



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 4719/1
Permit Holder:	Boral Bricks Western Australia Pty Ltd
Duration of Permit:	13 February 2012 – 13 February 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 widening an access haulage road.
- 2. Land on which clearing is to be done**
Lot M 1919 on Diagram 13691 (HODDYS WELL)
- 3. Area of Clearing**
The Permit Holder must not clear more than 0.7 hectares of native vegetation within the combined areas shaded yellow on attached Plan 4719/1.
- 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. Compliance with Assessment Sequence and Management Procedures**
Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

- 6. Fauna management**
The Permit Holder shall retain *habitat trees* found within the area hatched yellow on attached Plan 4719/1.
- 7. 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

8. Records must be kept

The Permit Holder must maintain records pursuant to condition 6 of this Permit for the location of each *habitat tree* identified recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings.

9. 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 8 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 13 November 2016 the Permit Holder must provide to the CEO a written report of records required under condition 8 of this Permit where these records have not already been provided under condition 9(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;

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

habitat tree(s) means trees that have a diameter, measured at 1.5m above the ground, of 50cm or greater, 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;

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

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*.

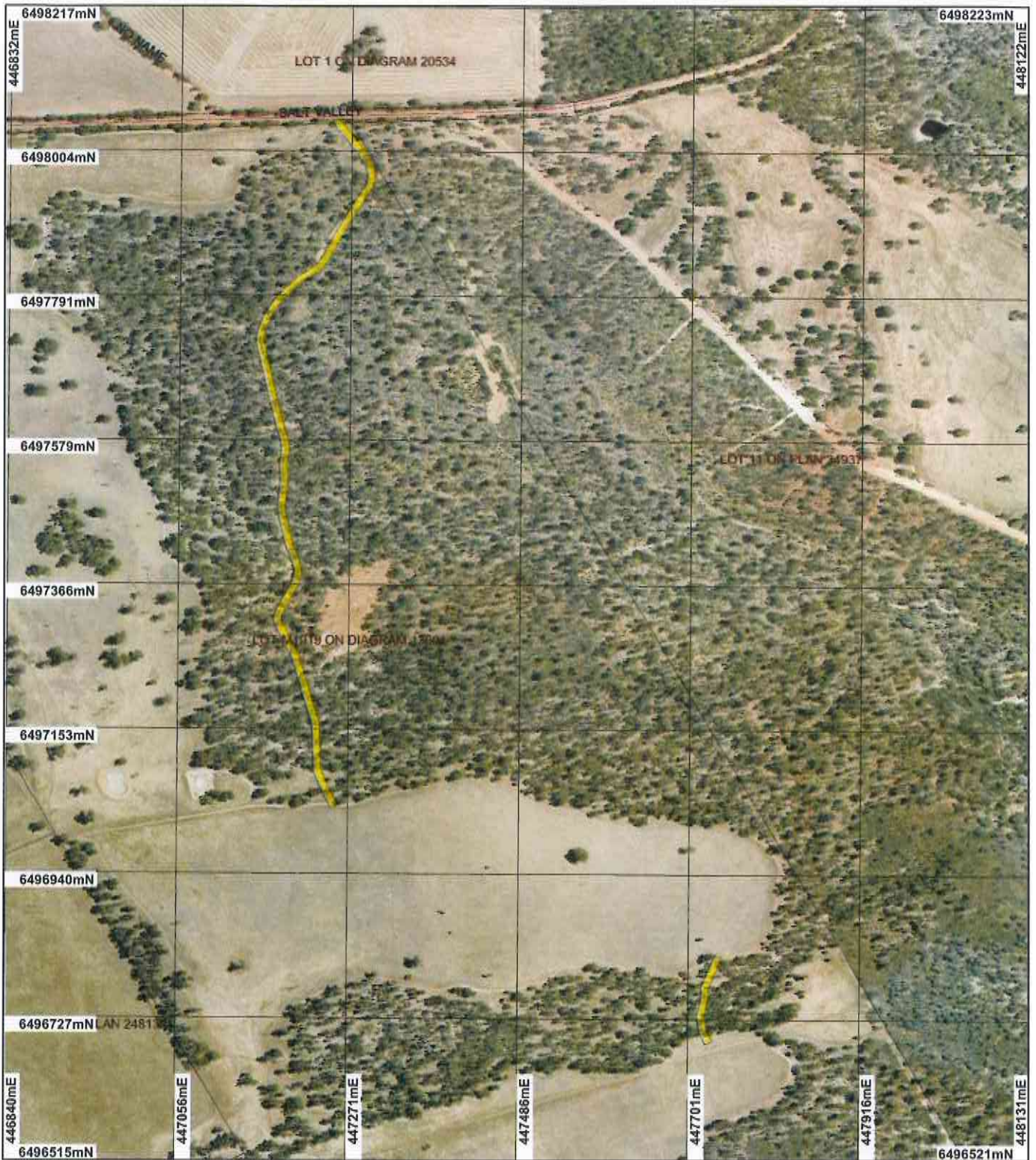


Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

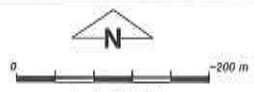
19 January 2012

Plan 4719/1



LEGEND

- | | | |
|---|---|---|
| Road Centrelines | <input type="checkbox"/> Marine Park | <input type="checkbox"/> Water |
| Cadastre for labelling | <input type="checkbox"/> Crown Lease | <input type="checkbox"/> Clearing Instruments |
| <input type="checkbox"/> Freehold | <input type="checkbox"/> Lease / Reserve | Areas Approved to Clear |
| <input type="checkbox"/> Crown Reserve | <input type="checkbox"/> Lease on State Forest / Timber Reserve | Perth Metropolitan North |
| <input type="checkbox"/> State Forest / Timber Reserve (cont) | <input type="checkbox"/> Public Roads | East 40cm Orthomosaic - |
| | <input type="checkbox"/> Unallocated Crown Land (cont) | Landgate 2005 |



Scale 1:7542
(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.

[Signature] Date 19/1/12
K. Faulkner

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

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



Department of Environment and Conservation

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



1. Application details

1.1. Permit application details

Permit application No.: 4719/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Boral Bricks Western Australia Pty Ltd

1.3. Property details

Property: LOT M1919 ON DIAGRAM 13691 (HODDYS WELL 6566)
Local Government Area: Shire of Toodyay
Colloquial name:

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 19 January 2012

