



## CLEARING PERMIT

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

<b>Purpose Permit number:</b>	CPS 3066/1
<b>Permit holder:</b>	Shire of Dardanup
<b>Duration of Permit:</b>	28 June 2009 – 28 June 2017

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 upgrades.

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

Waterloo Road Reserve (Paradise, 6236)  
Harris Road Reserve (Paradise, 6236)  
Martin Pelusey Road Reserve (Picton East, 6229)  
Martin Pelusey Road Reserve (Paradise, 6236)  
Pile Road Reserve (Ferguson, 6236)  
Pile Road Reserve (Henty, 6236)  
Wellington Mill Road Reserve (Wellington Mill, 6236)  
Shenton Road Reserve (Burekup, 6227)

#### **3. Area of Clearing**

The Permit Holder must not clear more than 17.8 hectares of native vegetation within the area shaded yellow on attached Plans 3066/1a, 3066/1b, 3066/1c, 3066/1d and 3066/1e.

#### **4. Clearing authorised**

Clearing authorised under this Permit must be completed by 28 June 2014, being five years from the date from which this Permit becomes valid.

#### **5. Clearing not authorised**

- (a) The Permit Holder shall not clear any native vegetation within the Harris Road Reserve north of the existing Harris Road, unless approved by the CEO.
- (b) The Permit Holder shall not clear any native vegetation within the Waterloo Road Reserve east of the existing Waterloo Road, unless approved by the CEO.

## 6. 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.

## 7. 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 *Local Government Act 1995* or any other written law.

## PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

### 8. 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.

### 9. 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 not move soils in wet 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.

### 10. Flora management

- (a) Prior to undertaking any clearing within Pile Road Reserve (Ferguson, 6236), the site shall be inspected by a *flora specialist* for the presence of *Synaphea* sp. Fairbridge Farm (D. Papenfus 696).
- (b) Prior to undertaking any clearing within Waterloo Road Reserve (Paradise, 6236), the site shall be inspected by a *flora specialist* for the presence of *Carex tereticaulis*.
- (c) Where rare flora or *priority flora taxa* are identified in relation to condition 10(a) or 10(b) of this Permit, the Permit Holder shall ensure that:
  - (i) all records of rare flora and *priority flora taxa* are submitted to the CEO;
  - (ii) no clearing occurs within 50 metres of identified rare flora, unless approved by the CEO; and
  - (iii) no clearing occurs with 10 metres of identified *priority flora taxa*, unless approved by the CEO.

## **PART III – OFFSETS**

### **11. Offsets**

The Permit Holder must develop and implement an *offset* in accordance with conditions 11(a) and 11(b) of this Permit for clearing of native vegetation identified as requiring an *offset* in the *decision report* and indicated in Plans 3066/1f, 3066/1g, 3066/1h and 3066/1i.

- (a) Determination of *offsets*:
- (i) in determining the *offset* to be implemented with respect to a particular area of native vegetation proposed to be cleared under this Permit, the Permit Holder must have regard to the *offset* principles contained in condition 11(b) of this Permit;
  - (ii) once the Permit Holder has developed an *offset proposal*, the Permit Holder must provide that *offset proposal* to the CEO for the CEO's approval prior to undertaking any clearing to which the *offset* relates, and prior to implementing the *offset*;
  - (iii) clearing may not commence until and unless the CEO has approved the *offset proposal* to which the clearing relates;
  - (iv) the Permit Holder shall implement the *offset proposal* approved under condition 11(a)(iii); and
  - (v) each *offset proposal* shall include a *direct offset*, timing for implementation of the *offset proposal* and may additionally include *contributing offsets*.
- (b) For the purpose of this condition, the *offset* principles are as follows:
- (i) *direct offsets* should directly counterbalance the loss of the native vegetation;
  - (ii) *contributing offsets* should complement and enhance the *direct offset*;
  - (iii) *offsets* are implemented only once all avenues to avoid, minimise, rectify or reduce environmental impacts have been exhausted;
  - (iv) the environmental values, habitat, species, *ecological community*, physical area, ecosystem, landscape, and hydrology of the *offset* should be the same as, or better than, that of the area of native vegetation being *offset*;
  - (v) a ratio greater than 1:1 should be applied to the size of the area of native vegetation that is offset to compensate for the risk that the *offset* may fail;
  - (vi) *offsets* must entail a robust and consistent assessment process;
  - (vii) in determining an appropriate *offset*, consideration should be given to ecosystem function, rarity and type of *ecological community*, vegetation *condition*, habitat quality and area of native vegetation cleared;
  - (viii) the *offset* should either result in no net loss of native vegetation, or lead to a net gain in native vegetation and improve the *condition* of the natural environment;
  - (ix) *offsets* must satisfy all statutory requirements;
  - (x) *offsets* must be clearly defined, documented and audited;
  - (xi) *offsets* must ensure a long-term (10-30 year) benefit; and
  - (xii) an *environmental specialist* must be involved in the design, assessment and monitoring of *offsets*.

## **PART IV – RECORD KEEPING AND REPORTING**

### **12. 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 flora management pursuant to condition 10 of this Permit:
  - (i) the location of each rare flora and *priority flora taxa* recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings; and
  - (ii) the species of each rare flora or *priority flora taxa* identified.
  
- (c) In relation to the *offset* of areas pursuant to condition 11:
  - (i) the location of any area of *offsets* 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 *offset* activities undertaken; and
  - (iii) the size of the *offset* area (in hectares).

### 13. Reporting

- (a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 12 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
  
- (b) Prior to 28 March 2017, the Permit Holder must provide to the CEO a written report of records required under condition 12 of this Permit where these records have not already been provided under condition 13(a) of this Permit.

### Definitions

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

**condition** means the rating given to native vegetation using the *Keighery scale* and refers to the degree of change in the structure, density and species present in the particular vegetation in comparison to undisturbed vegetation of the same type;

**contributing offsets** has the same meaning as is given to that term in the Environmental Protection Authority's *Position Statement No.9 Environmental Offsets*, January 2006;

**Department** means the Department of Environment and Conservation (Western Australia);

**decision report** means the decision report outlining the assessment of CPS 3066/1.

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

**direct offsets** has the same meaning as is given to that term in the Environmental Protection Authority's *Position Statement No.9 Environmental Offsets*, January 2006;

**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;

**flora specialist** means a person with specific training and/or experience in the ecology and taxonomy of Western Australian flora;

**Keighery scale** means the vegetation condition scale described in *Bushland Plant Survey: A Guide to Plant Community Survey for the Community (1994)* as developed by B.J. Keighery and published by the Wildflower Society of WA (Inc). Nedlands, Western Australia;

**local provenance** means native vegetation seeds and propagating material from natural sources within 10-40 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;

**offset/s** means an offset required to be implemented under Condition 11 of this Permit;

**offset proposal** means an *offset* determined by the Permit Holder in accordance with condition 11 of this Permit;

**optimal time** means the period from April to May for undertaking *direct seeding*, and the period from May to June for undertaking *planting*;

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

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

**remedial action/s** means, for the purpose of this Permit, any activity that is required to ensure successful establishment of an approved *offset*, and may include a combination of soil treatments and *revegetation*.

