



GOVERNMENT OF  
WESTERN AUSTRALIA

## CLEARING PERMIT

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

<b>Purpose Permit number:</b>	CPS 4226/1
<b>Permit Holder:</b>	Electricity Generation Corporation t/a Verve Energy
<b>Duration of Permit:</b>	9 May 2011 – 9 May 2016

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 water pipeline relocation.

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

Lot 335 on Plan 64212 (Cardiff 6225)  
Lot 3603 on Plan 143500 (Cardiff 6225)  
State Forest 4 (Cardiff 6225)  
Shotts Road reserve (Shotts 6225)  
Unnamed Road reserve (Shotts 6225)

**3. Area of Clearing**

The Permit Holder must not clear more than 2.6 hectares of native vegetation within the area hatched yellow on attached Plan 4226/1.

**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 activities to the extent that the Permit Holder has the power to clear native vegetation for those activities under the *Energy Operators (Powers) Act 1979* or any other written law.

**6. 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**

### **7. 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:

- (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.

### **8. Dieback and weed control**

- (a) 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*:
  - (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
  - (ii) shall only move soils in *dry conditions*;
  - (iii) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
  - (iv) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.
- (b) At least once in each 12 month period for the term of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

## **PART III - RECORD KEEPING AND REPORTING**

### **9. Records to be kept**

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

- (a) the species composition, structure and density of the cleared area;
- (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
- (c) the date that the area was cleared; and
- (d) the size of the area cleared (in hectares).

### **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 9 February 2016, 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:

*fauna clearing person* means a person who has obtained a licence from the Department, issued pursuant to the *Wildlife Conservation Regulations 1970* authorising them to take fauna;

*fauna specialist* means a person with training and specific work experience in fauna identification or faunal assemblage surveys of Western Australian fauna;

*habitat tree(s)* means trees that have a diameter, at average adult human chest height, of greater than 70cm, healthy but with dead limbs and broken crowns that are likely to contain hollows and roosts suitable for native fauna, or where these are not present then healthy but with the potential to contain hollows and roosts;