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
Mattiske vegetation complex Mi: Open woodland of Eucalyptus wandoo over Acacia acuminata with some Eucalyptus loxophleba on valley slopes, with low woodland of Allocasuarina huegeliana on or near shallow granite outcrops in arid and perarid zones. (Mattiske consulting , 1998)	The proposed clearing is for 0.7ha for the purpose of vehicle access track. The proposed clearing consists of Marri and Wandoo woodland in a good to excellent (Keighery 1994) condition. The proposed clearing is along an existing vehicle track and has been chosen to avoid trees with hollows and trees over or approaching 50cm in diameter (Land Insights 2011).	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994) To Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	Condition of vegetation was established from photos provided by Land Insights (2011).
Heddle Vegetation Complex: Michibin Complex. Beard (4) Medium woodland marri and wandoo (Shepherd,2009, Heddle et al 1980)			

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 proposed clearing is for 0.7ha for the purpose of widening an access haulage road.

The proposed clearing consists of Marri and Wandoo woodland in a good to excellent (Keighery 1994) condition.

Numerous priority flora species occur within the local area (10 km radius) on the same soil and vegetation type as the area under application including one Priority 1 species, two Priority 3 species, two Priority 2 species and 10 Priority 4 species. Therefore, given the good to excellent (Keighery 1994) condition of the vegetation, it may be considered likely for the proposed clearing to contain habitat for priority flora species. ,

In addition, the area under application contains hollows that may provide significant breeding habitat for

conservation significant black cockatoo species.

Therefore, it is considered that the proposed clearing may be at variance to this Principle.

Methodology **References**
-Keighery (1994)
GIS Databases
-SAC Bio Datasets (12/12/2011)
-Pre-European Vegetation
-Hedde Vegetation Complex
-Mattiske Vegetation Complex
-Soils, Statewide

(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 may be at variance to this Principle**

There are eight fauna species of conservation significance that have been recorded within the local area (10 km radius), including Shield-backed Trapdoor Spider (*Idiosoma nigrum*; Rare or likely to become extinct under the Wildlife Conservation Act 1950), Carnaby's black cockatoo (*Calyptorhynchus latirostris*; Rare or likely to become extinct under the Wildlife Conservation Act 1950), Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii* subsp. *naso*; Rare or likely to become extinct under the Wildlife Conservation Act 1950), Western Quoll (*Dasyurus geoffroyi*; Rare or likely to become extinct under the Wildlife Conservation Act 1950), Malleefowl (*Leipoa ocellata*; Rare or likely to become extinct under the Wildlife Conservation Act 1950), Western Brush Wallaby (*Macropus irma*; Priority 4 under the Wildlife Conservation Act 1950), Peregrine Falcon (*Falco peregrinus*; specially protected fauna under the Wildlife Conservation Act 1950) and Baudin's black cockatoo (*Calyptorhynchus baudinii*; Rare or likely to become extinct under the Wildlife Conservation Act 1950). (DEC 2007-).