**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*.

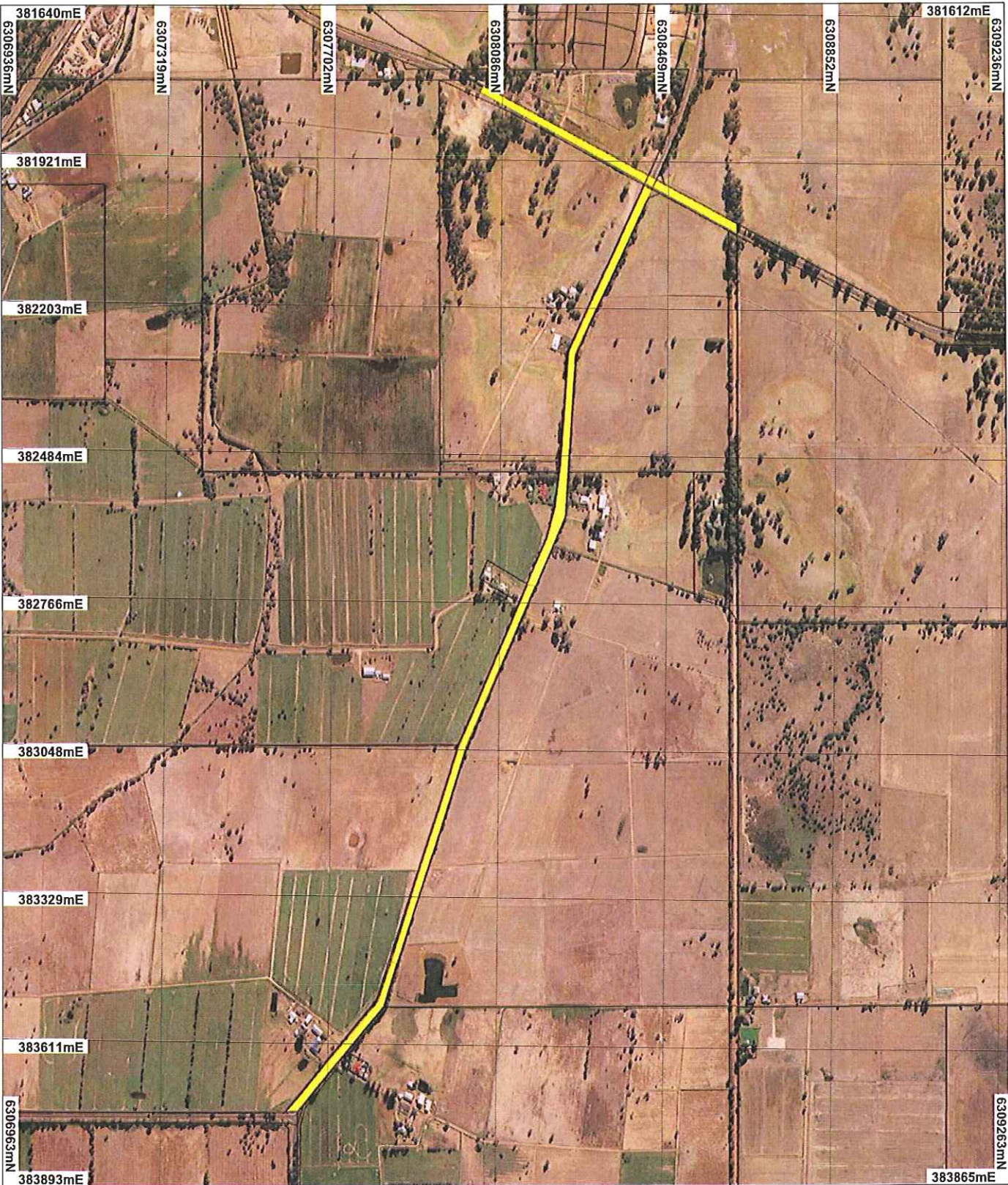


Keith Claymore  
A/ DIRECTOR  
NATURE CONSERVATION DIVISION

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

28 May 2009

# Plan 3066/1a



## LEGEND

- Clearing Instrument
- Cassare
- Burbury 50cm Orth
- 2005



Scale 1:10969  
 (Approximate when reproduced at A4)

