



## CLEARING PERMIT

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

<b>Purpose Permit number:</b>	CPS 3847/1
<b>Permit Holder:</b>	Shire of Nannup
<b>Duration of Permit:</b>	2 October 2010 – 2 October 2015

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 sand and gravel extraction.

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

STATE FOREST 33 (BARRABUP 6275)

STATE FOREST 32 (SCHROEDER 6285)

**3. Area of Clearing**

The Permit Holder must not clear more than 20.45 hectares for the purpose of sand and gravel extraction within the areas hatched yellow on attached Plan 3847/1a and Plan 3847/1b and Plan 3847/1c.

**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. Compliance with Assessment Sequence and Management Procedures**

Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

### PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

**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) shall only move soils in *dry conditions*;
- (c) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (d) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

## 8. Retain vegetative material and topsoil, revegetation and rehabilitation

The Permit Holder shall:

- (a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.
- (b) within 6 months following clearing authorised under this permit, *revegetate* and *rehabilitate* the areas that are no longer required for the purpose for which they were cleared under this Permit by:
  - (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land;
  - (ii) rip the pit floor and contour batters within the extraction site; and
  - (iii) laying the vegetative material and topsoil retained under condition 8(a) on the areas that are no longer required.
- (c) within 12 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 8(b) of this Permit:
  - (i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
  - (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 8(c)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area and ensuring only *local provenance* seeds and propagating material are used.

## PART III - RECORD KEEPING AND REPORTING

### 9. Records must be kept

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 species composition, structure and density of the cleared area;
  - (ii) 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;
  - (iii) the date that the area was cleared; and
  - (iv) the size of the area cleared (in hectares).
- (b) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 8 of this Permit:
  - (i) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  - (ii) a description of the *revegetation* and *rehabilitation* activities undertaken;
  - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares); and
  - (iv) the species composition, structure and density of *revegetation* and *rehabilitation*.

## 10. 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 9 of this Permit; and
  - (ii) concerning activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 2 July 2015, the Permit Holder must provide to the CEO a written report of records required under condition 9 of this Permit where these records have not already been provided under condition 10(a) of this Permit.

## Definitions

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

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

**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;

**dry conditions** means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches;

**environmental specialist** means a person who is engaged by the Permit Holder for the purpose of providing environmental advice, who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit;

**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 50 kilometres 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 *revegetation* that can be established from in situ seed banks 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 *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 a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.

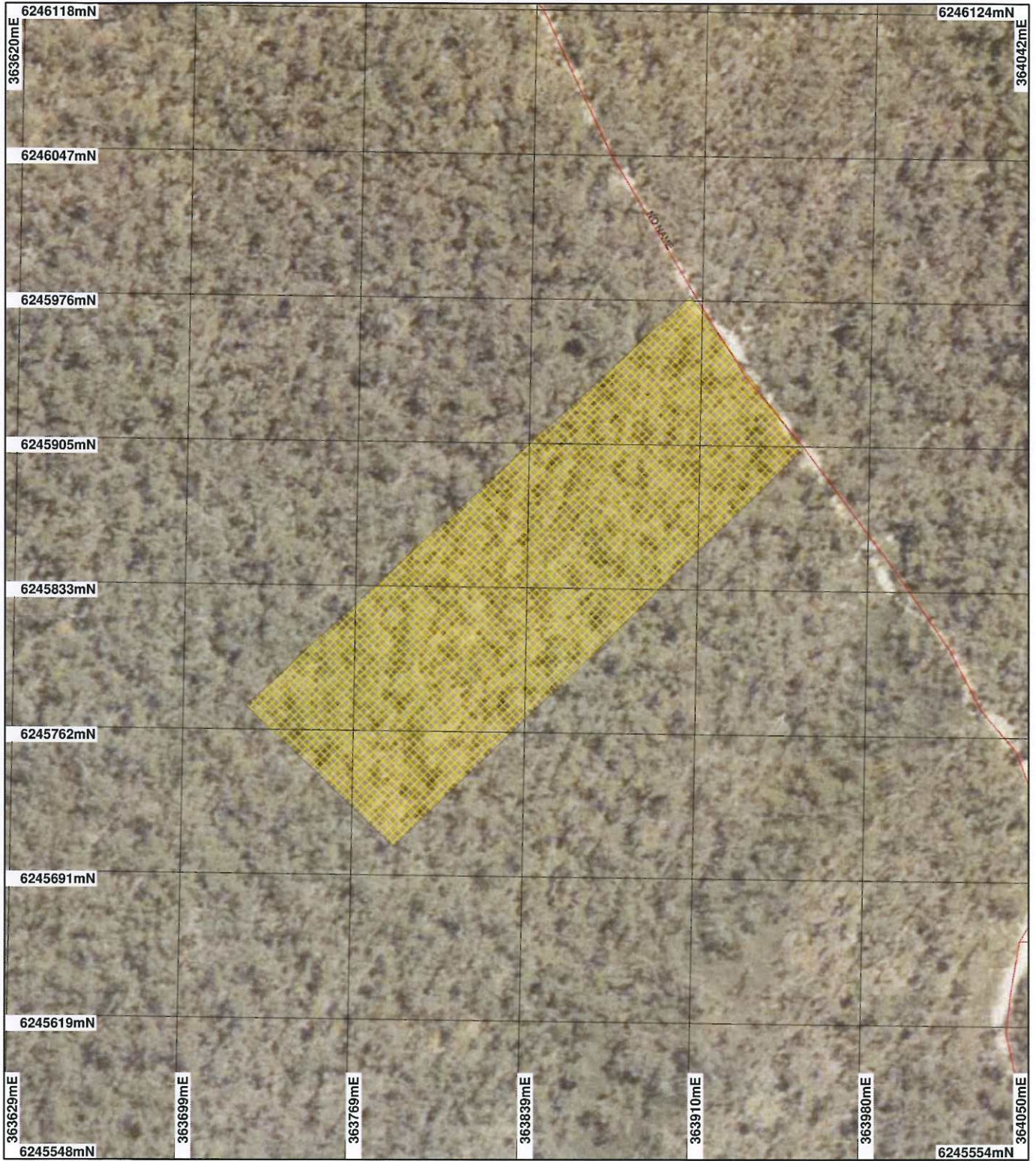


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Kelly Faulkner  
MANAGER  
NATIVE VEGETATION CONSERVATION BRANCH





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

# Plan 3847/1a



## LEGEND

### Clearing Instruments


-  Areas Approved to Clear
-  Road Centrelines - DLI 1/5/04
-  Cadastre - DLI
-  Busselton 50cm Orthomosaic - DLI 03



Scale 1:2503  
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected, this may result in geometric distortion or measurement inaccuracies.

