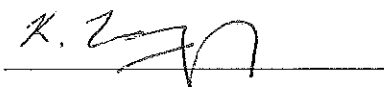
**priority flora** means those plant taxa described as priority flora classes 1, 2, 3, 4 or 5 in the *Department of Parks and Wildlife's Threatened and Priority Flora List for Western Australia* (as amended);

**targeted flora survey:** means a field-based investigation, including a review of established literature, of the biodiversity of flora and vegetation of the Permit Area, focusing on habitat suitable for flora species that are being targeted and carried out during the optimal time to identify those species. Where target flora are identified in the Permit Area, the survey should also include sufficient surrounding areas to place the Permit Area into local context;

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

**Wildlife Conservation (Rare Flora) Notice** means those plant taxa gazetted as rare flora pursuant to section 23F(2) of the *Wildlife Conservation Act 1950* (as amended).

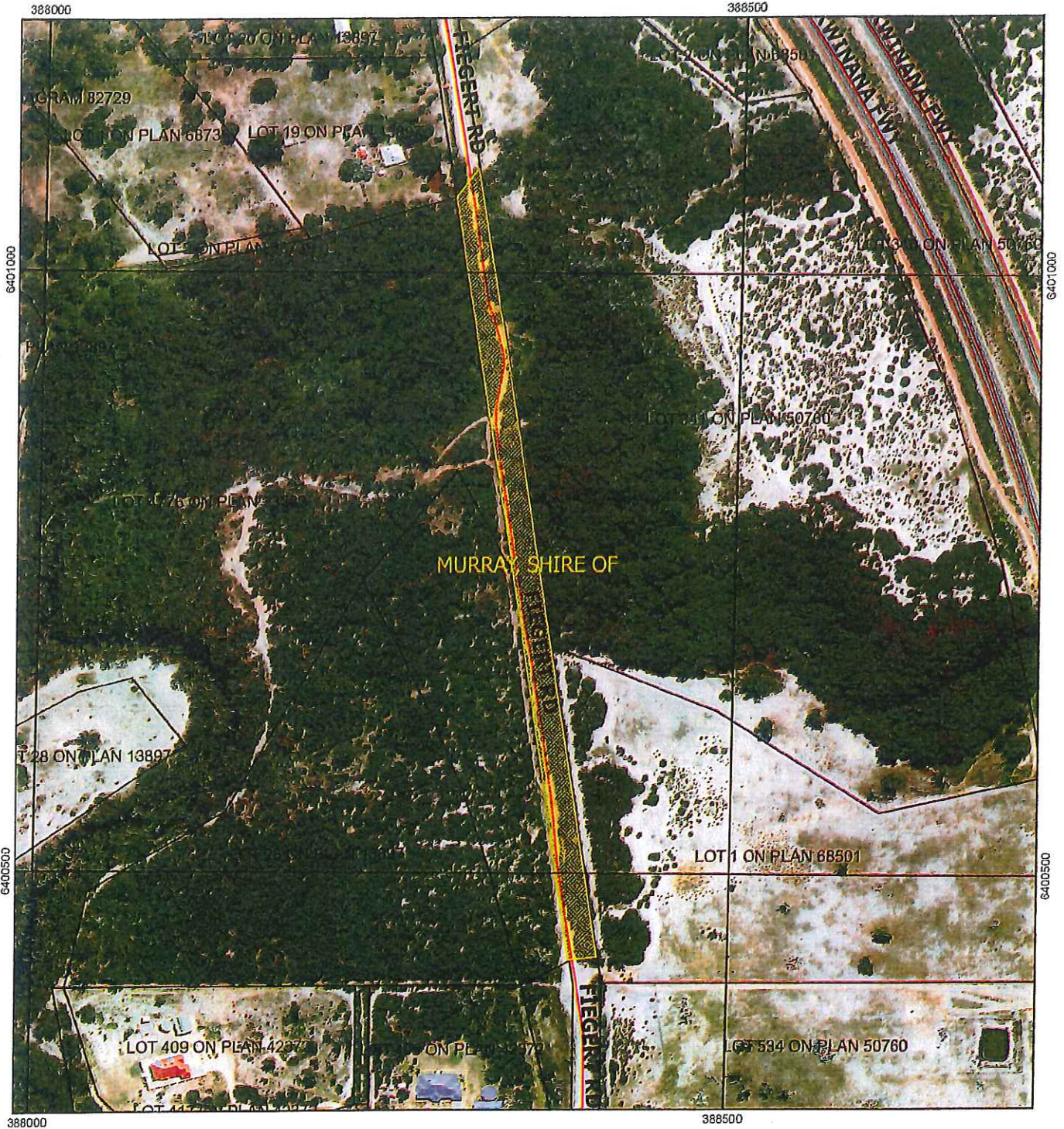


Kerry Laszig  
A/EXECUTIVE DIRECTOR  
LICENSING AND APPROVALS





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

17 March 2016

# Plan 6100/1



**Legend**

-  Areas approved to clear
  -  Roads
  -  LGA
  -  Cadastre
- Virtual Mosaic (LGATE-V001)



1:3,000

MGA 94  
Geocentric Datum of Australia 1994

*K Laszig* Date: 17/03/2016  
K Laszig

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





# Clearing Permit Decision Report

Government of Western Australia  
Department of Environment Regulation

## 1. Application details

### 1.1. Permit application details

Permit application No.: 6100/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Shire of Murray

### 1.3. Property details

Property: LOT 4857 ON PLAN 2087 (BARRAGUP 6209)  
Local Government Area: Shire of Murray

### 1.4. Application

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

### 1.5. Decision on application

Decision on Permit: Granted

Application:

Decision Date: 17 March 2016

Reasons for Decision: The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and has concluded that the proposed clearing is at variance to principles (a) and (f), may be at variance to principles (b), (c), (e), (h) and (i) and is not likely to be at variance to the remaining clearing principles.

Through assessment it has been determined that the clearing will lead to the loss of 1.31 hectares of native vegetation that:

- may contain rare and priority flora; and
- may lead to the deterioration of surface water quality.

To mitigate the potential environmental impacts, prior to undertaking any clearing, the Permit Holder shall:

- Inspect the area for the presence of rare or priority flora;
- Implement and adhere to a Surface Water Management Plan; and
- Implement weed and dieback management procedures.

In deciding to grant the permit the delegated officer also gave consideration to:

- The application area being within a dedicated but unmade road reserve;
