GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 3854/1
File Number: 2010/005418
Duration of Permit: 3 January 2011 to 3 January 2013

PERMIT HOLDER

Shire of Serpentine Jarrahdale

LAND ON WHICH CLEARING IS TO BE DONE

Turner Street road reserve (Serpentine 6125)

AUTHORISED ACTIVITY

Permit Holder shall not clear more than 0.12 hectares of native vegetation within the area shaded yellow on attached Plan 3854/1.

CONDITIONS

1. **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.

2. **Vegetation management**
   (a) Prior to commencing clearing, the Permit Holder shall construct a temporary fence enclosing the area shaded red on attached Plan 3854/1.

   (b) At the completion of clearing authorised under this Permit, the Permit Holder must construct a permanent fence enclosing the area shaded red on attached Plan 3854/1. The fence must be constructed and maintained so as to be adequate to exclude vehicle access. Construction of the fence must be completed within 3 months of completing the clearing.

3. **Revegetation and rehabilitation**
   (a) Within 3 months of undertaking clearing authorised under this Permit, the Permit Holder must *plant* 10 *Corymbia calophylla* individuals within the area shaded red on attached Plan 3854/1, ensuring only *local provenance* seeds and propagating material are used.

   (b) Within 12 months of undertaking *planting* in accordance with condition 3(a) of this Permit, the Permit Holder must:
      (i) determine the survival rate of the trees planted in accordance with condition 3(a); and
      (ii) where the native trees planted under condition 3(a) are unlikely to survive, additional *planting* is required.

4. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

(a) In relation to the vegetation management of areas pursuant to condition 2 of this Permit:
   (i) Within one month of installing the temporary fence the Permit Holder must notify the CEO in writing that the fence has been completed; and
   (ii) Within one month of installing the permanent fence the Permit Holder must notify the CEO in writing that the fence has been completed.

(b) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 3 of this Permit:
   (i) the location of any areas *planted*, 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 *planting* activities undertaken; and
   (iii) the number of trees *planted*.

5. 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 4 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 3 October 2012, the Permit Holder must provide to the CEO a written report of records required under condition 4 of this Permit where these records have not already been provided under condition 5(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;

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 5 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;