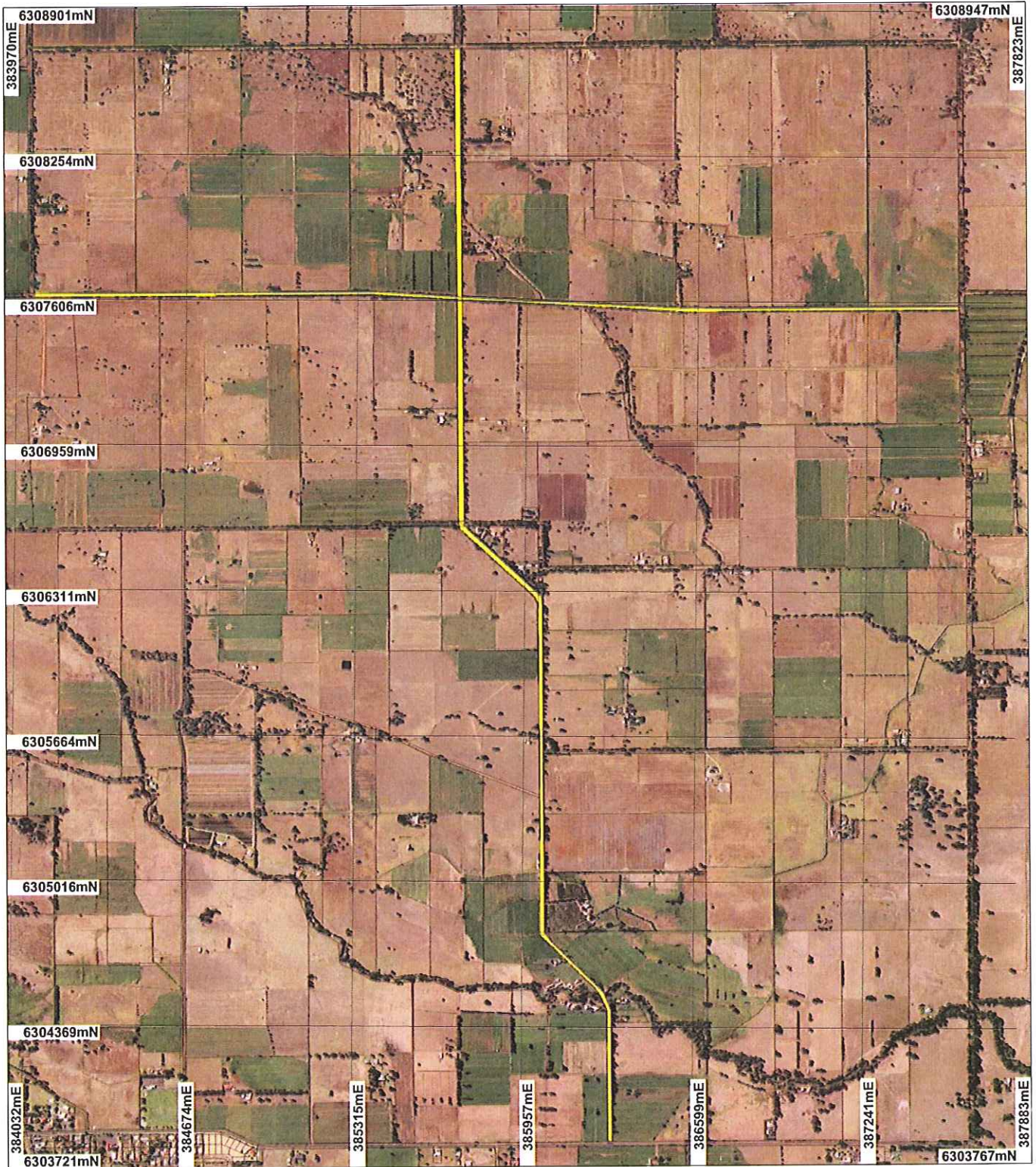
Geocentric Datum Australia 1994

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

*K. Claymore*  
 Date: 28/5/05

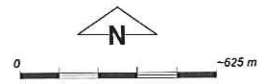
Officer with delegated authority under Section 20 of the Environmental Protection Act, 1986  
 Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.

# Plan 3066/1b



## LEGEND

- Clearing Instruments
- Cadastre
- Bunbury 50cm Orthomosaic - Landgate 2006



Scale 1:22788  
(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.

*Karl Claymore* 18/5/07  
Date

K Claymore

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

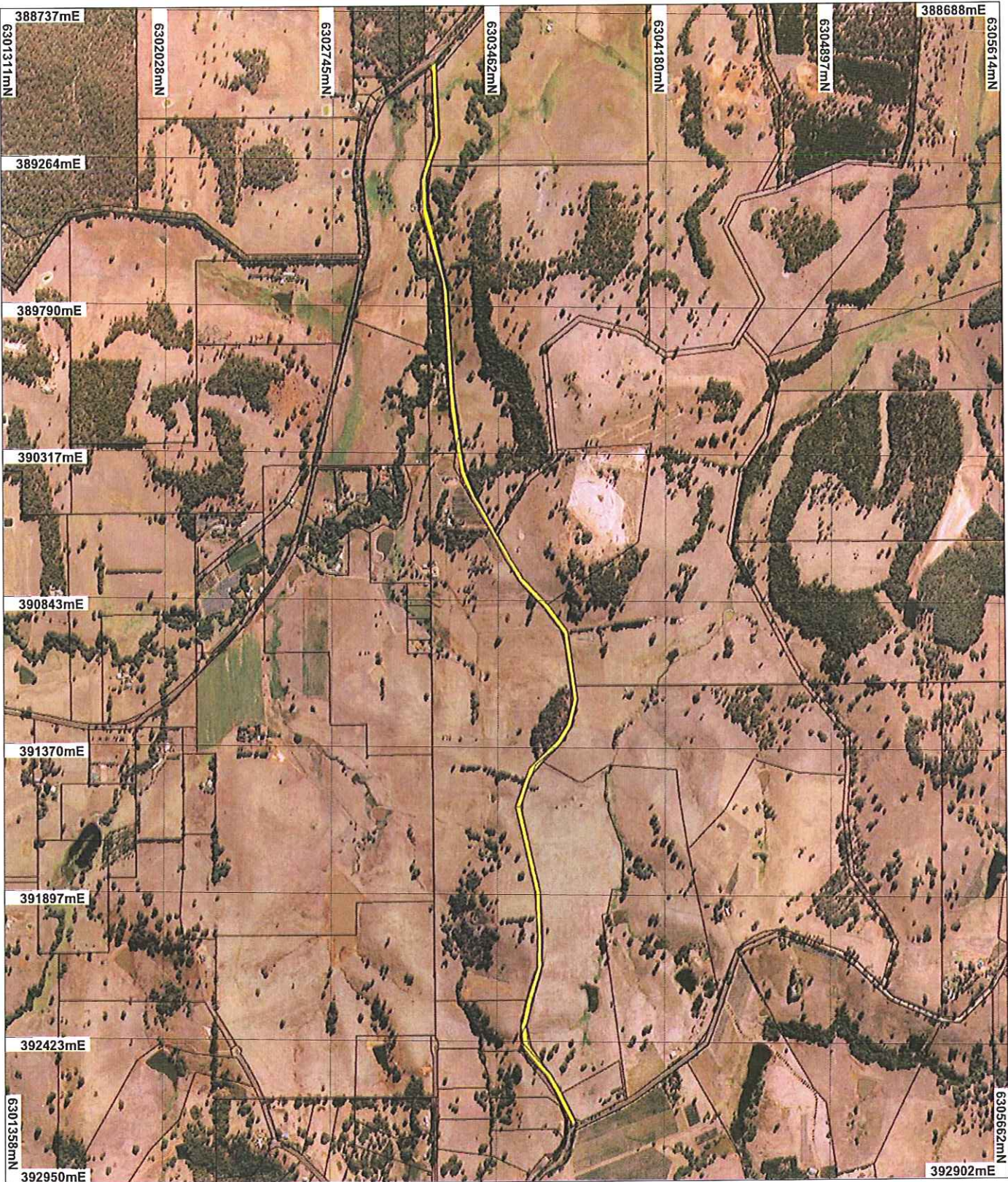
Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



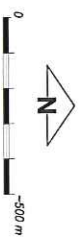
Department of Environment and Conservation