 Date 2/9/10

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

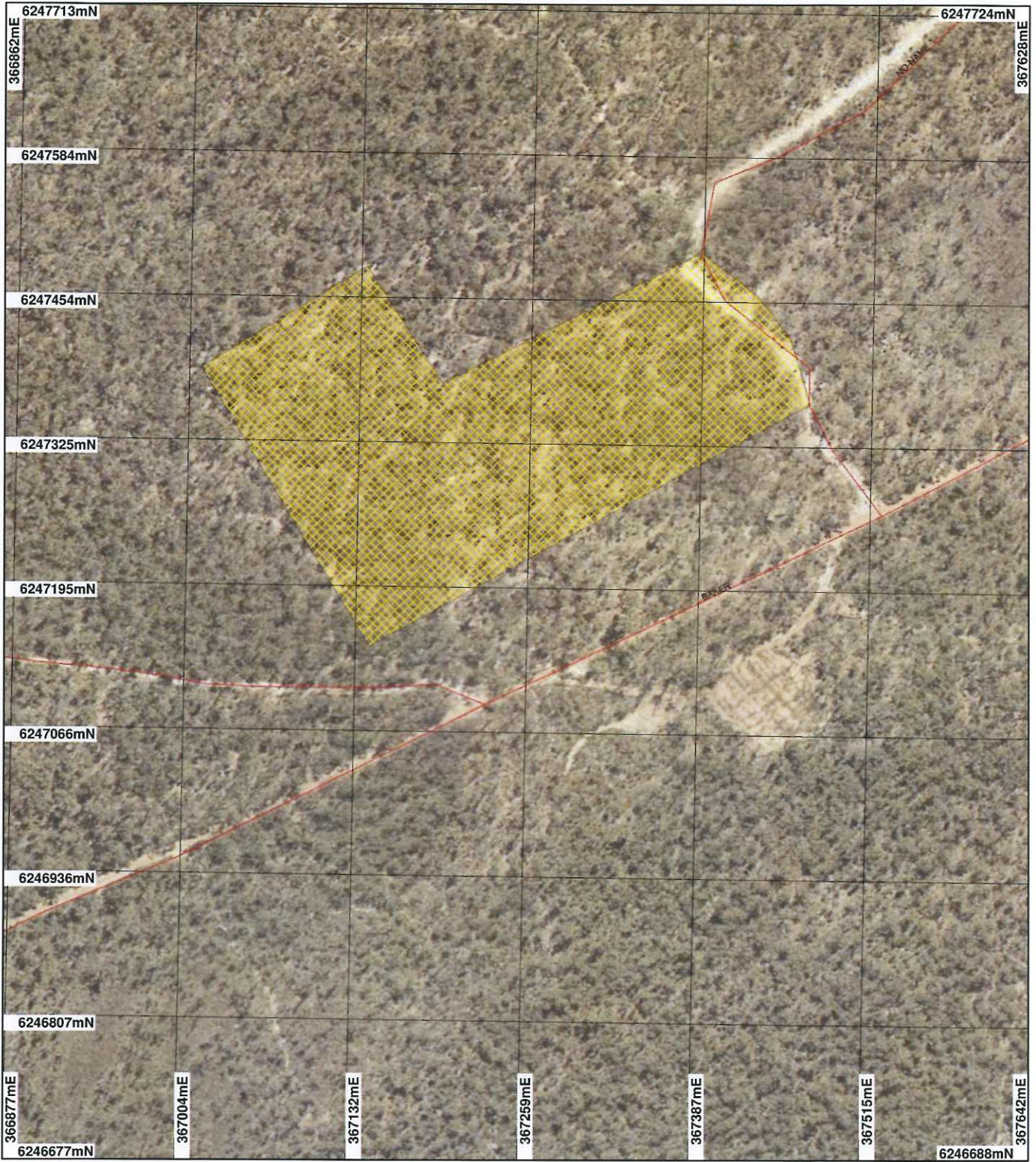
Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



Department of Environment

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# Plan 3847/1b



## LEGEND

- Clearing Instruments
- Areas Approved to Clear
  - Road Centrelines - DLI 1/5/04
  - Cadastre - DLI
  - Busselton 50cm Orthomosaic - DLI 03