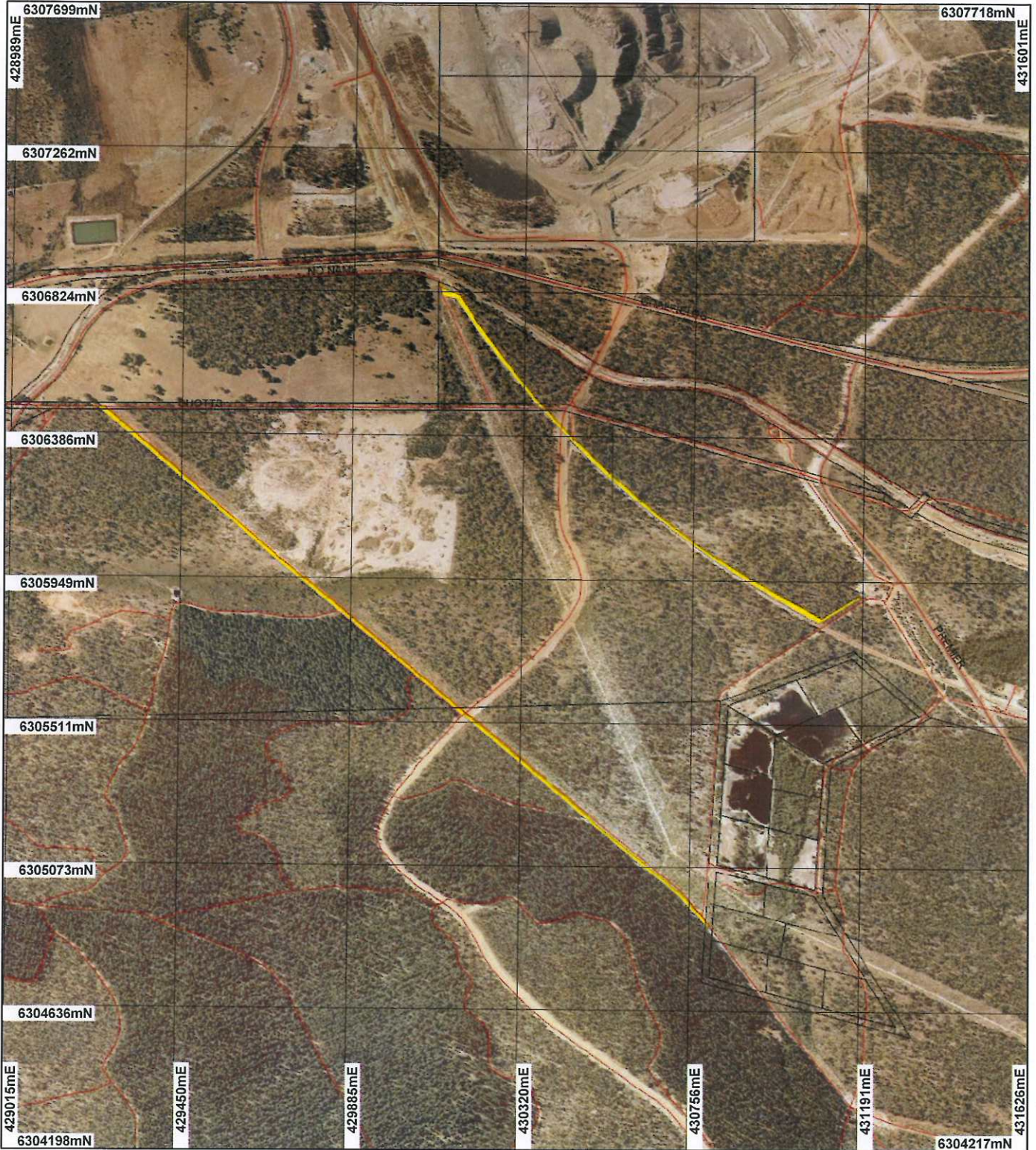
Matt Warnock  
A/ MANAGER  
NATIVE VEGETATION CONSERVATION BRANCH

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

14 April 2011



# Plan 4226/1



## LEGEND

### Clearing Instruments

- Areas Approved to Clear
- Road Centrelines
- Cadastre
- Collie 50cm Orthomosaic - Landgate 2006



0  -375 m

Scale 1:15445

(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.

*M. Warnock* Date 14/4/11

M. Warnock

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 and Conservation**

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## 1. Application details

### 1.1. Permit application details

Permit application No.: 4226/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Electricity Generation Corporation TA Verve Energy

### 1.3. Property details

Property: LOT 335 ON PLAN 64212 (House No. 6430 POWERHOUSE CARDIFF 6225)  
ROAD RESERVE (SHOTTS 6225)  
STATE FOREST 4 (House No. 6430 POWERHOUSE CARDIFF 6225)  
ROAD RESERVE (SHOTTS 6225)  
LOT 3603 ON PLAN 143500 (House No. 6430 POWERHOUSE CARDIFF 6225)

Local Government Area: Shire of Collie

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.6		Mechanical Removal	Water/gas/cable pipeline installation