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

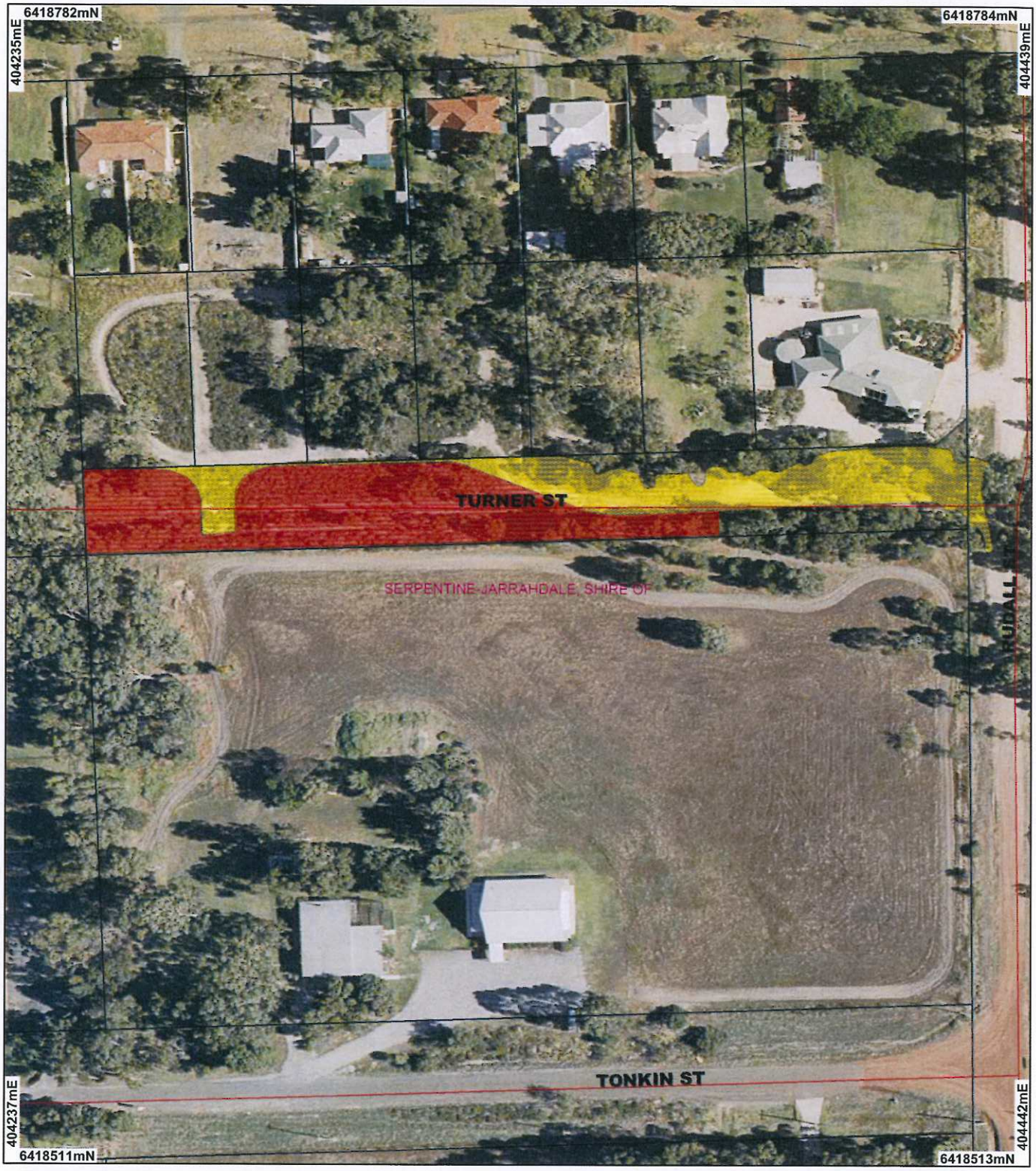
weed/s means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.

Keith Claymore
A/ ASSISTANT DIRECTOR
NATURE CONSERVATION DIVISION

Officer delegated under Section 20
of the Environmental Protection Act 1986

9 December 2010

Plan 3854/1



LEGEND

Clearing Instruments

- Areas Subject to Conditions
- Areas Approved to Clear
- Road Centrelines
- Cadastre

- Local Government Authorities

Swan Coastal Plain Central
20cm Orthomosaic - Landgate
2009

N

0 30 m

Scale 1:1200
(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 of measurement inaccuracies.

K Claymore Date 9/12/10

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 acknowleged by the agency acronym in the legend.

Department of Environment and Conservation

Our environment, our future

** Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.*

Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3854/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: **Shire of Serpentine Jarrahdale**

1.3. Property details

Property: ROAD RESERVE (SERPENTINE 6125)

Local Government Area:

Colloquial name: Turner Street - unmade road reserve

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Granted

Decision Date: 9 December 2010

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 type: 968: Medium woodland; jarrah, marri and wandoo (Shepherd, 2009) Heddle complex: Guildford Complex A mixture of open forest to tall open forest of E. calophylla - E. wandoo - E. marginata and woodland of E. wandoo (with rare occurrences of E. lane-poolei). Minor components include E. rudis - M. rhaphiophylla. (Heddle et al, 1980)	The proposal comprises a total area of 0.12 ha for the construction of a road to service Lots 5-10 Turner Street.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994) to	The vegetation description and condition is based on a consultant's report and a site visit conducted by DEC officers; the vegetation condition ranges from degraded to excellent (Cardno BSD Pty Ltd, 2008; DEC, 2010).
As above	As above	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	As above

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 proposal comprises a total area of 0.12 ha for the construction of a road within the Turner Street road reserve. The vegetation under application ranges from degraded to excellent (Keighery, 1994) condition (Cardno BSD Pty Ltd, 2008; DEC, 2010).