0  125 m

Scale 1:4549  
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

Date 2/9/10  
K Faulkner

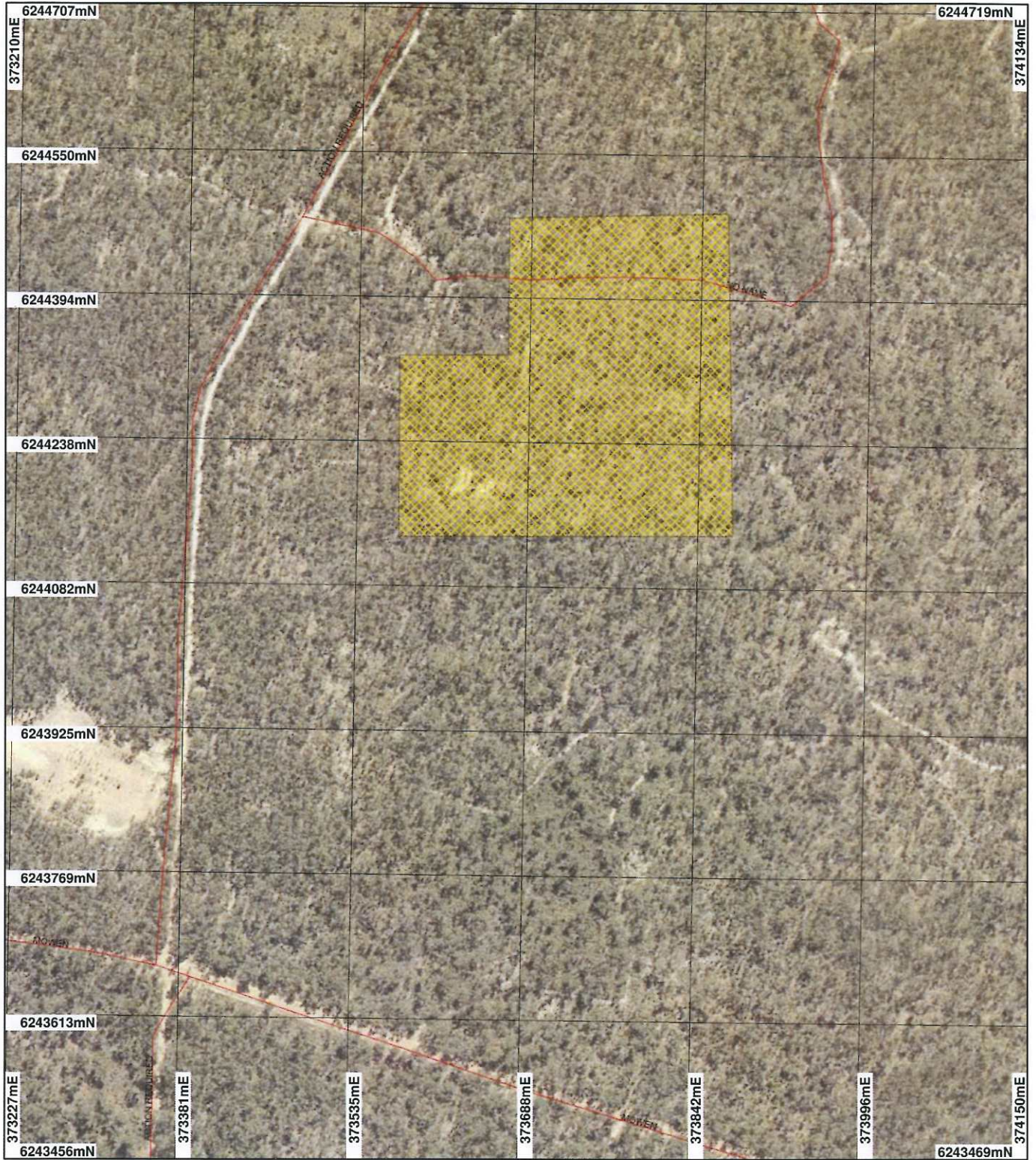
Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



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# Plan 3847/1c



## LEGEND

### Clearing Instruments

-  Areas Approved to Clear
-  Road Centrelines - DLI 1/5/04
-  Cadastre - DLI
-  Busselton 50cm Orthomosaic - DLI 03



Scale 1:5487  
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

 Date 2/9/10  
K Faulkner

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Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



## 1. Application details

### 1.1. Permit application details

Permit application No.: 3847/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Shire of Nannup

### 1.3. Property details

Property: STATE FOREST 32 ( SCHROEDER 6285)  
STATE FOREST 33 ( BARRABUP 6275)  
Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
20.45		Mechanical Removal	Extractive Industry

## 2. Background

### 2.1. Existing environment and information

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

Vegetation Description	Clearing Description	Vegetation Condition	Comment
<p>Stoate Rd Gravel Pit: Beard Vegetation Association - 3. Medium forest; jarrah - marri Mattiske Vegetation Complex - Telerah (TL). Low open woodland of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Allocasuarina fraseriana-Xylomelum occidentale-Banksia ilicifolia on slopes in perhumid and humid zones. Hedde Vegetation Types - Jarrahwood Complex. Open forest and woodland Mungardup Complex. Open forest and open woodland Gemini Rd Sand Pit: Beard Vegetation Associations - 3. Medium forest; jarrah - marri 975. Low woodland; jarrah Mattiske Vegetation Complexes - Blackwood (BK). Open forest of Corymbia calophylla-Eucalyptus marginata subsp. marginata on the variable slopes in perhumid and humid zones. Hedde Vegetation Types - Jarrahwood Complex. Open forest and woodland</p>	<p>Vegetation within the Stoate Rd gravel pit application site was found to be in similar condition to the vegetation within the Gemini Rd sand pit and the Baker Rd Gravel Pit sites. The Stoate Rd gravel pit is the only dieback free gravel resource identified in the Mowen Rd upgrade.</p>	<p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994)</p>	<p>Vegetation condition taken from 'Main Roads WA Stoate Rd Gravel Pit: Pit Management Plan' (GHD, 2006), and DEC Site Visit Report (2006).</p>
<p>Baker Rd Gravel Pit - Beard Vegetation Associations - 3. Medium forest; jarrah - marri Mattiske Vegetation Complexes - Kingia (KI). Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Allocasuarina fraseriana-Banksia grandis-Xylomelum occidentale on lateritic uplands in perhumid and humid zones. Hedde Vegetation Types - Jarrahwood Complex (Shepherd,</p>	<p>Vegetation within this area is comprised of open Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri) woodland with the occasional Eucalyptus patens (Swan River Blackbutt), Allocasuarina fraseriana (Sheok) over Xanthorrhoea preissii (Grass Tree), Hibbertia hypericoides (Yellow buttercups), Hakea amplexicaulis (Prickly Hakea), Leucopogon propinquus, Taxandria linearifolia (Swamp Peppermint), Taxandria parviceps and Gompholobium tomentosum (Hairy Yellow Pea) over a herb layer of Desmodium flexuosus, Ptilotus manglesii (Pom Poms) and Stylidium species. DEC Site Visit photos (2006) indicate that a proportion of the vegetation within the Gemini Road sand pit is in excellent condition with intact upper, middle and under storeys. The vegetation in this area has been recently burnt (Figures 9 - 10 of the DEC Site Visit Report, 2006), however most of the species observed were similar to those found at the Gemini Rd sand pit. The rock-cap had been broken, indicating this area had been previously extracted for gravel. Vegetation within this application area is considered to be in good condition.</p>	<p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994)</p>	<p>Vegetation condition was taken from the DEC Site Visit Report (October, 2006).</p>
		<p>Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994)</p>	<p>Vegetation condition was taken from the DEC Site Visit Report (October, 2006).</p>

### 3. Permit assessment activities

#### Comments

The proponent has applied to complete the clearing approved under permit CPS1305/1 by 3 years, which expired on 18 June 2010. A review of current environmental information reveals no new additional information, with the exception of a targeted flora survey as out lined below. Therefore the assessment against the clearing principles has not changed, with the exception of principle (c), and can be found in the Clearing Permit Decision Report CPS1305/1.