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 14 April 2011

## 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 area under application has been identified as Beard vegetation complex 3 which has been described as medium forest; Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri) (Shepherd, 2009).	<p>The proposal is to clear approximately 2.6 hectares of native vegetation for the purpose of water pipeline relocation. The clearing is proposed to take place within two long linear sections.</p> <p><b>South western clearing area:</b> Within the south western section of proposed clearing consists of regrowth between an existing track and an above ground pipeline. The area was previously cleared for power line/pipeline. The clearing includes;</p> <ul style="list-style-type: none"> <li>Lateritic gravel upland soils with regrowth dominated by Eucalyptus marginata, Corymbia calophylla, Allocasuarina fraseriana over Banksia grandis, Xanthorrhoea gracilis, Daviesia preissi.</li> <li>Grey sand mid to lower slope soils with regrowth dominated by Kunzea glabrescens, Nuytsia floribunda, Eucalyptus marginata over Xanthorrhoea preissii, Dasypogon bromelifolius, Bossiaea eriocarpa, Phlebocarya ciliate.</li> <li>A creekline that is predominantly Taxandria linearifolia, Astartea fascicularis over Hypocalymma angustifolia.</li> </ul>	<p>Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)</p> <p>To</p> <p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)</p>	The condition of the vegetation was determined via a site inspection (DEC, 2011) and through digital imagery (Collie 50cm Orthomosaic - Landgate 2006).
As above.	<p><b>North eastern clearing area:</b> The north eastern section of the proposed clearing consists of intact vegetation adjacent to an existing track which follows the conveyor belt. The vegetation included within this applied area includes;</p> <ul style="list-style-type: none"> <li>Upland and midslope areas of grey sand over lateritic gravel dominated by Eucalyptus marginata, Allocasuarina fraseriana, Xylomelum occidentale, Banksia grandis, Persoonia longifolia over Hibbertia subvaginata, Bossiaea eriocarpa, Calytrix sp., Conostephium pendulum, Leucopogon</li> </ul>	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	As above.

- conostephioides, *Patersonia umbrosa*. In the midslope areas *Banksia attenuata* becomes a dominant in the community.
- A subsoil saturated seasonally damp area on grey sand dominated by *Melaleuca preissiana*, *Nuytsia floribunda* over *Pericalymma ellipticum*, *Adenanthos obovata*, *Phlebocarya ciliata*, *Dasyopogon bromelifolius*, *Hypolaena exsulca*.

### 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 may be at variance to this Principle**

The proposal is to clear approximately 2.6 hectares of native vegetation within State Forest 4, for the purpose of water pipeline relocation.

The south western line of clearing requires a 3 meter width of clearing between an existing water pipeline and a track and the north eastern section will require a 10 meter width of clearing.

Priority 3 flora species, *Aotus cordifolia* and *Cyathochaeta teretifolia* were observed during the site inspection (DEC, 2011) within the wetland area adjacent to the middle section of the south eastern line of clearing. These species are unlikely to be significantly impacted upon through the proposed clearing due to the large area of suitable habitat located adjacent to the clearing area.

Within the upland community at the southern end of the north eastern clearing area, a plant from the *Lachnostachys* genus was collected, however it could not be identified to a species level as it was sterile (DEC, 2011). The Collie coal basin is known to support two species of this genus, both of which are at their southern most range within the coal basin and only known from a total of four collections at the WA Herbarium. The sterile species found during the site inspection (DEC, 2011) is inferred to be one of these species; both species are considered significant species within the coal basin due to their poor level of collection and that they are range end populations. The clearing proposal will only slightly impact the large population of this species that was located during the site inspection (DEC, 2011).

Fauna of conservation significance which may inhabit the areas under application include; *Dasyurus geoffroii* (Western Quoll, Chuditch), *Bettongia penicillata* (Woylies), *Isodon obesulus* (Quenda), *Calyptorhynchus baudinii* (Baudin's Cockatoo) and *Calyptorhynchus banksii* subsp. *naso* (Forest Red-tailed Black-Cockatoo).

No priority ecological communities were recorded within the local area (10km radius).

The proposed clearing areas are located within State Forest 4 and a water course intersects one of the proposed clearing areas.

Given the above the areas proposed to be cleared may contain a high level of biodiversity, therefore this proposal may be at variance to this clearing principle.

**Methodology**      References:  
DEC (2011)

GIS database:  
- SAC Biodatasets (accessed March 2011)  
- Pre European Vegetation (DA 2001)

#### (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**

A search of NatureMap (DEC, 2007) identified 7 fauna species within the local area (10km radius) which are classed as rare or likely to become extinct; *Calyptorhynchus banksii* subsp. *naso* (Forest Red-tailed Black-Cockatoo), *Calyptorhynchus baudinii* (Baudin's Cockatoo), *Dasyurus geoffroii* (Western Quoll, Chuditch), *Myrmecobius fasciatus* (Numbat, Walpurti), *Phascogale tapoatafa* subsp. *ssp.* (Brush-tailed Phascogale, Wambenger), *Pseudocheirus occidentalis* (Western Ringtail Possum) and *Setonix brachyurus* (Quokka).