WA Crown Copyright 2002

# Plan 3066/1c



- LEGEND**
- Clearing Instrument
  - Bursary Soam Ork
  - 2005



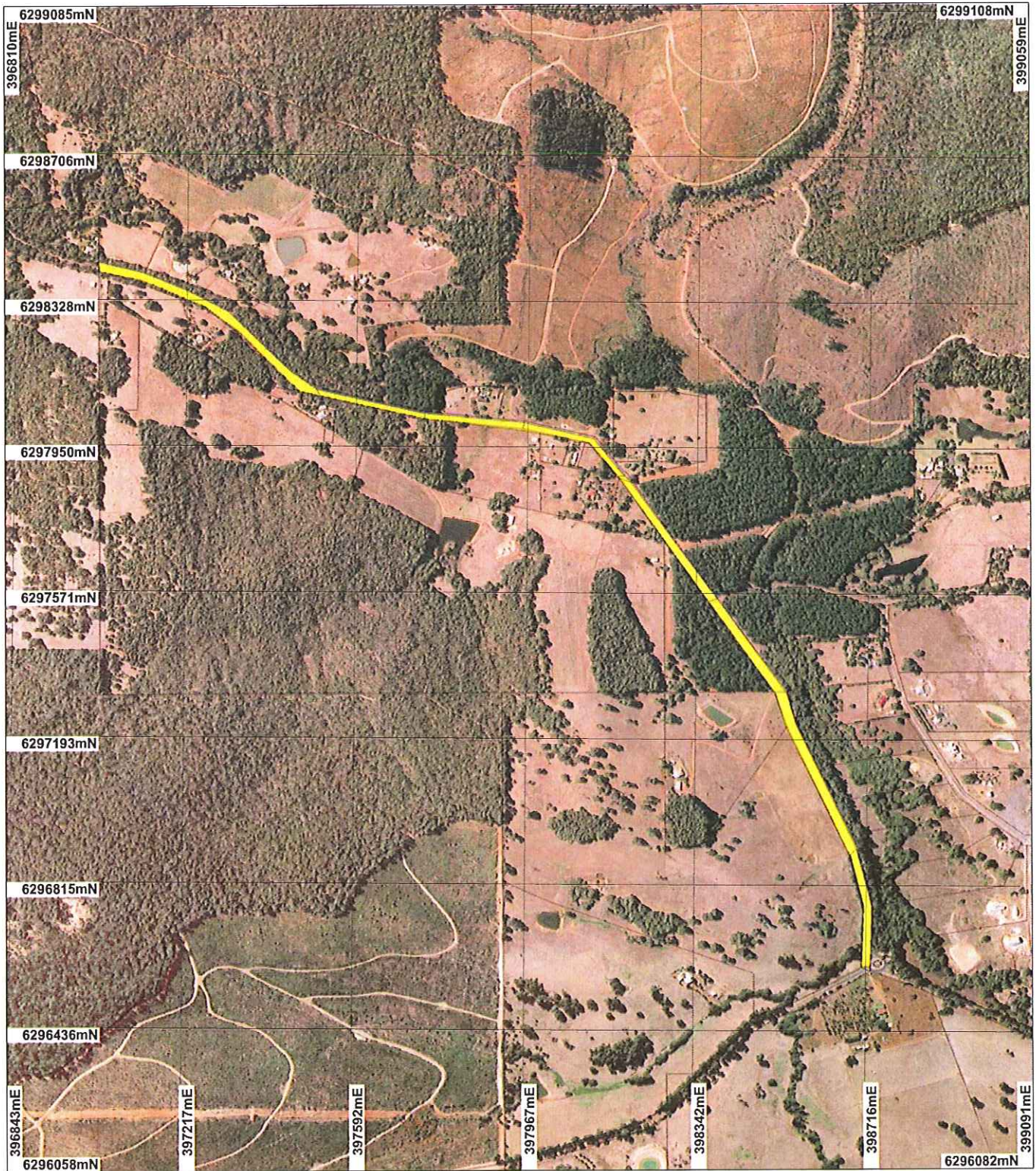
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 Note: the data in this map have not been projected. This may result in geometric distortion or misalignment inaccuracy.

*K. Cleymore*  
 K Cleymore ..... Date: 28/10/09

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



# Plan 3066/1d



## LEGEND

- Clearing Instruments
- Cadastral
- Bunbury 50cm Orthomosaic - Landgate 2006



0 ————— 375 m

Scale 1:13310

(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.

*Kinlayne* Date *28/2/09*  
K Claymore

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

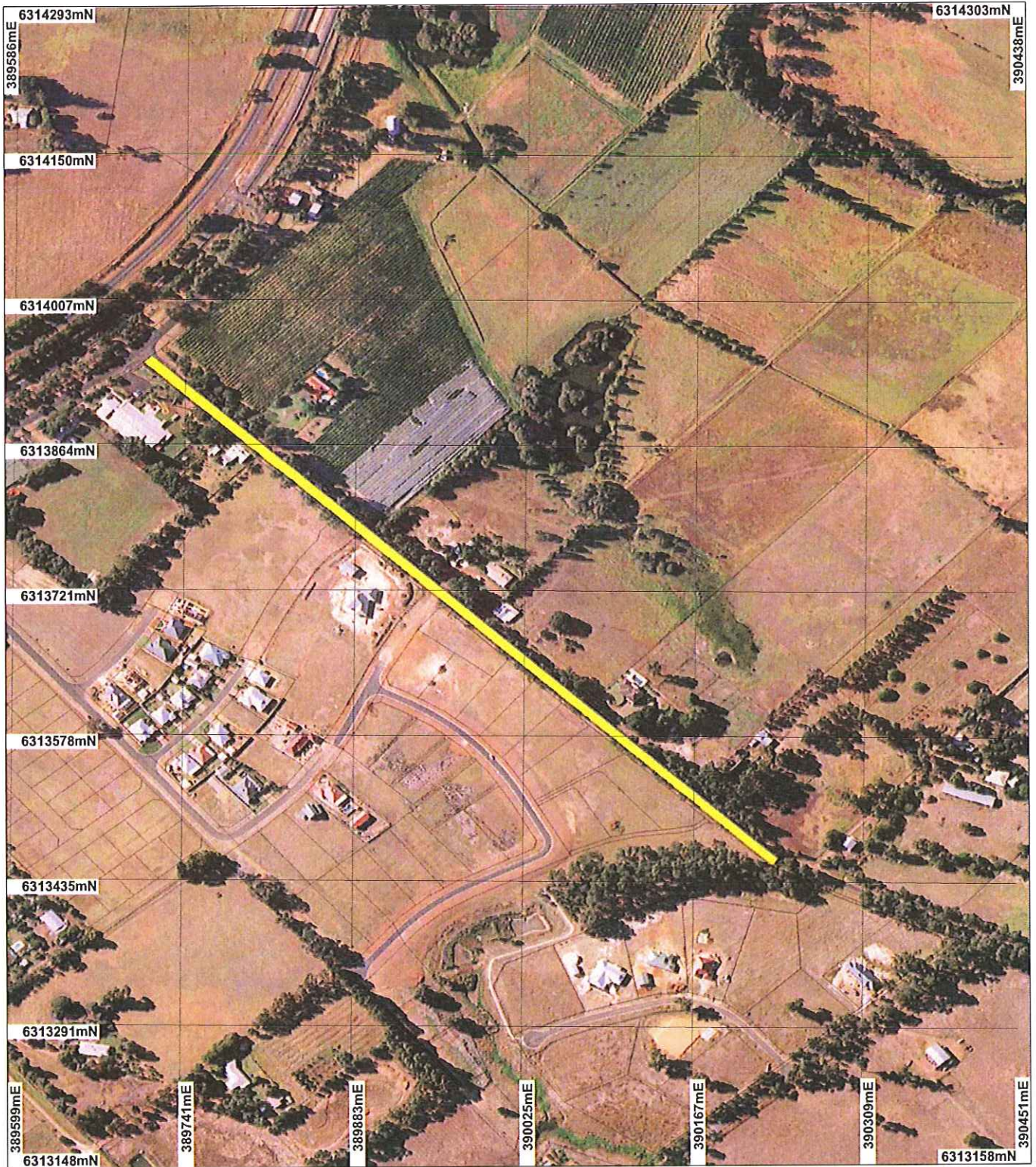
Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



Department of Environment and Conservation

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# Plan 3066/1e



## LEGEND

- Clearing Instruments
- Cadastre
- Bunbury 50cm Orthomosaic - Landgate 2006



0 ————— 150 m

Scale 1:5038  
(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.