The Flora Management condition has been removed from the amended permit as the permit holder has satisfied this condition by undertaking a targeted flora survey in October 2008 and providing a report of the findings to DEC in November 2008. DEC is satisfied with the accuracy of the methodology and findings of the Flora Report. The targeted flora survey found no *Drakaea micrantha* within the area approved to be cleared.

The revegetation condition has been transferred from CPS 1305/1 over to the new permit as this directly relates to the rehabilitating of the gravel pits proposed to be cleared.

#### Methodology

References:

GIS database:

- SAC Biodatasets (accessed 20 May 2010)
- Hydrography linear - DOW 13/7/06
- Soils, Statewide DA 11/99
- Pre European Vegetation (DA 2001)
- Clearing Regulations, Environmentally Sensitive Areas (2009)

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

#### Comments

The proponent has applied to complete the clearing approved under permit CPS1305/1 by 3 years, which expired on 18 June 2010. CPS1305/1 was for 96.2ha, CPS3847/1 is for the remaining 20.45ha not cleared prior to the CPS 1305/1 permit expiring.

No submissions from the public have been received.

Administrative changes to the permit conditions have been made to bring the conditions in line with current Department of Environment and Conservation practice.

#### Methodology

References:

GIS database:

- Cadastre - Landgate Dec 07
- Native Title Claims - LA 2/5/07
- Aboriginal Sites of Significance 26 April 2007

### 4. References

Department of Environment and Conservation (2007). Site Visit Report. TRIM ref DOC7097

GHD (2006). Shire of Augusta/Margaret River Mowen Road Upgrade Project: Environmental Impact Assessment and Environmental Management Plan.

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

Shepherd, D.P. (2007) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.





## 1. Application details

### 1.1. Permit application details

Permit application No.:	1305/1
Permit type:	Purpose Permit

### 1.2. Proponent details

Proponent's name:	Shire of Augusta Margaret River
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### 1.3. Property details

Property:	STATE FOREST 33 ( JALBARRAGUP 6275)
Local Government Area:	Shire Of Augusta-Margaret River & Shire Of Nannup
Colloquial name:	

### 1.4. Application

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

## 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
Mowen Rd East: Beard Vegetation Associations - 3. Medium forest; jarrah - marri 27. Low woodland; paperbark (Melaleuca sp.) 975. Low woodland; jarrah 1183. Medium woodland; Eucalyptus rudis and blackbutt with some bullich, jarrah and marri (fringing Blackwood River) Mattiske Vegetation Complexes - Telerah (TL). Low open woodland of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Allocasuarina fraseriana-Xylomelum occidentale-Banksia ilicifolia on slopes in perhumid and humid zones. Jalbaragup (JL). Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Eucalyptus patens on slopes with some Eucalyptus rudis on broad terraces in perhumid and humid zones. Kingia (KI). Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Allocasuarina fraseriana-Banksia grandis-Xylomelum occidentale on lateritic uplands in	Mowen Road is bounded either side by State Forest. A dieback interpretation by a qualified CALM disease interpreter found the Mowen Rd project area predominantly infested with Phytophthora. The vegetation within the application area varies between good to very good to excellent in some places, but overall is considered to be in very good condition (Keighery, 1994).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	Vegetation condition was taken from the DEC Site Visit Report (October, 2006) and 'Shire of Augusta/Margaret River Mowen Road Upgrade Project: Environmental Impact Assessment and Environmental Management Plan' (GHD, May 2006).

perhumid and humid zones.

Blackwood (BK). Open forest of *Corymbia calophylla*-*Eucalyptus marginata* subsp. *marginata* on the variable slopes in perhumid and humid zones.

Bidella (BD). Low woodland of *Melaleuca preissiana*-*Banksia littoralis*-*Hakea lasianthoides* on valley floors and open forest to woodland of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla*-*Eucalyptus patens* on slopes in perhumid and humid zones.

Coate (CE). Low open woodland of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla*-*Allocasuarina fraseriana*-*Banksia ilicifolia* and low open woodland of *Melaleuca preissiana*-*Banksia littoralis* on broad depressions in upper gullies in perhumid and humid zones.

Darradup (DP). Open forest to woodland of *Corymbia calophylla* with some *Eucalyptus marginata* subsp. *marginata* on slopes, woodland of *Eucalyptus rudis* -*Banksia seminuda*-*Melaleuca preissiana*-*Agonis flexuosa* and tall shrubland of *Agonis linearifolia*-*Callistachys lanceolata* on fringes of streams in perhumid and humid ones.

Layman (LY). Woodland to open forest of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla*-*Eucalyptus patens* on slopes and woodland of *Melaleuca preissiana*-*Banksia littoralis* on valley floors in perhumid and humid zones.

Hedde Vegetation Types -

Jarrahwod Complex.  
Open forest and woodland

Mungardup Complex.  
Open forest and open woodland

Darradup Complex.  
Fringing woodland

Kingia Complex. Open forest

Gemini Rd Sand Pit:  
Beard Vegetation  
Associations -

Vegetation within this area  
is comprised of open  
*Eucalyptus marginata*

Excellent: Vegetation  
structure intact;  
disturbance affecting

Vegetation condition was taken from the DEC Site Visit  
Report (October, 2006).