The only fauna presence visible during the site inspection (DEC, 2011) was medium sized diggings observed at the southern end of the north eastern applied clearing area. These diggings did not appear to be made by rabbits or southern brown bandicoots but may have been made by Woylies, which have been trapped within 7km of the applied area by DEC Wellington District staff (DEC, 2011).

Other species known to exist within the area through trapping within 7km and due to the habitat types present within the applied area include Chuditch, Quenda and black cockatoos.

One hollow bearing tree (*Eucalyptus marginata*) was observed at the northern end of the north eastern clearing area. This tree could support parrot species or small arboreal marsupials such as the Brush-Tailed Phascogale.

The removal of some potential habitat trees within the north eastern section of the applied area should not significantly impact upon black cockatoos foraging and nesting within the area due to the small scale of the clearing and other potential habitat trees located in adjacent state forest.

Fauna species are unlikely to be significantly impacted upon by the clearing due to the applied areas location adjacent to a large intact remnant.

The proposed clearing is not likely to be at variance to this clearing principle.

**Methodology** References:  
DEC (2007)  
DEC (2011)

GIS database:  
- SAC Biodatasets (accessed March 2011)  
- Pre European Vegetation (DA 2001)

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

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

Two rare flora species were identified within the local area (10km radius); *Caladenia lodgeana* (4 records) and *Jacksonia velveta* (6 records). All identified rare flora was located within Muja State Forest which is situated approximately 5km east of the areas under application.

A spring flora survey conducted by GHD (2008) over the Shotts Industrial Park area did not identify any rare flora.

Considering the above it is not likely that the applied areas include, or are necessary for the continued existence of rare flora. Therefore, the proposal is not likely to be at variance to this clearing principle.

**Methodology** References:  
GHD (2008)

GIS database:  
- DEC Tenure  
- SAC Biodatasets (accessed March 2011)  
- Pre European Vegetation (DA 2001)

**(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**

No threatened ecological communities were recorded within the local area (10km radius).

Therefore, this application is not likely to be at variance to this clearing principle.

**Methodology** GIS database:  
- SAC Biodatasets (accessed March 2011)  
- Pre European Vegetation (DA 2001)



**(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 (ha)	Remaining (%)
IBRA Bioregions* Jarrah Forest	4 506 656.99	2 514 549.9	55.8
Shire* Collie	170 198.75	143 053.75	84.05
Beard Vegetation Association* 3	2 661 088	1 862 948.13	70
Beard Vegetation Association within Bioregion* 3	2 390 591.59	1 657 963.5	69.35
Mattiske Vegetation Complex** CI	11 004.73	7 948.57	72.23
CF	6 236.58	3 810.05	61.1

\* (Shepherd et al. 2009)

\*\* (Mattiske and Havel, 1998)

Vegetation within the local area (10km radius) is well represented with approximately 80 per cent of its pre-European extent remaining, approximately 70 per cent of which is within conservation reserves.

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).

Considering the limited extent of proposed clearing and that the vegetation within local area is represented well above the national objective of 30 per cent, the applied areas are not considered to significant as remnants in an extensively cleared landscape.

This proposal is not at variance to this clearing principle.

**Methodology** References:  
Commonwealth of Australia (2001)  
Mattiske Consulting (1998)  
Shepherd et al (2009)

GIS database:  
- Collie 50cm Orthomosaic - Landgate 2006  
- Local Government Authorities - DLI 8/07/04  
- Pre European Vegetation (DA 2001)  
- SAC Biodatasets (accessed March 2011)

**(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 is at variance to this Principle**  
No wetlands have been mapped within a 10km radius of the applied areas.