*Kris Claymore* Date *28/07/09*  
K Claymore

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 3066/1f



- LEGEND**
- Cadastre
  - Interim Biogeograph Australia
  - Pre-European Vegetation
  - Road Centrelines
  - Clearing Instrument



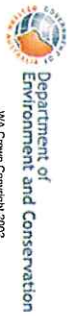
Scale 1:30411  
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

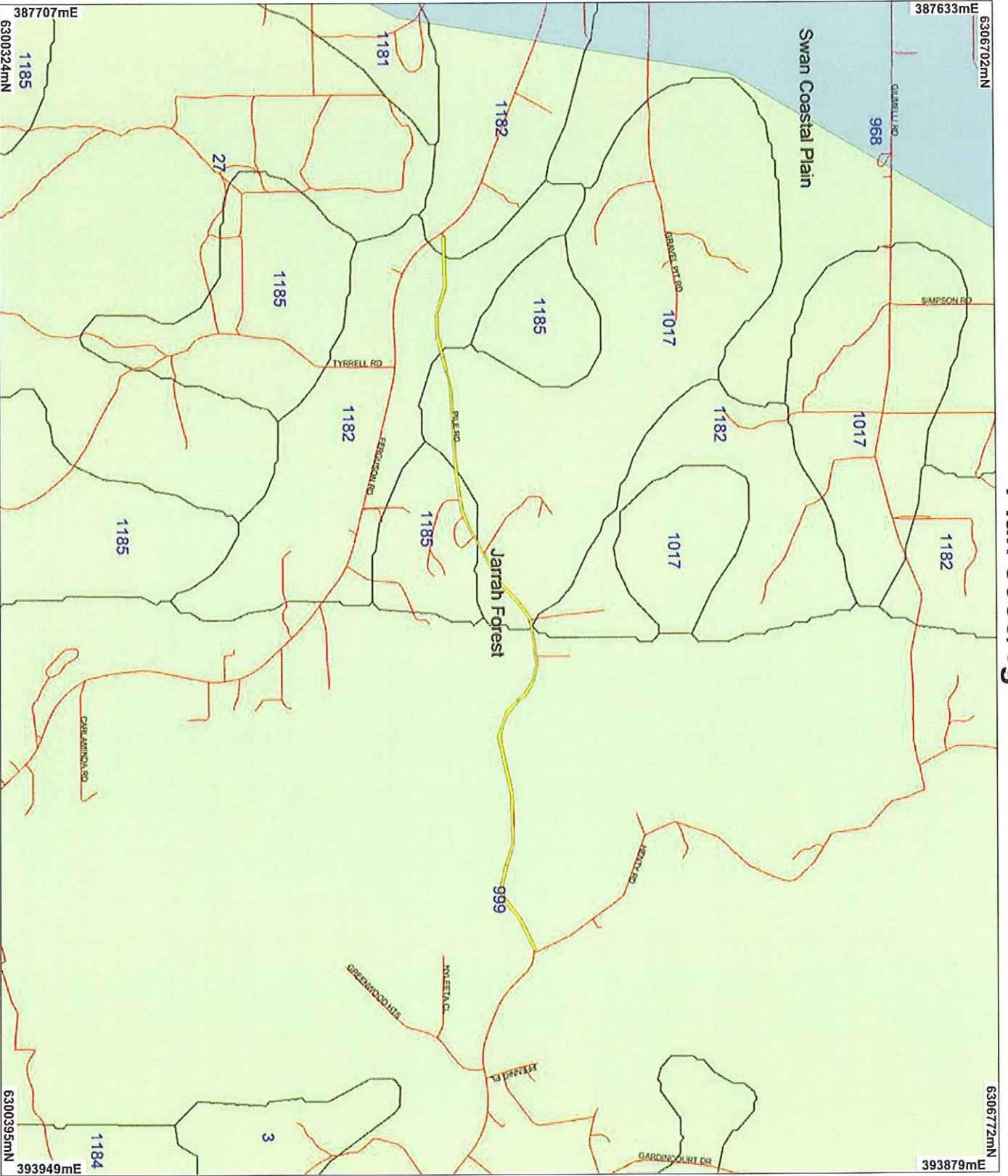
*K. Cleynne*  
K Cleynne ..... Date: 7/2/10

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 3066/1g



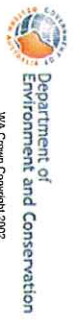
- LEGEND**
- Cadastral
  - Interim Biogeography Australia
  - Pre-European Vegetation
  - Road Centrelines
  - ✂ Clearing Instrument

Scale 1:30405  
 (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 misalignment inaccuracy.

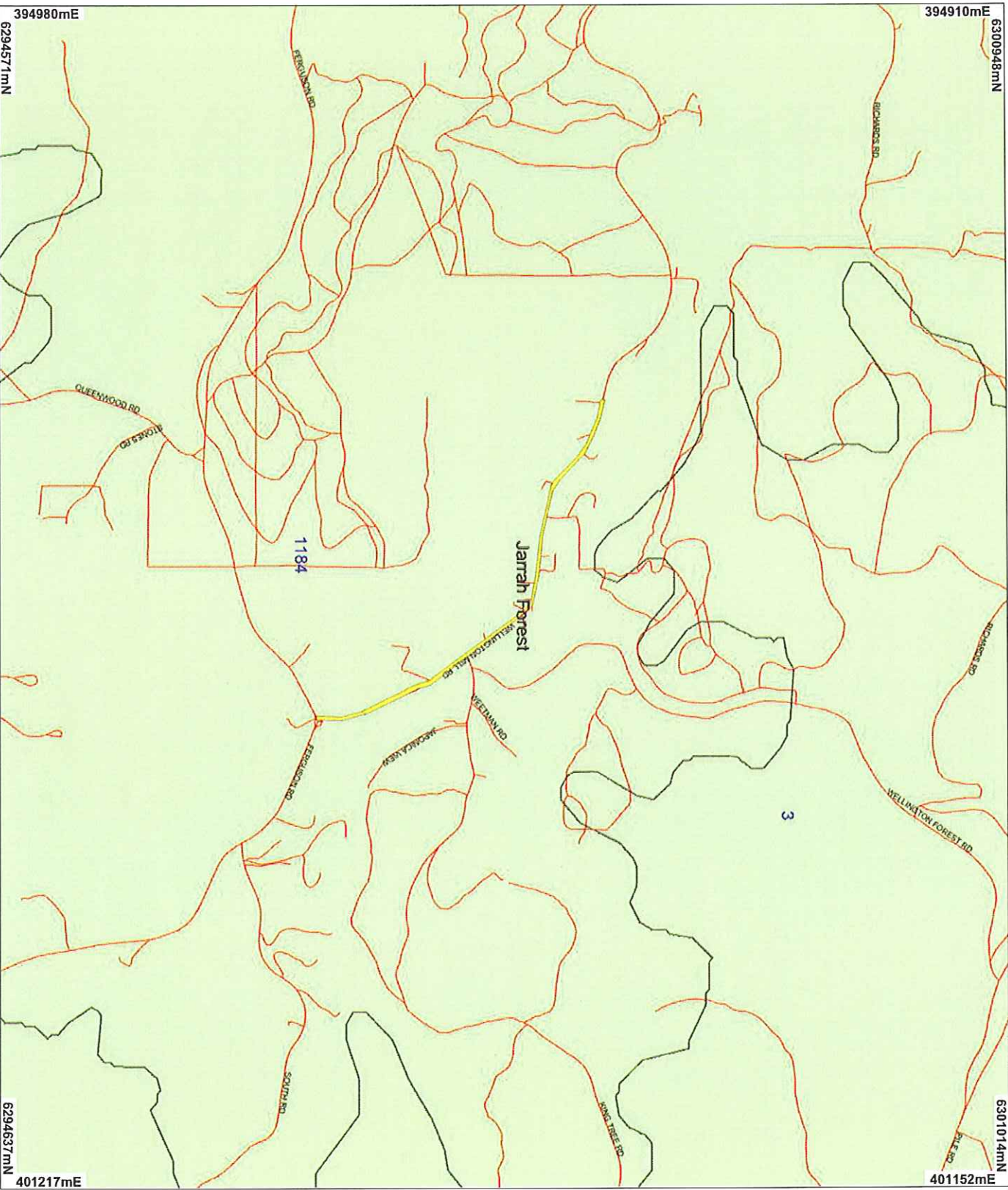
K. Cleymore  
 Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