- An informal track crosses the application area, currently causing degradation to the application area and surrounding vegetation; and
- formalising and sealing of the road is likely to limit further degradation and deter illegal rubbish dumping.

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
The vegetation under application is mapped as:	To clear 1.31 hectares of native vegetation within Fiegert Road reserve, Barragup, for the purpose of road construction.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994).	The condition of the vegetation under application was determined via a Department of Environment Regulation site inspection (DER, 2014) conducted on 12 June 2014.
• Beard vegetation association 968 which is described as medium woodland; jarrah, marri and wandoo (Shepherd et al., 2001);		To	
• Beard vegetation association 1000 which is described as medium forest; jarrah-marri / low woodland; banksia / low forest, teatree (Melaleuca spp.) (Shepherd et al., 2001); and			

- Heddle vegetation association Bassendean complex central and/south. Vegetation ranges from woodland of *Eucalyptus marginata* (Jarrah) - *Allocasuarina fraseriana* (Sheoak) - *Banksia* species to low woodland of *Melaleuca* species, and sedgeland on the moister sites. (Heddle et al., 1980).

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994).

### 3. Assessment of application against Clearing Principles

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

##### Comments Proposed clearing is at variance to this Principle

The application is to clear 1.31 hectares of native vegetation within Lot 4857 on Plan 2087 (Fiebert Road reserve), Barragup, for the purpose of road construction. Once undertaken the proposed works will join the two ends of the road that currently end in cul-de-sacs. Informal tracks are currently being used to traverse the area resulting in degradation of both the application area and the adjoining proposed conservation reserve. The informal track is two lanes wide at some points within the area (DER, 2014).

A flora survey of the application area (Bennett Environmental Consulting Pty Ltd, 2015) recorded two vegetation associations:

- Dense thicket of *Kunzea glabrescens* over herbs of *Phlebocarya ciliata* over very open low sedges of *Hypolaena exsulca*; and
- Forest of *Eucalyptus rudis* subsp. *rudis* and *Melaleuca raphiophylla* over very open herbs of *Opercularia hispidula* over very open tall sedges of *Lepidosperma longitudinale* over dense ferns of *Pteridium esculentum*.

The local area (10 kilometre radius) surrounding the application retains approximately 15 per cent native vegetation. Within defined constrained areas on the Swan Coastal Plain, the Environmental Protection Authority has set a target for retention of 10 per cent of the pre-clearing extent of each native vegetation complex (EPA, 2008). The area under application is classified as a constrained area.