A flora survey undertaken within Turner Street road reserve identified the vegetation as threatened ecological community floristic community type 3a Corymbia calophylla-Kingia australis woodlands on heavy soils (Cardno BSD Pty Ltd, 2008) with 44 native flora species recorded. No rare or priority flora species were identified (Cardno BSD Pty Ltd, 2008). It is noted that the survey was conducted in April 2007, which is not considered to be an optimal time for conducting flora surveys in the Swan Coastal bioregion (EPA, 2004).

Rare and priority flora species have been recorded within the local area (5 km radius) within the same vegetation types and on the same soils as those identified for the proposal. A targeted flora survey was conducted on 20 October and 16 November 2010 and no priority or rare flora was identified (Coterra

Environment 2010).

Given the presence of a threatened ecological community, the vegetation proposed to be cleared is considered to comprise a high level of biodiversity.

Methodology References:
- Cardno BSD Pty Ltd (2008)
- Coterra Environment (2010)
- EPA (2004)
- Keighery (1994)

GIS database:
- SAC Bio datasets accessed 17/8/2010

(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**

There are 12 records of conservation significant fauna within the local area (5 km radius) with the closest record being Quenda located 500 m west of the areas under application. During a site inspection (DEC, 2010), DEC officers observed Quenda diggings within an area immediately adjacent to the areas under application and Corymbia calophylla within the areas under application, which may provide foraging habitat for the endangered black cockatoos.

There is 54.2% native vegetation remaining within the Shire of Serpentine Jarrahdale (Shepherd, 2009) and approximately 25% native vegetation remaining in the local area (5 km radius); however, only approximately 4.4% vegetation remains on the western section of the Shire boundary (also recognised as the highly cleared eastern side of the Swan Coastal Plain).

Although, the area under application is located within an extensively cleared local landscape and contains some habitat value, the small area of vegetation (0.12 ha) is not considered to comprise significant habitat for native fauna.

Methodology References:
- DEC (2010)
- Shepherd (2009)

GIS database:
- SAC Bio datasets accessed 17/8/2010

(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**

There are over 20 known records of five rare flora species within the local area (5 km radius) with the closest records being Synapheae sp Fairbridge farm located 200 m south; Tetraria australiensis located 630 m south-west; and Verticordia plumosa var pleiobotrya and Verticordia plumosa var ananeotes located 830 m west south-west of the areas under application.

These four rare flora species are located within the same vegetation complex and on the same soils as those of the areas under application. Therefore, it is considered likely that these rare flora species may occur within the areas under application.

A targeted flora survey undertaken within Turner Street road reserve was conducted on 20 October and 16 November 2010 and no rare flora was identified (Coterra Environment 2010).

Given the absence of rare flora within the vegetation under application, it is considered the proposal is not likely to be at variance to this Principle.

Methodology Reference:
- Coterra Environment (2010)

GIS database:
- SAC Bio datasets accessed 17/8/2010

(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 at variance to this Principle**

The area under application is located within an area identified as a threatened ecological community (TEC), floristic community type (FCT) 3a Corymbia calophylla-Kingia australis woodlands on heavy soils. This TEC is listed as critically endangered in Western Australia and endangered under the Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999. A flora survey undertaken within Turner Street road

reserve identified the vegetation as this TEC (Cardno BSD Pty Ltd, 2008).

Given the vegetation under application comprises part of a threatened ecological community that is critically endangered the proposed clearing is at variance to this Principle.

Twenty six occurrences over sixteen bushland areas of this community (3a) have been located between Ruabon and Guildford, and recorded on the DEC TEC database; these recorded occurrences cover approximately 145 ha.

FCT 3a covers the entire Turner Street road reserve, which is approximately 0.25 ha in size (Cardno BSD Pty Ltd, 2008). The proposed clearing of 0.12 ha covers 48% of this Turner Street occurrence.

It is noted that the road design has been selected to utilise the degraded areas and that the remaining areas in excellent condition will be protected by fencing.

Fencing and planting conditions would protect the environmental values of the remaining vegetation within Turner Street that is associated with a threatened ecological community.