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

Date: 22/5/09

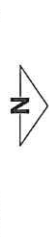


# Plan 3066/1h



## LEGEND

- Cadastral
- Interim Biogeography Australia
- Pre-European Vegetation
- Road Centrelines
- Clearing Instrument



Scale 1:30395  
 (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.

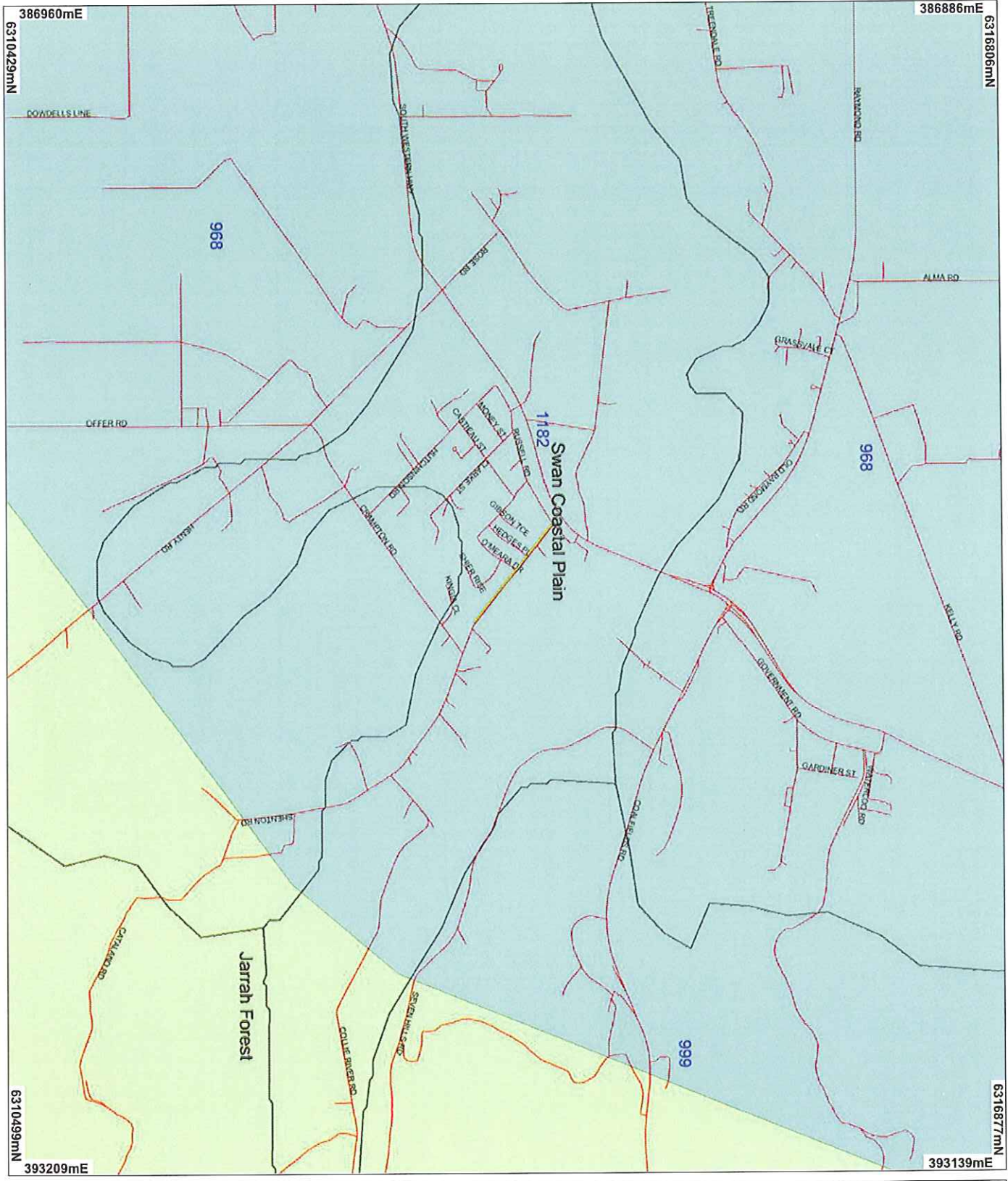
*Keith Cleymore*  
 Date 28/5/19  
 K Cleymore  
 Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

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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Plan 3066/1i



**LEGEND**

- Cadastral
- Interim Biogeographic Australia
- Pre-European Veger
- Road Centrelines
- Clearing Instrument

Scale 1:30422  
 (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.