Nambeelup Brook flows through the application area and into Black Lake, which is located approximately 500 metres to the west of the application area.

Black Lake is hydrologically connected to Goegrup Lake in the west. The Department of Parks and Wildlife (2014) is currently investigating an extension to the Peel-Yalgroop System Ramsar site with the view to include Lakes Goegrup and Black. It is currently proposed that vegetation adjoining the application area be included within the Ramsar boundary. As such, the clearing application abuts an area considered commensurate with Ramsar wetland values.

Sixty four fauna species of conservation significance have been recorded within the local area (10 kilometres radius) (Parks and Wildlife, 2007-). Forty five of these are avian, highlighting the significance of the adjoining vegetation to migratory species. Eight avian species of conservation significance listed under the Environment Protection and Biodiversity Conservation Act 1999 have been recorded within Black Lake. Three of these species are listed as threatened and the remainder are listed as migratory species. Black Lake is also considered to be important for waterbird breeding and comprises varied habitat including a samphire community, a saltwater paperbark community and a freshwater paperbark community (Parks and Wildlife, 2014).

An east - west ecological linkage, defined by the South West Regional Ecological Linkage (SWREL) Report (Molloy et al, 2009) runs through the centre of the application area. The SWREL report defines an ecological linkage as "a series of (both contiguous and non-contiguous) patches of native vegetation which, by virtue of their proximity to each other, act as stepping stones of habitat which facilitate the maintenance of ecological processes and the movement of organisms within, and across, a landscape". The vegetation under application is linear in nature and covers an area where an informal road is already in place (DER, 2014). Given this; although the increased traffic may lead to an increase in animal strikes, clearing the vegetation under application is not likely to significantly impact the linkage.

Five rare flora species, two vulnerable, one endangered and two critically endangered have been recorded within the local area (10 kilometre radius). All of these species are associated with low-lying situations adjoining or within winter-wet swamps. The required habitat type for these species has been recorded within the application area. Given this, they may be present within the application area (Parks and Wildlife, 2014a).

Twenty two flora species listed as Priority by the Department of Parks and Wildlife have been recorded with the local area. Given the mapped and observed (DER, 2014) vegetation type, the application area contains suitable habitat for nine of these.

A flora survey of the application area (Bennett Environmental Consulting Pty Ltd., 2015) was undertaken outside of the flowering times of a majority of these taxa. Therefore the survey is not adequate to determine the presence of all conservation significant taxa on site.

Given the above, the application area contains fauna habitat, may contain significant flora diversity and is at variance to this clearing principle.

**Methodology**    **References**  
Bennett Environmental Consulting Pty Ltd (2015)  
Parks and Wildlife (2007-)  
Parks and Wildlife (2014)  
Parks and Wildlife (2014a)

DER (2014)  
EPA (2008)  
Molloy et al (2009)

GIS Datasets  
Sac Bio datasets - accessed January 2016

**(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.**

**Comments**    **Proposed clearing may be at variance to this Principle**

Black Lake is located approximately 500 metres west of the application area. Nambelup Brook flows through the application area and into Black Lake. Black Lake is hydrologically connected to Goegrup Lake in the west. Lakes Goegrup and Black have been described in the ecological character description for the Peel-Yalgorup Ramsar site. The Department of Parks and Wildlife (2014) is currently investigating an extension to the Peel-Yalgorup System Ramsar site with the view of including Lakes Goegrup and Black. It is currently proposed that vegetation adjoining the application area be included within the Ramsar boundary. As such, the clearing application area abuts an area considered commensurate with Ramsar wetland values.

Sixty four fauna species of conservation significance have been recorded within the local area (10 kilometres radius) (Parks and Wildlife, 2007-). Forty five of these are avian, highlighting the significance of the adjoining vegetation to migratory species. Eight avian species of conservation significance listed under the Environmental Protection and Biodiversity Conservation Act 1999 have been recorded within Black Lake. Three of these species are listed as threatened and the remainder are listed as migratory species. Black Lake is also considered to be important for waterbird breeding and comprises varied habitat including a samphire community, saltwater paperbark community and a freshwater paperbark community (Parks and Wildlife, 2014).

The removal of the vegetation under application has the potential to impact upon, and provide pathways for pollutants such as hydrocarbons to enter Nambelup Brook and Black Lake; leading to degradation in the quality of fauna habitat within the adjoining Ramsar wetland.