Methodology

Reference:
- Cardno BSD Pty Ltd (2008)

GIS Database:
- SAC Bio datasets accessed 23/8/2010

(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 is representative of Beard vegetation type 968 and Heddle Guildford vegetation complex, which have pre-1750 representation levels of 7.2% (in the bioregion) and 5% remaining, respectively (EPA, 2006, Shepherd, 2009). There is 54.2% native vegetation remaining within the Shire of Serpentine Jarrahdale (Shepherd, 2009) and approximately 25% native vegetation remaining in the local area (5 km radius); however, only approximately 4.4% vegetation remains on the western section of the Shire boundary (also recognised as the highly cleared eastern side of the Swan Coastal Plain).

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). The EPA (2006) recognises the Perth Metropolitan Region as a constrained area, providing for the reduction of vegetation complexes to a minimum of 10% of the Pre-European extent. The Beard vegetation type and Heddle complex retain less than the 30% threshold level and are below the 10% threshold level within a constrained area.

It is acknowledged that the proposed clearing is relatively small, but given the proposal's location within the extensively cleared eastern side of the Swan Coastal Plain and the low representation levels for both the Beard type and Heddle complex, it is considered that the vegetation under application is significant as a remnant. Therefore, the proposal is at variance to this Principle.

Fencing and planting conditions will reduce the impacts to the remaining vegetation within the road reserve.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In reserves (%)
IBRA Bioregions*:				
Swan Coastal Plain (SCP)	1, 501,209	587,889	39.1	
Shire Serpentine Jarrahdale*	90,047	48,845	54.2	
Shire Serpentine Jarrahdale (Jarrah Forest Bioregion)	~51,837	~47,175	~91.3	
Shire Serpentine Jarrahdale (SCP Bioregion)	~38,210	~1,670	~4.4	
Beard Vegetation Type*				
968 (SCP)	136,188	9,849	7.2	14.8
Heddle Vegetation Complex**				
Guildford	92,497	4,662	5.0	0.2

* (Shepherd, 2009)
** (EPA, 2006)

Methodology References:
-Commonwealth of Australia (2001)
-EPA (2006)
-Shepherd (2009)
GIS Databases:
- Heddle Vegetation Complexes
- Interim Biogeographic Regionalisation of Australia
- Pre-European Vegetation

(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**
The area under application is situated within a mapped multiple use wetland and is adjacent to a mapped conservation category wetland (CCW). Aerial imagery shows that the CCW area has been historically cleared and as such it is considered to comprise limited wetland values.

It is acknowledged that the proposed clearing is relatively small, but given the proposal's location within a multiple use wetland it is considered the vegetation under application is growing in association with a wetland or watercourse. In addition, vegetation associated with winter-wet areas, such as Kunzea micrantha was recorded on site (Cardno BSD Pty Ltd, 2008). Therefore the area under application is at variance to this clearing principle. However given the small size under application clearing is not likely to impact on wetland values within the local area.

Methodology Reference:
- Cardno BSD Pty Ltd (2008)
GIS Databases:
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- Jarrahdale 50cm Orthomosaic-Landgate 2006

(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 are within mapped soil type alluvial Guildford clay, associated with the eastern side of the Swan Coastal Plain. These clays soils have a high risk of water erosion. However, given the small area under application the proposed clearing is unlikely to cause appreciable land degradation.

Methodology GIS Database:
- Surface Geology

(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 not likely to be at variance to this Principle**
The closest conservation areas are Bush forever site 371 located approximately 300 m north-east and DEC managed land, Lamkin Nature Reserve located ~520 m south-west of the area under application.

Given the distance to the nearest conservation area and the small area under application it is considered unlikely that the proposed clearing will have an impact on any conservation area.

Methodology GIS Databases:
- Bushforever
- 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 is not likely to be at variance to this Principle**
The area under application is situated within a mapped multiple use wetland and is adjacent to a mapped conservation category wetland.

The areas under application are located within a public drinking water source area (Karnup-Dandalup underground water pollution control area) and have a medium salinity risk.

Given the small area under application the proposed clearing is unlikely to cause deterioration in surface or groundwater quality.

Methodology GIS Databases:

- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- Public Drinking Water Source Areas (PDWSAs)
- Salinity Risk LM 25m - DOLA 00

(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

The area under application is situated within a mapped multiple use wetland and is adjacent to a mapped conservation category wetland. Given the small area under application the proposed clearing is unlikely to cause or increase localized flooding.

