Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 1866/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Peet Baldivis Heights Pty Ltd**

1.3. Property details

Property: Baldivis Road Reserve (BALDIVIS 6171)
Eighty Road Reserve (BALDIVIS 6171)
Fifty Road Reserve (BALDIVIS 6171)

Local Government Area: City Of Rockingham

Colloquial name: Road Reserve - Eighty Road, Fifty Road and Baldivis Road, Baldivis

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.75		Mechanical Removal	Building or Structure

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
Heddle Vegetation Complexes: Cottesloe Complex - Central and South - Mosaic of woodland of *E. gomphocephala* and open forest of *E. gomphocephala* - *E. marginata* - *E. calophylla*; closed heath on the Limestone outcrops. Karrakatta Complex - Central and South - Predominantly open forest of *E. gomphocephala* - *E. marginata* - *E. calophylla* and woodland of *E. marginata* - *Banksia species*. Serpentine River Complex - Closed scrub of *Melaleuca* species and fringing woodland of *E. rudis* - *M. rhaphiophylla* along streams. Beard Vegetation Association 998: Medium woodland; tuart (Shepherd 2006)	The proposal is to clear 0.75 hectares of native vegetation for the purpose of installing an underground water pipeline within the road reserve. The pipeline will be installed on the south-eastern side of Eighty Road, and the eastern side of Baldivis Road, at approximately 2m from the edge of the road, however this may be varied if necessary for example in areas adjacent to wetlands. The majority of the vegetation under application within Eighty Road Reserve is in completely degraded to degraded condition and comprises individual *Eucalyptus marginata* and *E. calophylla*. Some of the vegetation under application includes a sparse understorey of Macroz*amia riedlei, Acacia spp.* and grasses and is considered to be in good condition. The vegetation under application within Baldivis Road Reserve comprises *Banksia/Allocasuarina* woodland over a sparse understorey of *Jacksonia spp*. and weeds, and is considered to be in good to degraded condition.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Vegetation clearing description based on a site visit conducted by DEC officers on 27 June 2007. The vegetation along the length of the applied area ranges in condition from completely degraded to good, with an average condition of degraded.

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The majority of the vegetation under application is considered to be in completely degraded to degraded condition, with a small area being in good condition. The vegetation under application has a low species diversity and a high proportion of weeds. It is therefore not considered likely that the vegetation under application comprises a high level of biodiversity.

Methodology DEC site visit 27/6/07

(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 recorded occurrences of threatened fauna within the local area (5km radius) including the Bush Stone curlew, the Eastern curlew, the Hooded Plover, the Quenda and the Western Brush Wallaby.

The vegetation under application on Baldivis Road comprises Banksia woodland with a limited understorey that has the potential to provide some habitat for ground dwelling fauna like Quenda, however this is not considered likely to be significant habitat given that the area under application is thin and linear, and is limited to 0.75 hectares.

The vegetation under application on Eighty Road comprises individual mature *Eucalyptus spp*., some of which are considered to be of hollow-bearing age, and therefore may contain hollows with the potential to be utilised by fauna species such as the threatened Carnaby's Black Cockatoo.

Given that the mature *Eucalyptus* trees under application on Eighty Road have the potential to contain habitat hollows, it is considered that the vegetation under application may comprise significant habitat for fauna.

To mitigate any loss of habitat within the area under application a condition will be imposed on the permit to ensure a survey is undertaken by a fauna specialist within the area under application to identify trees that may be suitable as habitat for specially protected fauna under the Wildlife Conservation Act and, where applicable, translocation of fauna is undertaken.

Methodology DEC site visit 27/6/07
GIS Database: SAC Bio datasets accessed 04/07/07

(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 no known populations of Declared Rare Flora or Priority Flora within the local area (5km radius), with the nearest being *Drakaea elastica* (R) and *Dillwynia dillwynioides* (P3) located approximately 6km to the southeast of the area under application.