An east - west ecological linkage, defined by the South West Regional Ecological Linkage (SWREL) Report (Molloy et al., 2009) runs through the centre of the application area. The SWREL report defines an ecological linkage as "a series of (both contiguous and non-contiguous) patches of native vegetation which, by virtue of their proximity to each other, act as stepping stones of habitat which facilitate the maintenance of ecological processes and the movement of organisms within, and across, a landscape". The vegetation under application is linear in nature and covers an area where an informal road is already in place (DER, 2014). Given this, although the increased traffic may lead to an increase in animal strikes, clearing the vegetation under application is not likely to significantly impact the linkage.

Forest red-tailed black-cockatoo (*Calyptorhynchus banksii* subsp. *naso*), Baudin's cockatoo (*Calyptorhynchus baudinii*) and Carnaby's cockatoo (*Calyptorhynchus latirostris*) have been recorded within the local area. As no potential roost sites, trees with hollows or significant foraging habitat was recorded within the application area (DER, 2014), these species are not likely to be impacted by the proposed clearing.

Given the potential for the application to degrade significant fauna habitat, the proposed clearing may be at variance to this principle. Development and implementation of a surface water management plan would likely mitigate this risk.

**Methodology**    **References**  
DER (2014)  
Parks and Wildlife (2007-)  
Parks and Wildlife (2014)  
Molloy et al. (2009)

GIS Datasets  
Parks and Wildlife Tenure  
Hydrography linear

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

**Comments**      **Proposed clearing may be at variance to this Principle**  
A flora survey of the application area (Bennett Environmental Consulting Pty Ltd., 2015) recorded two vegetation associations:

- Dense thicket of *Kunzea glabrescens* over herbs of *Phlebocarya ciliata* over very open low sedges of *Hypolaena exsulca*; and
- Forest of *Eucalyptus rudis* subsp. *rudis* and *Melaleuca raphiophylla* over very open herbs of *Opercularia hispidula* over very open tall sedges of *Lepidosperma longitundinale* over dense ferns of *Pteridium esculentum*.

Two vulnerable, one endangered and two critically endangered flora species have been recorded within the local area (10 kilometre radius). All of these species are associated with low-lying situations adjoining or within winter-wet swamps. The required habitat type for these species has been recorded within the application area.

Vulnerable flora are defined as considered to be facing a high risk of extinction in the wild, endangered is defined as facing a very high risk of extinction in the wild and critically endangered is defined as facing an extremely high risk of extinction in the wild.

Advice received from the Department of Parks and Wildlife (2014a) states that the application area may contain suitable habitat for the abovementioned taxa.

The flora survey of the application area (Bennett Environmental Consulting Pty Ltd., 2015) was undertaken outside of the flowering times of a majority of these taxa. Therefore the survey is not adequate to determine the presence of all conservation significant taxa on site.

Given the above, the proposed clearing may contain and be necessary for the continued existence of rare flora and may be at variance to this principle. A flora survey undertaken by a qualified botanist at an appropriate time of year would be required in order to define the impact to these species.

**Methodology**      Reference  
Bennett Environmental Consulting Pty Ltd, (2015)  
Parks and Wildlife (2014a)

GIS Datasets  
SAC Bio datasets - accessed January 2016

**(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.**

**Comments**      **Proposed clearing is not likely to be at variance to this Principle**  
Seven threatened ecological communities have been recorded within the local area (10 kilometre radius). Three of these are associated with clay pans, two are associated with Holocene dune swales and the remainder with seasonal wetlands or *Corymbia calophylla* - *Kingia australis* woodlands.

A site inspection of the application area did not record any habitat consistent with the requirements of these ecological communities (DER, 2014).

Given the above, the application is not likely to be at variance to this principle.

**Methodology**      Reference  
DER (2014)

GIS Datasets  
SAC Bio datasets - accessed January 2016

**(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.**

**Comments**      **Proposed clearing may be at variance to this Principle**  
The area under application is located within the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 39 per cent of its pre-European vegetation extent remaining (Government of Western Australia, 2014).

The vegetation under application is mapped as Beard vegetation associations 968 and 1000 of which there is approximately seven per cent and 26 per cent pre-European extent remaining within the Swan Coastal Plain bioregion respectively (Government of Western Australia, 2014).

The area under application is located within the Shire of Murray, within which there is approximately 54 per cent pre-European extent remaining (Government of Western Australia, 2014).