*K. Claymore*  
 Officer with delegated authority under Section 20 of the Environmental Protection Act, 1986  
 K. Claymore  
 Date 2/5/09





## 1. Application details

### 1.1. Permit application details

Permit application No.: 3066/1  
 Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Shire of Dardanup

### 1.3. Property details

Property:

- ROAD RESERVE ( PARADISE 6236)
- ROAD RESERVE ( PARADISE 6236)
- ROAD RESERVE ( PARADISE 6236)
- ROAD RESERVE ( PARADISE 6236)
- ROAD RESERVE ( PARADISE 6236)
- ROAD RESERVE ( PICTON EAST 6229)
- ROAD RESERVE ( WELLINGTON MILL 6236)
- ROAD RESERVE ( WELLINGTON MILL 6236)
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- ROAD RESERVE ( FERGUSON 6236)
- ROAD RESERVE ( HENTY 6236)
- ROAD RESERVE ( FERGUSON 6236)
- ROAD RESERVE ( FERGUSON 6236)
- ROAD RESERVE ( HENTY 6236)
- ROAD RESERVE ( PARADISE 6236)
- ROAD RESERVE ( BUREKUP 6227)
- ROAD RESERVE ( PARADISE 6236)
- ROAD RESERVE ( PARADISE 6236)

Local Government Area: Shire Of Dardanup  
 Colloquial name: Harris Road Reserve

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
17.8		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
Beard Vegetation Associations:			
968 - Medium woodland; jarrah, marri & wandoo	The application is to clear 17.8ha of native vegetation along 19km of existing roads for road upgrades.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The vegetation condition ranges from completely degraded to very good (Keighery 1994), depending on the extent of weed intrusion, and disturbance from previous clearing.
999 - Medium woodland; marri			
1017 - Medium open woodland; jarrah & marri, with low woodland; banksia			
1182 - Medium woodland; Eucalyptus rudis & Melaleuca raphiophylla			
1184 - Medium woodland-fringing; jarrah, marri, Eucalyptus rudis & Agonis flexuosa			

1185 - Medium woodland; jarrah, marri & blackbutt

Mattiske Vegetation Associations:

as above

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

Lowdon - Open forest of *Corymbia calophylla*-*Eucalyptus marginata* subsp. *marginata*-*Agonis flexuosa* with some *Eucalyptus wandoo* and occasional *Corymbia haematoxylon* on slopes, and woodland of *Eucalyptus rudis*-*Melaleuca raphiophylla* on valley floor in the humid zone.

Darling Scarp - Mosaic of open forest of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla*, with some admixtures with *Eucalyptus laeliae* in the north (subhumid zone), with occasional *Eucalyptus marginata* subsp. *elegantella* (mainly in subhumid zone) and *Corymbia haematoxylon* in the south (humid zone) on deeper soils adjacent to outcrops, woodland of *Eucalyptus wandoo* (subhumid and semiarid zones), low woodland of *Allocasuarina huegeliana* on shallow soils over granite outcrops, closed heath of *Myrtaceae*-*Proteaceae* species and lithic complex on or near granite outcrops in all climate zones.

Kingia - Open forest of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla*-*Allocasuarina fraseriana*-*Banksia grandis*-*Xylomelum occidentale* on lateritic uplands in perhumid and humid zones.

Preston - Woodland of *Eucalyptus rudis*-*Agonis flexuosa*-*Banksia seminuda* along streams, open forest of *Corymbia calophylla*-*Eucalyptus patens* on slopes in the humi

Jalbaragup - 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.

### 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 at variance to this Principle**

The application is for the clearing of 17.8ha of native vegetation along 19km of existing roads, for road upgrades.

The vegetation under application along Wellington Mills Road, and the west half of Pile Road, is not likely to be locally significant vegetation for biodiversity given its proximity to Wellington State Forest.

The vegetation within the application areas along Waterloo Road, Harris Road, Shenton Road and the east half of Pile road, however, may be providing significant biodiversity corridors and fauna habitat as they occur within highly cleared landscapes. The Roadside Conservation Committee has suggested that, where possible, vegetation should only be cleared to one side of these roads in order to maintain ecological linkages and minimise environmental impacts to the remaining vegetation (RCC Advice 2009). A condition will be placed on the permit to limit clearing to one side of the road.

##### Methodology RCC Advice (2009)

GIS database:

- CALM Managed Lands and Waters - CALM 01/06/05
- SAC Biodatasets - accessed 3 April 09
- Mattiske Vegetation (01/03/1998)
- Declared Rare and Priority Flora List - CALM 13/08/03
- Hedde Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- Clearing Regulations, Environmentally Sensitive Areas 30 May 2005
- NLWRA, Current Extent of Native Vegetation 20 Jan 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**

Eight rare and two priority fauna species have been recorded near the areas under application. Given the linear



nature of the proposed clearing and the availability of large areas of suitable habitat within the local area, the vegetation under application is not likely to constitute significant habitat for all but two of these species.

*Pseudocheirus occidentalis* (Western Ringtail Possum) has been recorded as close as 700m from areas under application. The extent of clearing proposed along areas of suitable habitat for this rare species, including *Agonis flexuosa* (Peppermint) trees, is limited to 2m either side of the existing road. The local area has approximately 40% native vegetation remaining, including good condition Western Ringtail Possum habitat nearby or neighbouring the application areas (DEC 2009). The proposed clearing is therefore not likely to have a significant impact on habitat or individuals of this species (DEC 2009).

*Moggridgea tingle* (Tingle Trapdoor Spider) has been recorded 2.1km east of the Wellington Mill Road section of the proposed clearing. This species is considered endangered. The Tingle Trapdoor Spider is usually found within relatively undisturbed forest along creeklines (WA Museum 2009), and as such the likelihood of it occurring within the application area is greatly reduced.

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

**Methodology** DEC (2009)  
WA Museum (2009)

GIS database:

- CALM Managed Lands and Waters - CALM 01/06/05
- Matiske Vegetation (01/03/1998)
- SAC Biodatasets - accessed 3 April 2009
- Hydrography linear - DOW 13/7/06
- Hydrography linear (hierarchy) - DoW 13/7/06

**(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**

Two rare and nineteen priority flora species have been recorded within close proximity to the application area and occur within the same soil and vegetation types as the applied area. However, the only rare or priority flora species considered to possibly occur within the application area are *Synaphea* sp. Fairbridge Farm (DRF) at the north west end of Pile Road, and *Carex tereticaulis* (P1) on the corner of Waterloo Dardanup Rd and Ferguson Rd (DEC 2009).

The clearing as proposed may therefore be at variance to this principle. Flora management conditions will be imposed on the permit for sections that may contain rare or priority flora.

**Methodology** DEC (2009)

GIS database:

- Declared Rare and Priority Flora List - CALM 13/08/03
- Matiske Vegetation (01/03/1998)
- Heddle Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 5 May 09
- Soils, Statewide DA 11/99

**(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**

Three threatened ecological communities occur within the local area of the proposed clearing. Whilst the proposed clearing is outside the buffer to these known occurrences, 2 of these TECs exist within the same soil and vegetation types as part of the application area.

SCP08: Herb rich shrublands in clay pans.

SCP3c: *Eucalyptus calophylla* - *Xanthorrhoea preissii* woodlands and shrublands, Swan Coastal Plain.

Both these TECs occur 3.3km north of the northern most extent of the Waterloo Road application area, within crown reserve. The vegetation under application along Waterloo Road consists of trees over a weedy understorey, and no native vegetation links the application area with the remnant containing TECs.

It is unlikely these TECs occur within the application area given the condition of the vegetation under application (DEC 2009). The clearing as proposed is therefore not likely to be at variance to this principle.