<p>3. Medium forest; jarrah - marri</p> <p>975. Low woodland; jarrah</p> <p>Mattiske Vegetation Complexes -</p> <p>Blackwood (BK). Open forest of <i>Corymbia calophylla</i>-<i>Eucalyptus marginata</i> subsp. <i>marginata</i> on the variable slopes in perhumid and humid zones.</p> <p>Hedde Vegetation Types - Jarrahwood Complex. Open forest and woodland</p>	<p>(Jarrah) - <i>Corymbia calophylla</i> (Marri) woodland with the occasional <i>Eucalyptus patens</i> (Swan River Blackbutt), <i>Allocasuarina fraseriana</i> (Sheok) over <i>Xanthorrhoea preissii</i> (Grass Tree), <i>Hibbertia hypericoides</i> (Yellow buttercups), <i>Hakea amplexicaulis</i> (Prickly Hakea), <i>Leucopogon propinquus</i>, <i>Taxandria linearifolia</i> (Swamp Peppermint), <i>Taxandria parviceps</i> and <i>Gompholobium tomentosum</i> (Hairy Yellow Pea) over a herb layer of <i>Desmodcladus flexuosus</i>, <i>Ptilotus manglesii</i> (Pom Poms) and <i>Stylidium</i> species. DEC Site Visit photos (2006) indicate that a proportion of the vegetation within the Gemini Road sand pit is in excellent condition with intact upper, middle and under storeys.</p>	<p>individual species, weeds non-aggressive (Keighery 1994)</p>	
<p>Baker Rd Gravel Pit - Beard Vegetation Associations -</p> <p>3. Medium forest; jarrah - marri</p> <p>Mattiske Vegetation Complexes -</p> <p>Kingia (KI). Open forest of <i>Eucalyptus marginata</i> subsp. <i>marginata</i>-<i>Corymbia calophylla</i>-<i>Allocasuarina fraseriana</i>-<i>Banksia grandis</i>-<i>Xylomelum occidentale</i> on lateritic uplands in perhumid and humid zones.</p> <p>Hedde Vegetation Types - Jarrahwood Complex. Open forest and woodland</p>	<p>The vegetation in this area has been recently burnt (Figures 9 - 10 of the DEC Site Visit Report, 2006), however most of the species observed were similar to those found at the Gemini Rd sand pit. The rock-cap had been broken, indicating this area had been previously extracted for gravel. Vegetation within this application area is considered to be in good condition.</p>	<p>Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)</p>	<p>Vegetation condition taken from DEC Site Visit Report (October, 2006).</p>
<p>Gemini Rd Sand Pit: Beard Vegetation Associations -</p> <p>3. Medium forest; jarrah - marri</p> <p>975. Low woodland; jarrah</p> <p>Mattiske Vegetation Complexes -</p> <p>Blackwood (BK). Open forest of <i>Corymbia calophylla</i>-<i>Eucalyptus marginata</i> subsp. <i>marginata</i> on the variable slopes in perhumid and humid zones.</p> <p>Hedde Vegetation Types - Jarrahwood Complex. Open forest and woodland</p>	<p>Vegetation within this area is comprised of open <i>Eucalyptus marginata</i> (Jarrah) - <i>Corymbia calophylla</i> (Marri) woodland with the occasional <i>Eucalyptus patens</i> (Swan River Blackbutt), <i>Allocasuarina fraseriana</i> (Sheok) over <i>Xanthorrhoea preissii</i> (Grass Tree), <i>Hibbertia hypericoides</i> (Yellow buttercups), <i>Hakea amplexicaulis</i> (Prickly Hakea), <i>Leucopogon propinquus</i>, <i>Taxandria linearifolia</i> (Swamp Peppermint), <i>Taxandria parviceps</i> and <i>Gompholobium tomentosum</i> (Hairy Yellow Pea) over a herb layer of <i>Desmodcladus flexuosus</i>, <i>Ptilotus manglesii</i> (Pom Poms) and <i>Stylidium</i> species. DEC Site Visit Report (2006) found vegetation within this</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)</p>	<p>Vegetation condition taken from DEC Site Visit Report (October, 2006).</p>

<p>Baker Rd Gravel Pit - Beard Vegetation Associations - 3. Medium forest; jarrah - marri</p> <p>Mattiske Vegetation Complexes - Kingia (KI). Open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Allocasuarina fraseriana-Banksia grandis-Xylomelum occidentale on lateritic uplands in perhumid and humid zones.</p> <p>Heddle Vegetation Types - Jarrahwood Complex. Open forest and woodland</p>	<p>application area to be very good, with some signs of previous thinning/logging or disturbance.</p> <p>Most of the species observed within this application area were similar to those found at the Gemini Rd sand pit, although site photos (DEC, 2006) indicate the density of the vegetation at the Gemini Rd sand pit to be greater than vegetation within the application area at Baker Rd Gravel Pit site. DEC Site Visit Report (2006) found the vegetation to be in very good condition, with distinct upper, middle and under storeys, and evidence of some disturbance.</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)</p>	<p>Vegetation condition taken from DEC Site Visit Report (October, 2006).</p>
<p>Stoate Rd Gravel Pit: Beard Vegetation Association - 3. Medium forest; jarrah - marri</p> <p>Mattiske Vegetation Complex - Telerah (TL). Low open woodland of Eucalyptus marginata subsp. marginata-Corymbia calophylla-Allocasuarina fraseriana-Xylomelum occidentale-Banksia ilicifolia on slopes in perhumid and humid zones.</p> <p>Heddle Vegetation Types - Jarrahwood Complex. Open forest and woodland</p> <p>Mungardup Complex. Open forest and open woodland</p>	<p>Vegetation within the Stoate Rd gravel pit application site was found to be in similar condition to the vegetation within the Gemini Rd sand pit and the Baker Rd Gravel Pit sites. The Stoate Rd gravel pit is the only dieback free gravel resource identified in the Mowen Rd upgrade.</p>	<p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)</p>	<p>Vegetation condition taken from 'Main Roads WA Stoate Rd Gravel Pit: Pit Management Plan' (GHD, 2006), and DEC Site Visit Report (2006).</p>

### 3. Assessment of application against clearing principles

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

##### Comments

##### **Proposal is not likely to be at variance to this Principle**

The 96.2ha application is a State Government initiative involving the upgrading of Mowen Road within the Shires of Nannup and Augusta-Margaret River. The areas under application traverse the Blackwood, Millbrook, Cambray and Jarrahwood State Forests, and a System 6 Conservation Reserve recognised for riparian habitats, seasonal and permanently inundated wetlands, and for the protection of threatened and priority flora and fauna (GHD, 2006).