Methodology

GIS Database:
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain

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

Comments

The proposed clearing is for the construction of a road within the Turner Street road reserve is to facilitate access to Lots 5-10 Turner Street. The Lots were had been granted subdivision in the 1950's.

In December 2008 the proposal to clear 0.203 ha within Turner Street (which included the areas under application) was referred to the Commonwealth DEWHA (now known as the Department of Sustainability, Environment, Water, Population and Communities) by the developer as the area contains a TEC, FCT 3a. DEWHA assessed the impact of the proposal and granted approval with no conditions on 18 December 2009 (Shire of Serpentine Jarrahdale, 2010).

The Shire of Serpentine Jarrahdale gave council approval, subject to conditions including approval from the Department of Environment and Conservation, and the Department Environment and Heritage, for a proposal to endorse the construction of a lower standard road in Turner Street in May 2008 (Shire of Serpentine Jarrahdale, 2010a). The Council has approved a final design for the road (Shire of Serpentine Jarrahdale, 2010b).

On 10 September 2010, DEC sent a letter to the Shire advising of the issues identified during the assessment, including the likelihood of rare and priority flora occurring. The Shire has advised that the road design has been selected to utilise the most degraded areas, temporary fencing and then permanent fencing shall be erected to protect the remaining vegetation, fourteen of the seventeen marri trees present within the road reserve are to be retained, a minimum of ten marri trees shall be planted within the road reserve and topsoil removed from the proposal area will be respread onto degraded areas (Coterra Environment 2010). In addition, a targeted flora survey was conducted and no rare or priority flora was identified (Coterra Environment 2010). The area under application was amended from 0.08 ha to 0.12 ha.

The areas under application are located within an area identified as an Aboriginal Site of Significance under the Aboriginal Heritage Act 1972. It is the responsibility of the proponent to ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Turner Street is in an area zoned urban under the Metropolitan Regional Scheme.

Methodology

References:
- Coterra Environment (2010)
- Shire of Serpentine Jarrahdale (2010)
- Shire of Serpentine Jarrahdale (2010a)
- Shire of Serpentine Jarrahdale (2010b)

GIS Databases:
- Aboriginal Sites of Significance
- Metropolitan Regional Scheme

4. References

Cardno BSD Pty Ltd (2008) Flora and Vegetation Survey and Assessment of Impacts on Road and Supporting Maps. Cardno BSD Pty Ltd DEC Ref A319711, A324227, A324230, A324234 and A324238.

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

Coterra Environment (2010) Response to DEC Correspondence Identifying the Issues, Coterra Environment, Subiaco, Western Australia. DEC Ref A346965 and A351775

DEC (2010) DEC Site Visit for Clearing Permit Application CPS 3854/1, conducted on 18 August 2010, Department of Environment and Conservation, Western Australia. DEC Ref A327506

EPA (2004) Guidance for the Assessment of Environmental Factors - Terrestrial Flora and Vegetation Surveys for

Environmental Impact Assessment in Western Australia. Guidance Statement No 51. Environmental Protection Authority, Western Australia.

EPA (2006) Guidance for the Assessment of Environmental Factors - Level of Assessment for Proposals Affecting Natural Areas Within the System 6 Region and Swan Coastal Plain Portion of the System 1 Region. Guidance Statement No 10. Environmental Protection Authority, Western Australia.

Heddle, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, 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.

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.

Shire of Serpentine Jarrahdale (2010) CPS 3854/1 Application for a Clearing Permit and Supporting Information for Turner Street, Serpentine. Shire of Serpentine Jarrahdale. DEC Ref A319707

Shire of Serpentine Jarrahdale (2010a) CPS 3854/1 Council Meeting Minutes 20 May 2008, Including Turner Street Proposal, Serpentine. Shire of Serpentine Jarrahdale. DEC Ref A327975

Shire of Serpentine Jarrahdale (2010b) CPS 3854/1 Additional Information for Turner Street (Email). Shire of Serpentine Jarrahdale. DEC Ref A327978

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)