The proposed clearing consists of Marri (*Eucalyptus calophylla*) and Wandoo (*Eucalyptus wandoo*) woodland in a good to excellent (Keighery 1994) condition.

The applied area is located within the recorded distribution of Baudin's black cockatoo, Forest Red-tailed Black Cockatoo and Carnaby's black cockatoo which nests in large tree hollows of mostly *Eucalyptus wandoo* and *Eucalyptus salmonophloia*. Black cockatoos are known to feed on a large variety of plants including proteaceous species (e.g. *Banksia* and *Hakea*), marri nuts (*Corymbia calophylla*) and jarrah (*Eucalyptus marginata*) (CALM 2005; Shah, 2006). The presence of Marri and Wandoo woodland within the application area indicates that the applied area occurs within a remnant that contains potential breeding and feeding habitat for Black Cockatoo's of conservation significance.

The proposed clearing of 0.7ha is within an 182ha remnant of vegetation. In addition, the local area (10 km radius) contains approximately 45% of pre-European native vegetation extent and is considered to contain similar habitat as the area under application. However, the area under application contains hollows that may be considered significant breeding habitat for conservation significant black cockatoo species. Therefore the proposed clearing may be at variance to this Principle. The applicant has advised that trees with hollows and trees over or approaching 50cm in diameter will be avoided (Land Insights 2011). A fauna management condition will be placed on the permit to mitigate impact on breeding habitat for black cockatoos.

Methodology **References**
- CALM (2005)
- DEC (2007)
-Shah (2006)
- Land Insights (2011)
GIS Databases:
- Perth Metropolitan North East 40cm Orthomosaic - Landgate 2005
- SAC Bio Datasets 12/12/2011

(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 two species of rare flora recorded within in the local area (10 km radius), being, *Caladenia huegelii*, and *Acacia aphylla*.

The proposed clearing consists of Marri (*Eucalyptus calophylla*) and Wandoo (*Eucalyptus wandoo*) woodland in a good to excellent (Keighery 1994) condition.

Caladenia huegelii occur within mixed woodland of Jarrah and *Banksia* on deep grey sandy soils (Brown et al 1998). The application area contains Marri and Wandoo woodland on sandy yellow soils with ironstone gravels.

Acacia aphylla occurs on and around granite outcrops often in rock crevices (Brown et al 1998). The application area does not contain granite outcrops.

Given the above it is not considered likely for the proposed clearing to be at variance to this Principle.

Methodology References
 -Brown et al (1998)
 -Keighery (1994)
 GIS Databases:
 - SAC Bio Datasets 12/12/2011
 - Soils, Statewide

(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**
 There are no known occurrences of Threatened Ecological Communities (TEC) within the local area (10 km radius).

Therefore the clearing as proposed is not likely to be at variance to this Principle

Methodology GIS Databases:
 - SAC Bio Datasets 12/12/2011

(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 likely to be at variance to this Principle**
 The vegetation under application is identified as Beard vegetation type 4, Mattiske vegetation complex Mi and Hedde Vegetation Complex Michibin Complex, of which there is 30.3%, 77.66%, and 38.25% of native vegetation remaining, respectively (Shepherd 2009; Shepherd 2007). The applied area is located within the Jarrah Forest Bioregion, of which there is 55.8% of native vegetation remaining.

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearing of ecological communities with an extent below 30% of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001). All mapped vegetation complexes mapped within the applied area are above the recommended minimum of 30% representation.

Additionally, the vegetation mapping of the local area (10 km radius) shows approximately 45% remnant vegetation remaining. Therefore the area under application is not a significant remnant of native vegetation within a highly cleared area and is not likely to be at variance to this Principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)
IBRA Bioregion*			
Jarrah Forest	4506656.9	2514549.9	55.80
Shire*			
City of Toodyay	169248.9	92139.3	54.4
Beard Vegetation Association in Bioregion*			
4	1022712.69	310603.35	30.37
Hedde Vegetation Complex**			
Michibin Complex	85497.88	32702.90	38.25
Mattiske Vegetation Complex**			
Mi	14817.29	11506.54	77.66
Shepherd (2009)*			
Shepherd (2007)**			

Methodology References:
 - Commonwealth of Australia (2001)
 - Shepherd (2007)
 - Shepherd (2009)
 GIS Databases:
 - Mattiske Vegetation

- Pre-European Vegetation
- Interim Biogeographic Regionalisation of Australia
- NLWRA, Current Extent of Native 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 proposed clearing intercepts four seasonal creeklines that run through the area and which are tributaries of Jumperding Brook which is a significant stream located 900m west of the application area.

The applicant has advised that culverts will be constructed over the watercourses to provide safe access (Land Insights 2011).