DEC Site Visit Report (2007) rated the vegetation condition of the proposed clearing as varying between good and excellent (Keighery, 1994).

Much of the area under application is affected by dieback and the vegetation types proposed to be cleared are well represented both locally and regionally, all having a conservation status of 'Least Concern' (Department of Natural Resources and Environment, 2002).

Given the regional and local extent of vegetation under application, and based on the information provided and available, it is unlikely the application areas represent an ecosystem or genetic diversity of higher ecological value than the other remnant native vegetation in the local area (DEC, 2007).

Conditions have been placed on the permit to ensure that clearing of vegetation be avoided, and where this is

not possible, minimised; that gravel and sand extraction sites are revegetated once extraction ceases; and that Dieback hygiene practices are implemented to minimise further spread of the pathogen to uninfected areas.

**Methodology** DEC Site Visit Report (2007)  
DEC Biodiversity Advice (2007)  
GHD (2006). Shire of Augusta/Margaret River Mowen Road Upgrade Project: Environmental Impact Assessment and Environmental Management Plan  
Keighery (1994)  
Department of Natural Resources and Environment (2002)

**(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 Proposal is not likely to be at variance to this Principle**

DEC Biodiversity Advice (2007) found that the areas proposed to be cleared may provide habitat for four threatened and three priority fauna species identified within a 10km radius of the application area. However, given that the surrounding area is heavily vegetated, and that the vegetation under application is well represented both regionally and locally, marsupial and avian fauna species are likely to find habitat equal to, or in better condition, (with fewer disturbances from road activities) within the surrounding state forest and reserves (DEC, 2007).

The fauna habitat that is likely to occur within the application area is unlikely to constitute significant habitat for indigenous fauna when considered in a local context.

The Management Plan for the Shire of Augusta-Margaret River's Mowen Road Upgrade Project prepared by GHD (2006) states that clearing of vegetation within the application area will be avoided where possible, and that rehabilitation works will include fauna refuges to facilitate the return of fauna to the area.

It should be noted that quokka activity has been recorded within the vicinity of two creek systems located between Stoate Road and St Johns Brook Road (DEC, Blackwood District 2007). While quokka activity has been recorded as low, the construction and/or maintenance to culverts and roading need to consider the possibility of quokka presence.

**Methodology** DEC (2007) Biodiversity Advice  
GHD (2006). Shire of Augusta/Margaret River Mowen Road Upgrade Project: Environmental Impact Assessment and Environmental Management Plan  
GIS Database:  
- Matiske Vegetation - CALM 24/3/98

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

**Comments Proposal may be at variance to this Principle**

The closest mapped records of Declared Rare Flora (DRF) to the Mowen Rd application areas are *Drakaea micrantha* (approximately 0.1km south), *Dryandra squarrosa* subsp. *argillacea* (approximately 1.0km south east), *Caladenia harringtoniae* (approximately 2.4km south east), and *Daviesia elongata* subsp. *elongata* (approximately 9.9km south) (DEC, 2007). All of the species except *Caladenia harringtoniae* are associated with the same vegetation complexes as those proposed to be cleared.

Three Priority 3 species and two Priority 4 species occur within a 10km radius of the application area. Of these, *Acacia semitrullata* (P3) falls within the proposed clearing area on Mowen Rd (DEC, 2007). With the exception of one P4 species, *Pultenaea skinneri*, the Priority flora identified are associated with the same vegetation types as those proposed to be cleared.

A survey undertaken by GHD over two days in January and February 2006 identified two Priority flora species within the Mowen Rd application area: *Grevillea manglesioides* subsp. *ferricola* (P2) and *Acacia tayloriana* (P4). Individuals of these species were scattered within the understorey of Jarrah-Marri woodland along the alignment. GHD (2006) have recognised that the survey was completed outside of spring flowering times and there is a possibility that species such as orchids were no longer visible or identifiable. Two orchids, *Drakaea micrantha* (R) and *Caladenia plicata* (P4), listed as likely to occur in the local area according to CALM and WAHERB records, are not identifiable without flowers (GHD, 2006). *Drakaea micrantha* was recorded 2km west along Mowen Rd from the junction of Sues Rd by CALM in 1998.

DRF found in the local area (10km radius) are associated with the same vegetation complex as those proposed to be cleared. Given the location of known DRF records within and surrounding the application area, there is a possibility of DRF species occurring within the proposed clearing.

A condition has been placed on the permit requiring that a flora survey be carried out to target the DRF species *Drakeae micrantha* during its flowering time, September to October. *Drakeae micrantha* occurs in deep grey sand and is often associated with open patches in *Banksia* and sheok woodlands (Blackwood District, DEC 2007). Natural populations do not occur in lateritic soils.

**Methodology** DEC (2007) Biodiversity Advice

**(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 Proposal is not likely to be at variance to this Principle**

DEC Biodiversity Advice (2007):

Based on the information provided and otherwise available there is no evidence to suggest that any EPBC Act listed Threatened Ecological Community (TEC) or State listed TECs are present on the site of the proposed clearing. The closest TEC on DEC's Threatened Ecological Community Database is approximately 18km north-west of the application area.

During a survey by GHD in 2006, no TECs were identified within the application areas.

Given the above, it is unlikely that the proposed clearing will impact on any TECs.