The application area is mapped as Heddle vegetation association Bassendean complex central and/South within which there is approximately 28 per cent pre-European extent remaining (Parks and Wildlife, 2015).

The local area (10 kilometre radius) surrounding the application area retains approximately 15 per cent native vegetation.

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). Within defined constrained areas on the Swan Coastal Plain, the Environmental Protection Authority has set a target for retention of 10 percent of the pre-clearing extent of each native vegetation complex (EPA, 2008). The area under application is classified as a constrained area.

A site inspection of the application area did not record any vegetation consistent with Beard vegetation association 968 and the proposed clearing is therefore not likely to impact on this community. The remaining mapped vegetation complexes, local area and the Shire of Murray retain above 10 percent pre-clearing extent.

Sixty four fauna species of conservation significance have been recorded within the local area (10 kilometres radius) (Parks and Wildlife, 2007-). Forty five of these are avian, highlighting the significance of the adjoining vegetation to migratory species. Eight avian species of conservation significance listed under the Environmental Protection and Biodiversity Conservation Act 1999 have been recorded within the adjoining Black Lake. Three of these species are listed as threatened and the remainder are listed as migratory species. An east - west ecological linkage, defined by the South West Regional Ecological Linkage (SWREL) Report (Molloy et al, 2009) runs through the centre of the application area.

Two vulnerable, one endangered and two critically endangered flora species have been recorded within the local area (10 kilometre radius). All of these species are associated with low-lying situations adjoining or within winter-wet swamps. The required habitat type for these species has been recorded within the application area. Given this, they may be present within the application area (Parks and Wildlife, 2014a).

Twenty two flora species listed as Priority by the Department of Parks and Wildlife have been recorded with the local area. Given the mapped and observed (DER, 2014) vegetation type, the application area contains suitable habitat for nine of these (Western Australian Herbarium, 1998-).

Given the extent of vegetation within the local area, the significance of the application area to indigenous fauna and its potential to contain rare flora, the application may be at variance to this principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion*				
Swan Coastal Plain Shire*	1,501,221	586,975	39	36
Shire of Murray	170,583	92,201	54	83
Beard Vegetation Association within Bioregion*				
968	136,188	9,795	7	16
1000	94,175	24,972	26	17
Heddle Vegetation Complex**				
Bassendean complex central and/South	87,318	24,610	28	3

**Methodology**

**References**

- Commonwealth of Australia (2001)
- DER (2014)
- \*\* Parks and Wildlife (2015)
- EPA (2008)
- \*Government of Western Australia (2013)
- Parks and Wildlife (2007-)
- Parks and Wildlife (2014a)
- Molloy et al (2009)
- Western Australian Herbarium (1998-)

**GIS Datasets**

SacBiodataSets - accessed January 2016

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

**Comments Proposed clearing is at variance to this Principle**

Black Lake is located approximately 500 metres west of the application area. Nambelup Brook flows through the application area and into Black Lake. Black Lake is hydrologically connected to Goegrup Lake in the west. The application area is mapped within a conservation category and multiple use wetland (flood plain and estuary-waterbody) associated with Nambelup Brook, Black Lake and Goegrup Lake.

A site inspection of the application area (DER, 2014) identified vegetation growing in association with a wetland, including but not limited to *Melaleuca raphiophylla*, *Kunzea glabrescens* and an understorey of native sedges.

Given the above, the application is at variance to this clearing principle.

**Methodology** References  
DER (2014)

GIS Datasets  
Hydrography linear  
Geomorphic wetlands SCP management category

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

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

The application is to clear 1.31 hectares of native vegetation within Fiegert Road reserve, Barragup, for the purpose of road construction. Once undertaken the proposed works will join the two ends of the road that currently end in cul-de-sacs. An informal track is currently being used to traverse the area resulting in degradation of both the application area and the adjoining proposed conservation reserve. The informal track is two lanes wide at some points within the area (DER, 2014).

Given the current unmanaged access to the area, formalising and sealing the road is likely to halt the current soil erosion within area. The formalisation of the road may also deter illegal rubbish dumping that is prevalent along the application area (DER, 2014).

Given the linear nature of the clearing and as road infrastructure has already been completed over Nambelup Brook (DER, 2014), clearing the vegetation under application is not likely to lead to water erosion, wind erosion or increased waterlogging.

Given the above, the application is not likely to be at variance to this principle.