Given that watercourses occur within the application area, it is considered for the vegetation to contain fringing vegetation that is important for soil stabilization and is therefore growing in association with a watercourse.

The proposed clearing is considered at variance to this Principle. However, given the small size of the proposed clearing of fringing vegetation

Methodology References

-Land Insights (2011)

GIS Databases:

- Hydrography, linear

- Hydrography, linear (hierarchy)

(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 landform of most of the applied area and its surrounds is mapped as Tf3, described as low hilly to hilly terrain with the chief soils being hard acidic yellow mottled soils along with sandy acidic yellow mottled soils, all of which contain moderate to large amounts of ironstone gravels in their surface horizons (Northcote et al 1960-68). These soils are not considered to be at risk of wind erosion and may be at risk to water erosion.

Contour mapping identifies that portions of the application area occur on a slope. Given this and the soil type, the proposed clearing may result in an increase in surface water runoff causing erosion gullies.

Given the gravel in the surface horizons and the associated water erosion risk, it is considered the clearing as proposed may cause land degradation in the form of erosion.

However, it is noted the clearing is limited to 0.7ha therefore, the water erosion risk is likely to be minimised and the proposed clearing is not considered to be at variance to this Principle. .

Methodology References

-Northcote et al (1960-68)

GIS Databases

-Soils, Statewide

-Topography, Statewide

(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 DEC managed reserve is Clackline Nature Reserve occurring 4.6km southeast of the application area.

Given the distance of the area under application to the reserve, and the relatively small area proposed to be cleared (0.7 ha) it is not likely that the clearing of the vegetation under application will impact on the environmental values of the conservation area.

Methodology GIS databases:

- 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 proposed clearing intercepts four seasonal creeklines that run through the area and which are tributaries of Jumperding Brook a significant stream located 900m west of the application area.

The applicant has advised that culverts will be constructed over the watercourses to provide safe access (Land Insights 2011).

The vegetation in proximity to these watercourses is considered to be fringing vegetation that is important for soil stabilization. In addition, contour mapping identifies that portions of the application area occur on a slope. Given this and the soil type, the proposed clearing may result in an increase in surface water runoff causing erosion gullies and possible sedimentation of watercourses that occur down slope.

Therefore the proposed clearing may be at variance to this Principle.

Methodology References

- Land Insights (2011)
- GIS Databases:
 - Topography, Statewide
 - Hydrography, linear
 - Hydrography, linear (hierarchy)

(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 proposed clearing intercepts four seasonal creeklines that run through the area and which are tributaries of Jumperding Brook a significant stream located 900m west of the application area.

Given the small size of the limited clearing of 0.7ha within a 182ha remnant of vegetation, the proposed clearing will not increase the intensity or occurrence of flooding in the local area.

The proposed clearing is not at variance to this Principle.

Methodology GIS Databases:

- Hydrography, linear
- Hydrography, linear (hierarchy)

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

Comments

The proposed clearing is for 0.7ha for the purpose of constructing an access haulage road. This road is required to access two clay extraction pits proposed on the property.

Boral Bricks WA Pty Ltd has obtained an extractive industry licence and planning approval from the Shire of Toodyay for the extraction Pits. The access haulage road is a condition of the planning approval.

The property under application (Lot M1919 on Diagram 13691 Hoddy's Well) is owned by Walter Franklin Chitty. The applicant has an agreement with the owner to undertake exploring, drilling, constructing roads and doing all things which may be necessary for carry on the business of extraction basic raw materials on the property (Boral Bricks WA Pty Ltd 2011).

The application area occurs within a surface water area proclaimed under the Rights in Water and Irrigation Act 1914 and therefore a bed and banks permit is required if interfering with watercourses.

The property is zoned rural under the Shire of Toodyay Town planning Scheme.

Methodology

- GIS Databases
 - Town Planning Scheme Zones

4. References

Boral Bricks WA Pty Ltd (2011) Email regarding landowner authority to access land for CPS 4719/1 clearing application, Lot M1919 Chitty Road, Toodyay. DEC ref A455843

Brown A., Thomson-Dans C. and Marchant N.(1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.

CALM (2005) Fauna Note No 01/2005 Reducing Fruit Damage by Baudin's Cockatoo, Department of Conservation and Land Management, Western Australia.

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

DEC (2007) DEC Fauna Habitat Notes.xls. February 2007. Department of Environment and Conservation, Western Australia.

Hedde, 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.

Land Insights (2011) Clearing permit application and supporting information for Boral Bricks WA Pty Ltd, Lot M1919 Chitty Road, Tooyay. DEC ref A451730

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.

Shah, B. (2006) Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.

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

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)