These populations area located within a different vegetation complex and soil association to the area under application. In addition, *D. elastica* is generally found in low-lying situations adjoining winter-wet swamps and *D. dillwynioides* is generally associated with winter-wet depressions (Western Australia Herbarium 1994). It is therefore not considered likely that the area under application, which comprises upland vegetation, would include habitat suitable for these species.

In addition, a spring flora survey was conducted by Environmental Resources Management Australia (2000) within the area under application on Baldivis Road and no Declared Rare flora or Priority Flora were identified.

Given that no rare flora were identified during the spring flora survey on Baldivis Road, the distance to the nearest known population of rare flora, and that the habitat present on site would not be suitable for these species, it is not considered likely that the vegetation under application comprises, or is necessary for the maintenance of, rare flora.

Methodology DEC site visit 27/6/07
Resources Management Australia (2000)
Western Australia Herbarium 1994
GIS Database:
SAC Bio datasets accessed 04/07/07

(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 10 known occurrences of Threatened Ecological Communities (TEC) within the local area (5km

radius) with the nearest, located approximately 1.8km to the southwest of the area under application, being identified as SCP 19a - Sedgelands in Holocene dune swales of the southern Swan Coastal Plain. This TEC is associated with the Quindalup Dune System.

The vegetation under application comprises mainly *Eucalyptus spp*. and *Banksia spp*. with limited understorey and is mainly in completely degraded to degraded condition. The area under application is located within the Spearwood Dune System.

Given that the area under application is located on the Spearwood Dunes, which do not support the TEC 19a, the degraded condition of the vegetation under application, and the distance to the nearest TEC, it is not considered likely that it comprises, or is necessary for the maintenance of a TEC.

Methodology DEC site visit 27/6/07
GIS Databases:
SAC Bio datasets accessed 04/07/07

(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 may be at variance to this Principle

Heddle et al (1980) defines the vegetation under application as 'Cottesloe Complex - Central and south' and 'Karrakatta Complex - Central and South', which have pre-European representations of 41.1% and 29.5% respectively, and which are defined as being of 'depleted' status for biodiversity conservation . In addition, a small portion of the vegetation under application on Baldivis Road is defined as Serpentine Complex, which has a pre-European representation of 10.6% and classified as 'vulnerable' (Department of Natural Resources and Environment 2002; EPA 2006).

The vegetation under application is also classified as Beard vegetation association 998, which has 41.5% of the pre- European extent remaining and which is classified as depleted (Shepherd 2006).

The State Government is committed to the National Objectives Targets for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-1750 (Department of Natural Resources and Environment, 2002; EPA, 2000).

Although the Karrakatta Complex - Central and South has less than the recommended 30% minimum of Pre-European extent remaining, the applied area is considered to be within a constrained area. A 1000m^2 portion of the vegetation under application has been identified as Serpentine River Complex, which has 10.6% remaining, is considered to be in good condition and is also within the constrained area. The EPA (2003) recognises the Perth Metropolitan Region as a 'constrained area', providing for the reduction of vegetation complexes remaining to a minimum of 10% of the pre-European extent.

To limit potential impacts of the clearing on remnant vegetation, the proposed clearing will be carried out in accordance with a condition imposed on the permit requiring that clearing of vegetation be avoided, and where this is not possible, minimised.

	Pre-European (ha)	Current (ha)	Remaining %	Conservation status***	% in reserves
Swan Coastal Plain	1,501,456	571,758	38.1**	Depleted	
City of Rockingham	21,326	8,534	35.1*	Depleted	
Heddle vegetation complex			***		
Cottesloe Complex - Central and south	44,995	18,474	41.1	Depleted	8.8
Karrakatta complex - central and south	49,912	14,729	29.5	Vulnerable	2.5
Serpentine Complex	19,855	2,103	10.6	Vulnerable	2.8
Beard vegetation association 998	51,017	21,178	41.5**	Depleted	

* (Shepherd et al. 2001)
** (Shepherd 2006)
***(EPA, 2006)
***(Department of Natural Resources and Environment 2002)

Methodology DEC site visit 27/6/07
Department of Natural Resources and Environment (2002)
EPA (2006)
Shepherd (2006)
Heddle et al. (1980)
GIS Databases:
Heddle Vegetation Complexes - DEP 21/06/95
Pre-European Vegetation - DA 01/01

(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

A 250m section of the proposed water main alignment on Eighty Road is immediately adjacent to a Conservation Category Wetland (CCW) and is within an *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992* (EPP) area. The site inspection identified wetland dependent vegetation in this area that is considered to be part of this wetland.