**Methodology**

DEC (2007) Biodiversity Advice

GHD (2006). Shire of Augusta/Margaret River Mowen Road Upgrade Project: Environmental Impact Assessment and Environmental Management Plan

GIS Database:

- Threatened Ecological communities - CALM 12/04/05

- Threatened Plant Communities - DEP 06/95

**(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 Proposal is not at variance to this Principle**

	Pre-European (ha)*	Current Extent Remaining (ha)*	(%)*	Conservation Status**	% in Secure Tenure
<b>IBRA</b>					
<b>Bioregion:</b>					
Jarrah Forest	4,503,156	2,624,301	58.3	Least concern	
<b>Shire:</b>					
Augusta -					
Margaret River	222,718	159,679	71.7	Least concern	
Nannup	293,198	275,524	94.0	Least concern	
<b>Beard Unit:</b>					
3.	3,046,385	2,197,837	72.1	Least concern	10.1
27.	161,222	106,631	66.1	Least concern	39.9
975.	20,924	15,971	76.3	Least concern	83.5
1183.	10,959	9,643	88.0	Least concern	0
<b>Mattiske Veg:</b>					
Bidella (BD)	477,894	460,703	96.4	Least concern	
Blackwood (BK)	213,625	199,647	93.5	Least concern	
Coate (CE)	242,947	237,288	97.7	Least concern	
Darradup (DP)	40,888	30,107	73.6	Least concern	
Jalbaragup (JL)	162,475	154,379	95	Least concern	
Kingia (KI)	1,022,353	995,087	97.3	Least concern	
Layman (LY)	14,290	11,198	78.4	Least concern	
Telerah (TL)	279,021	274,302	98.3	Least concern	

\* (Shepherd et al. 2001)

\*\* (Department of Natural Resources and Environment 2002)

\*\*\* Within the Intensive Landuse Zone

The area under application is located in the Shires of Augusta-Margaret River and Nannup, and within the Jarrah Forest Bioregion. The extent of pre-European vegetation within these areas is 71.7%, 94% and 58.3% respectively (Shepherd et al., 2001).

The vegetation proposed to be cleared is a component of Beard Vegetation Associations 3, 27, 975 and 1183 (Hopkins et al., 2001) of which there is 72.1%, 66.1%, 76.3% and 88.0% respectively of the pre-European vegetation extent remaining (Shepherd et al., 2001).

The eight Mattiske vegetation complexes identified within the proposed clearing area retain between 73.6% and 98.3% of pre-European vegetation (Mattiske, 1998).

The vegetation under application is regionally and locally extensive, all having a conservation status of 'Least Concern' (Department of Natural Resources and Environment, 2002). The proposal is not at variance to this principle.

**Methodology** Shepherd et al (2001)  
Hopkins et al. (2001)  
Department of Natural Resources and Environment (2002)  
GIS Database:  
- Pre-European Vegetation - DA 10/01  
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00

**(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 Proposal may be at variance to this Principle**

There are no wetlands or watercourses associated with the proposed clearing within the Gemini Rd Sand Pit, Baker Rd gravel pit or Stoates Rd gravel pit.

There are a number of watercourses that cross the proposed clearing along Mowen Rd. Impacts to these watercourses are unlikely as existing surface water flows will be maintained by replacing and/or extending existing crossroad culverts (GHD, 2006).

The road embankment at Rosa Brook is to be widened by approximately 15m on both sides, and impacts on the associated wetland vegetation are anticipated (GHD, 2006). In the Environmental Management Plan prepared by GHD (2006) any disturbance to Rosa Brook is to be minimised by avoiding and minimising vegetation clearing, and through the installation of temporary erosion control measures.

All of the areas under application along Mowen Rd are within road reserves that already exist. All water courses have previously been diverted through culverts or under bridges, and in some cases upgrades of these diversions are planned as part of the road widening.

Given the above, the proposal may be at variance to this principle. Conditions have been placed on the permit to ensure that clearing of vegetation be avoided, and where this is not possible, minimised.

**Methodology** GHD (2006). Shire of Augusta/Margaret River Mowen Road Upgrade Project: Environmental Impact Assessment and Environmental Management Plan  
GHD (2006). Main Roads WA: Stoate Road Gravel Pit: Pit Management Plan  
GHD (2006). Main Roads WA: Gemini Road Sand Pit: Pit Management Plan  
GHD (2006). Main Roads WA: Baker Road Gravel Pit: Pit Management Plan  
  
GIS Database:  
- Hydrography, Linear - DOE 1/2/04

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

**Comments Proposal is not likely to be at variance to this Principle**

In the Environmental Management Plan prepared by GHD (2006) topsoil will be removed after clearing and stockpiled for use in revegetation. This material will be respread to assist in the rehabilitation of the site. Therefore, the risk of soil erosion and nutrient export is low.

The local area (10 km radius) is State Forest and well vegetated, therefore the risk of salinity within the proposed clearing site is low.

The topographic relief of the region is undulating with shallow gradients. The risk of waterlogging is considered to be low.

Due to the low risk of land degradation the proposed clearing is not likely to be at variance to this Principle.

**Methodology** GHD (2006). Shire of Augusta/Margaret River Mowen Road Upgrade Project: Environmental Impact Assessment and Environmental Management Plan  
GIS Database:  
- Topographic Contours, Statewide - DOLA 12/09/02

**(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 Proposal is at variance to this Principle**

The areas proposed to be cleared lie within Blackwood State Forest, Cambray State Forest, Jarrahwood State Forest and Millbrook State Forest. A section of Mowen Rd traverses a System 6 Conservation Reserve.

The Environmental Management Plan prepared by GHD (2006) includes rehabilitation and revegetation of Gemini Rd, Baker Rd and Stoate Rd pits, and redundant sections of Mowen Rd, using local provenance.

Given part of the proposed clearing falls within an area set aside for conservation, the proposal is at variance to this principle.

To mitigate the impacts of clearing, conditions have been placed on the permit to ensure that clearing of vegetation be avoided, and where this is not possible, minimised; that gravel and sand extraction sites are revegetated once extraction ceases; and that Dieback hygiene practices are implemented to minimise further spread of the pathogen to uninfected areas of surrounding conservation areas

**Methodology** GHD (2006). Shire of Augusta/Margaret River Mowen Road Upgrade Project: Environmental Impact Assessment and Environmental Management Plan  
GHD (2006). Main Roads WA: Stoate Road Gravel Pit: Pit Management Plan  
GHD (2006). Main Roads WA: Gemini Road Sand Pit: Pit Management Plan  
GHD (2006). Main Roads WA: Baker Road Gravel Pit: Pit Management Plan  
GIS Database:  
- CALM Managed Lands and Waters - CALM 1/07/05  
- System 6 Conservation Reserves - DEP 06/95

**(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 Proposal is not likely to be at variance to this Principle**

The proposed clearing site lies within the Hardy Estuary/Blackwood River Catchment. The region has an annual rainfall of 1000mm. Groundwater depth on the Cowaramup Borehole Line, within 10kms north of the proposed clearing, ranged from 9.33m AHD to 117.46m AHD from TOC (top of casing) on 7/09/2006.