**Methodology** TEC Database (Accessed 5 May 2009)  
DEC (2009)

GIS Database:

- SAC Biodatasets - accessed 3 April 09
- Mattiske Vegetation (01/03/1998)
- Heddle Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- Soils, Statewide DA 11/99

**(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 at variance to this Principle**

The area under application falls within the Jarrah Forest and Swan Coastal Plains IBRA bioregions which have approximately 54.16% and 38.84% of their pre-European extent of vegetation coverage remaining. Aerial photography indicates the local (10km radius) area is approximately 50% vegetated with native vegetation.

The application includes areas of Heddle Vegetation Complexes which exist below the 30% threshold level, including Guildford complex (5.0%), Swan complex (15.6%) and Dardanup complex (8.05) (Heddle, 1980). The extent of Heddle Vegetation Complex remaining is not available for some areas under application.

Of the 6 mapped Beard vegetation associations within the area under application, there are 2 that occur within the Swan Coastal Plain and 1 within the Jarrah Forest bioregion that have less than 30% of their pre-European extent remaining, and are therefore considered by the EPA (2000) to be below threshold levels for maintaining biodiversity. In addition, Beard association 968 has less than 10% remaining.

	Pre-European (ha)	Current extent (ha)	Remaining (%)
<b>BIOREGIONS</b>			
Swan Coastal Plain (SCP)			
- overall *	1 501 208	583 140	38.84
Jarrah Forest (JF)			
- overall *	4 506 655	2 440 940	54.16
<b>LOCAL GOVERNMENT AUTHORITIES</b>			
Shire of Dardanup			
- overall *	52 847	25 663	48.57
<b>VEGETATION ASSOCIATIONS</b>			
Beard association: 968*			
- in SCP bioregion	136 188	8 637	6.34
Beard association: 999*			
- in JF bioregion	11 531	3 129	27.14
Beard association: 1017*			
- in JF bioregion	11 846	9 326	78.72
Beard association: 1182*			
- in SCP bioregion	12 309	1 404	11.41
- in JF bioregion	11 127	5 143	46.22
Beard association: 1184*			
- in JF bioregion	63 562	26 971	42.43
Beard association: 1185*			
- in JF bioregion	15 158	14 001	92.37

\*statistics from DEC/DAFWA (Shepherd et al, 2007)

The application areas transverse 5 Mattiske Vegetation Complexes, all of which retain greater than 40% of their pre-European Vegetation.

All vegetation complexes and associations which have less than 30% of their pre-European extent remaining are considered to be critical assets by the EPA (2000). Impacts to critical assets are to be preferentially avoided

where possible or minimised and the residual impacts offset. The clearing as proposed is therefore at variance to this principle, and avoid, minimise and offset conditions will be imposed on the permit to mitigate the impacts to extensively cleared vegetation associations.

**Methodology** EPA (2000)  
Heddle (1980)  
Mattiske Consulting (1998)  
Shepherd (2007)  
Shepherd et al (2001)

GIS Databases:

- Heddle Vegetation Complexes - DEP 22/06/95
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Local Government Authorities - DLI 8/07/04
- Mattiske Vegetation - CALM 1/03/1998
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 3 April 2009
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001

**(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**

The Ferguson River intersects the application area and as such sections of vegetation to be cleared are growing in association with a watercourse. Additionally, a multi-use palusplain wetland intersects the applied area. Infrastructure including culverts and bridges exist within the application area, and as such no clearing to construct these will be required. It is, however, possible that some vegetation cleared may be growing in association with watercourses, although this will be minimal as clearing is perpendicular to watercourses. The clearing as proposed may be at variance to this principle.

**Methodology** GIS Databases:  
- CALM Managed Lands and Waters - CALM 01/06/05  
- Hydrography linear - DOW 13/7/06  
- Hydrography linear (hierarchy) - 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**

Given the nature of the application, localised land degradation is likely to occur during the works, however this is likely to be only short term. However, these issues should be minimal as the existing roads already have roadside infrastructure in place to prevent land degradation associated with roads.

Given the linear nature of the application area, it is unlikely that the proposed clearing of native vegetation would cause appreciable land degradation.

**Methodology** GIS database:  
- Average Annual Rainfall Isohyets - WRC 29/09/98  
- Annual Evaporation Contours (Isopleths) - WRC 29/09/98  
- Hydrogeology, statewide - DOW 13/07/06  
- Hydrographic catchments, catchments - DoW 01/06/07  
- Hydrography, linear - DOW 13/7/06  
- Salinity Risk LM 25m - DOLA 00  
- Soils, Statewide DA 11/99  
- Topographic contours statewide - DOLA and ARMY 12/09/02  
- Hydrogeology, Statewide 05 Feb 2002

**(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**

The application area is adjacent to Wellington State Forest, Boyanup State Forest, and 600m from Wellington National Park. The clearing may impact on environmental values and could increase the intrusion of dieback or weed species into these conservation areas. Therefore, the proposal may be at variance to this principle. Weed and dieback management conditions will be imposed on the permit.

**Methodology** GIS Databases:  
- CALM Managed Lands and Waters - CALM 01/06/05

- Hydrography, linear - DOW 13/7/06
- Register of National Estate - Environment Australia, Australian and world heritage division 12 Mar 02
- System 1 to 5 and 7 to 12 areas - DEC 11/7/06

**(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 clearing application passes through the Lescehnault Esturary Preston River and Lower Collie catchments.

The proposed clearing may cause some short term water quality issues in terms of localised surface water sedimentation during works. However, these issues should be minimised with the inclusion of infrastructure to prevent water quality issues associated with roads.

Due to the linear nature of the areas proposed to be cleared, it is unlikely that the clearing of native vegetation will cause significant deterioration in the quality of surface water and groundwater within the local area.

**Methodology GIS database:**

- Evapotranspiration Isopleths - WRC 29/09/98
- Groundwater Salinity Statewide DoW 13/07/06
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrography, linear - DOW 13/7/06
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
- Salinity Risk LM 25m - DOLA 00
- Topographic Contours, Statewide - DOLA 12/09/02

**(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**

As the proposal is for the clearing of 17.8ha along 19km of road reserve, the clearing will be linear and as such unlikely to cause or exacerbate flooding. The proposal is not likely to be at variance to this principle.

**Methodology GIS database:**

- Evaporation Isopleths - WRC 29/09/98
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrography, linear - DoW 13/7/06
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
- Topographic Contours, Statewide - DOLA 12/09/02

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

**Comments**

The proposed clearing is restricted to road reserves.

**Methodology GIS database:**

- Cadastre - Landgate Dec 07

**4. Assessor's comments**

**Comment**

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

**5. References**

- DEC (2009) South West Regional Advice. Department of Environment and Conservation Trim Ref DOC85685.
- EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority, Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- RCC (2009) Advice. TRIM ref DOC 83867.
- 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. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
- WA Museum (2009) Advice. TRIM ref DOC 85731.

## 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)