A minor, perennial water course intersects the northern end of the south western line of the proposed clearing. This creekline has been identified (DEC, 2011) as the only area of significance along the south western section of clearing, as it was found to support on either side of the clearing application area, the Priority 3 listed species *Cyathochaeta teretifolia* and *Aotus cordifolia*. In addition to this, the creek line immediately to the west of the applied area supports *Callistemon glaucus* which is a significant species in the Collie coal basin as populations in this area are only found in the coal basin and are significantly disjunct from the nearest populations in the Whicher Scarp, east of Busselton.

Some vegetation growing in association with a water course will be removed under this proposal, therefore the clearing as proposed is at variance to this principle.

**Methodology** References:  
DEC (2011)



GIS database:

- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DEC 11/04/07
- Hydrography linear - DOW 13/7/06

**(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**

The areas under application have been mapped as containing soil type Cb44 which is described as the Collie basin area, generally flat to strongly undulating land with many sandy flats and swamps: chief soils seem to be leached sands (Uc2.33) in the lower and more swampy sites and (Uc2.21), often containing ironstone gravels, on flat to gently sloping areas (Northcote, 1960-68).

Given the long linear nature of the proposed clearing area and the fact that it is surrounded by a large intact remnant (State Forest 4) appreciable land degradation is not likely to occur.

This proposal is not likely to be at variance to this clearing principle.

**Methodology** References:  
Northcote (1960-68)

GIS database:

- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DEC 11/04/07
- Hydrography linear - DOW 13/7/06
- SAC Biodatasets (accessed March 2011)
- Topographic contours statewide - DOLA and ARMY 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 may be at variance to this Principle**

Approximately 70% of the local area surrounding the clearing sites is within conservation reserves. The clearing area falls within Collie State Forest (State Forest 4) and Muja State Forest is located 5km to the east.

The long linear nature of the proposed clearing will not impede fauna movement within State Forest.

The area under application is within a dieback risk area and the site inspection (DEC, 2011) observed potential signs of this disease. Therefore, there is a risk of the phytophthora disease spreading. Additionally, there is a risk of weeds spreading into State Forest via the clearing disturbance. Dieback and weed management will assist in mitigating these potential impacts.

Considering the above the clearing as proposed may be at variance to this clearing principle.

**Methodology** Reference:  
DEC (2011)

GIS database:

- Collie 50cm Orthomosaic - Landgate 2006
- DEC 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 Proposal may be at variance to this Principle**

The long linear nature of the proposed clearing is unlikely to cause deterioration in the quality of groundwater.

Due to the undulating nature of the land under application the proposed clearing may increase sedimentation levels in surface water runoff if the clearing occurs in wetter months.

Therefore, the proposal may be at variance to this clearing principle.

**Methodology** GIS database:  
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DEC 11/04/07  
- Hydrography linear - DOW 13/7/06

**(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 small scale of proposed clearing the incidence or intensity of flooding is unlikely to increase. Therefore, the proposed clearing is not likely to be at variance to this principle.

**Methodology GIS database:**

- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05

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

**Comments**

The area under application falls within the Collie groundwater area which is an area proclaimed under the Rights in Water and Irrigation Act 1914.

The applicant has been advised that if they intend to interfere with the bed and banks of any watercourses then they will need to apply for a licence to do so through the Department of Water.

The applicant has the power to access the land under the Energy Operators (Powers) Act 1979.

**Methodology GIS Database:**

- RIWI Act, Groundwater Areas - DoW 13/07/06

**4. References**

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DEC (2007) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed 5 April 2011.
- DEC (2011) Site Inspection Report for Clearing Permit Application CPS 4226/1, State Forest 4, Shire of Collie. Site inspection undertaken 24/03/2011. Department of Environment and Conservation, Western Australia (DEC Ref: A385139).
- GHD (2008) Report for Collie Shotts Industrial Park, Spring Flora and Fauna and Wetland Assessment. Prepared for LandCorp, March 2008.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment Australia.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Shepherd, D.P. (2009) 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.

**5. 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)