There are a number of watercourses that cross the proposed clearing along Mowen Rd. The Environmental Management Plan prepared by GHD (2006) includes measures to minimise the disturbance to existing surface water flows through the installation of temporary erosion control measures to prevent sedimentation and/or turbidity during works; replacing and/or extending existing crossroad culverts (no new offshoot drains are to be developed); and designing roadside drainage to ensure that road run-off drains directly into dieback infected areas (GHD, 2006).

Given the above, the proposed clearing is unlikely to cause deterioration in the quality of surface or underground water.

**Methodology** GHD (2006). Shire of Augusta/Margaret River Mowen Road Upgrade Project: Environmental Impact Assessment and Environmental Management Plan  
GIS Database:  
- Hydrographic Catchments - Catchments - DOE 23/03/05  
- Rainfall, Mean Annual - BOM 30/09/01  
- WIN Groundwater Sites, Monitoring - DEWCP (Current)

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

**Comments Proposal is not likely to be at variance to this Principle**

Due to the scale and nature of the proposed clearing, and given that the surrounding area is heavily vegetated, the proposed clearing is unlikely to cause or exacerbate flooding within the local area.

**Methodology** GIS Database:  
- Topographic Contours, Statewide - DOLA 12/09/02

**Planning instrument, Native Title, Previous EPA decision or other matter.**

**Comments**

No submissions from the public have been received.

The Mowen Road project was referred to the Environmental Protection Authority (EPA) in September 1998 by Main Roads. The project was 'not assessed'.



There is a Native Title Claim over the area under application. The Department of Environment and Conservation's advertising of the application in the West Australian newspaper constitutes legal notification of the native title representative body for the purpose of the future act procedures under the Native Title Act 1993. No response was received from the representative body.

A recent search of Aboriginal Sites of Significance by GHD (2006) identified the Blackwood River and its tributaries as a registered mythological site occurring within the Mowen Road East project area. It is the responsibility of the proponent to ensure that no Aboriginal Sites of Significance are damaged through the clearing process. The permit holder will be notified of their obligations under the Aboriginal Heritage Act 1972 in the cover letter to this permit. The Shire of Augusta-Margaret River is currently preparing an application for Ministerial consent under Section 18 of the Aboriginal Heritage Act (1972) to develop the road on land identified within the registered site (GHD, 2006).

It should be noted that quokka activity has been recorded within the vicinity of two creek systems located between Stoate Road and St Johns Brook Road (DEC, Blackwood District 2007). The permit holder will be notified of the need to consider the presence of quokka during the construction and/or maintenance to culverts and roading in the cover letter attached to this permit.

**Methodology** DEC Site Visit Report (2007)  
 GHD (2006). Shire of Augusta/Margaret River Mowen Road Upgrade Project: Environmental Impact Assessment and Environmental Management Plan  
 GIS Database:  
 - Native Title Claims - DLI 07/11/05

#### 4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Road construction or maintenance	Mechanical Removal	96.2	<p>The assessable criteria have been addressed, and the proposal not at variance to Principle (e); is not likely to be at variance to Principles (a), (b), (d), (g), (i) and (j); may be at variance to Principles (c) and (f); and is at variance to Principle (h).</p> <p>Principle (c): DRF found in the local area (10km radius) are associated with the same vegetation complexes as those proposed to be cleared. A flora survey undertaken by GHD in summer 2006 identified two Priority flora species within the Mowen Rd application area, but failed to locate DRF species <i>Drakaea micrantha</i>, which was recorded 2km west along Mowen Rd from the junction of Sues Rd by CALM in 1998.</p> <p>Given the location of known DRF records within and surrounding the application area, the proposal may be at variance to this principle. A condition has been placed on the permit requiring a flora survey be carried out to target the DRF species <i>Drakeae micrantha</i> during its flowering time, September to October.</p> <p>Principle (f): The road embankment at Rosa Brook is to be widened by approximately 15m on both sides, consequently impacts on the associated wetland vegetation is anticipated (GHD, 2006). In the Environmental Management Plan prepared by GHD (2006) any disturbance to Rosa Brook is to be minimised by avoiding and minimising vegetation clearing, and through the installation of temporary erosion control measures. Furthermore, all of the areas under application along Mowen Rd are within road reserves that already exist. All water courses have previously been diverted through culverts or under bridges, and in some cases upgrades of these diversions are planned as part of the road widening. Conditions have been placed on the permit to ensure that clearing of vegetation be avoided, and where this is not possible, minimised.</p> <p>Principle (h): The proposed clearing falls within an area set aside for conservation. To mitigate the impacts of clearing, conditions have been placed on the permit to ensure that clearing of vegetation be avoided, and where this is not possible, minimised; that gravel and sand extraction sites are revegetated once extraction ceases; and that Dieback hygiene practices are implemented to minimise further spread of the pathogen to uninfected areas of surrounding conservation areas.</p> <p>Given that the clearing application is a State Government initiative for the upgrading of Mowen Rd, it is recommended that a permit be granted to clear 96.2 hectares of native vegetation with conditions to protect the biodiversity values of the area under application.</p>

#### 5. References

- Clearing Assessment Unit's biodiversity advice for land clearing application. Advice to Director General, Department of Environment and Conservation (DEC), Western Australia. TRIM ref DOC 19836  
 Department of Environment and Conservation (2007). Site Visit Report. TRIM ref DOC7097  
 Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.  
 GHD (2006). Main Roads WA: Baker Road Gravel Pit: Pit Management Plan.  
 GHD (2006). Main Roads WA: Gemini Road Sand Pit: Pit Management Plan.  
 GHD (2006). Main Roads WA: Stoate Road Gravel Pit: Pit Management Plan.

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Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1.

CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.

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

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

## 6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)