**Methodology** References  
DER (2014)

GIS Datasets  
Hydrography linear

**(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.**

**Comments Proposed clearing may be at variance to this Principle**

Black Lake is located approximately 500 metres to the west of the application area. Nambelup Brook flows through the application area and into Black Lake. Black Lake is hydrologically connected to Goegrup Lake in the west. The Department of Parks and Wildlife (2014) is currently investigating an extension to the Peel-Yalgorup System Ramsar site with the view of including Lakes Goegrup and Black. It is currently proposed that vegetation adjoining the application area be included within the Ramsar boundary. As such, the clearing application area abuts an area considered commensurate with Ramsar wetland values.

An east - west ecological linkage, defined by the South West Regional Ecological Linkage (SWREL) Report (Molloy et al., 2009) runs through the centre of the application area. The SWREL report defines an ecological linkage as "A series of (both contiguous and non-contiguous) patches of native vegetation which, by virtue of their proximity to each other, act as stepping stones of habitat which facilitate the maintenance of ecological processes and the movement of organisms within, and across, a landscape". The vegetation under application is linear in nature and covers an area where an informal road is already in place (DER, 2014).

Given this, although the increased traffic may lead to an increase in animal strikes, clearing the vegetation under application is not likely to significantly impact the linkage.

The removal of the vegetation under application within the area maintained as a road has the potential to impact upon, and provide pathways for pollutants such as hydrocarbons to enter Nambeelup Brook and Black Lake; impacting on the environmental values of these conservation reserves.

Given the above, the application may be at variance to this principle. The development and implementation of a surface water management plan would likely mitigate this risk.

**Methodology**   References  
DER (2014)  
Parks and Wildlife (2014)  
Molloy et al. (2009)

GIS Datasets  
Parks and Wildlife Tenure

**(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.**

**Comments      Proposed clearing may be at variance to this Principle**

Black Lake is located approximately 500 metres to the west of the application area. Nambeelup Brook flows through the application area and into Black Lake. Black Lake is hydrologically connected to Goegrup Lake in the west. Road infrastructure is already in place where the application area crosses Nambeelup Brook.

The vegetation under application is likely to have filtering capacity for pollutants and its removal has the potential to impact upon, and provide pathways for pollutants such as hydrocarbons to enter Nambeelup Brook and Black Lake, resulting in the deterioration of surface water quality and potentially eutrophication.

Groundwater salinity within the application area is mapped as 1000-3000 total dissolved solids milligrams per litre and given the linear nature of the proposed clearing, groundwater is not likely to be affected.

Given the above, the proposed clearing may be at variance to this principle. The development and implementation of a surface water management plan would likely mitigate this risk.

**Methodology**   GIS Datasets  
Groundwater Salinity Statewide  
Hydrography linear

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

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

Given the linear nature and limited size of the clearing, the application is not likely to cause, or exacerbate, the incidence or intensity of flooding and is not likely to be at variance to this clearing principle.

**Methodology**   GIS Datasets  
Hydrography linear

**Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.**

**Comments**   The application is to clear 1.31 hectares of native vegetation within Fiegert Road reserve, Barragup, for the purpose of road construction. Once undertaken the proposed works will join the two ends of the road that currently end in cul-de-sacs. Informal tracks are currently being used to traverse the area resulting in degradation of both the application area and the adjoining proposed conservation reserve. The informal track is two lanes wide at some points within the area (DER, 2014).

Given the current unmanaged access to the area, formalising and sealing the road is likely to halt the current soil erosion within the area. The formalisation of the road may also deter illegal rubbish dumping that is prevalent along the stretch of the application area (DER, 2014).

On 27 November 2014 the Shire of Murray was sent a letter requesting a targeted flora survey of the application area and surface water management plan. On 10 November 2015 the Department of Environment Regulation received a flora survey that was not undertaken at an appropriate time of year to detect the targeted species.

The Department of Water (2014) has advised that if the applicant intends on disturbing the bed or banks of Nambeelup Brook a licence under the Rights in Water and Irrigation Act 1914 will be required. Road infrastructure is already in place over Nambeelup Brook.

No submissions from the public were received in relation to this application.

Two Aboriginal Sites of Significance intersect the application area. The applicant is advised to contact the Department of Aboriginal Affairs regarding their obligations under the Aboriginal Heritage Act 1972.

Methodology   References  
DER (2014)  
Department of Water (2014)

GIS Datasets  
Aboriginal Sites of Significance

#### 4. References

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