While the current alignment for the proposed pipeline would result in the clearing of a 0.025 hectare section of wetland vegetation through the placement of fill, discussions with the applicants have indicated that this alignment may be able to be deviated to the other side of the road in this section to remove potential impacts to the wetland areas.

Given the proposed alignment is adjacent to the CCW and within the EPP and proposes to clear vegetation growing in a wetland it is considered at variance to this Principle. Furthermore filling of an EPP Lake would contravene the Policy and requires assessment and approval from the Environmental Protection Authority.

A condition has been imposed requiring no clearing within the road reserve adjacent to the CCW on Eighty Road as under *Section 51P* of the *Environmental Protection Act 1986* the CEO can not made a decision that is inconsistent with an approved policy. Approval has been given for a deviation to the northern side of the road in this section.

Methodology

DEC Site visit 27/6/07
GIS Database:
Geomorphic Wetlands (Classification), Swan Coastal Plain - DEC

(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 soils within the area under application are from the Spearwood Dune system, ranging from deep bleached sands to deep siliceous yellow-brown sands, and generally have a high risk of water erosion, wind erosion and phosphorus export (State of Western Australia 2005).

The area under application is thin and linear, being 0.75 hectares over a 2.9km length, and it is therefore not considered likely that the proposed clearing would result in appreciable water erosion or wind erosion.

The majority of the area under application also has a moderate to low acid sulphate soil disturbance risk, however it is not considered likely that the proposed clearing would disturb these soils. The area under application on Baldivis Road also has a high salinity risk, however given that the proposed clearing is limited to

0.75 hectares over 2.9km of road reserve, it is not considered likely that it would result in any significant salinity increase.

Given that the area under application is long, linear and limited in size it is not considered likely that the proposed clearing would result in appreciable land degradation.

Methodology

State of Western Australia (2005)
GIS Database:
Salinity Risk LM 25m - DOLA 00

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments

Proposal is at variance to this Principle

A 250m section of Eighty Road is immediately adjacent to Bush Forever site 356, which is also part of Rockingham Lakes Regional Park. A portion of the proposed clearing is also adjacent to a crown reserve managed by the City of Rockingham for conservation.

In addition, an approximately 1000m^2 section of the vegetation under application on Baldivis Road is located within the Baldivis Tramway reserve, which is managed for recreation, conservation and education (Environmental Resources Management Australia 2000). In 2000 Baldivis Road and associated vegetation was identified as a potential Greenway and was considered to provide a link between the Spectacles Wetlands in the north and the Serpentine River to the south (Environmental Resources Management Australia 2000).

It is considered that the proposed clearing within the Baldivis Tramway Reserve will have a direct impact on the environmental values of the reserve given the selective removal of native vegetation.

The proposed clearing also has the potential to indirectly impact the environmental values of the adjacent

reserves through the spread or introduction of weed species, and especially dieback, by machinery. Given the long linear nature of the clearing it is considered that any localised incidence of dieback may be transferred along the length of the proposed water main via the movement of machinery. This has the potential to spread dieback into unaffected areas within the road reserve, and then into the adjacent reserves. There are serious consequences associated with the spread of such diseases and exotic species into areas reserved for conservation, including the potential local extinction of species.

Given that the proposed clearing will have a direct impact on the environmental values of the Tramway Reserve, and may have an indirect impact on the environmental values of the adjacent conservation reserves, the proposal is considered to be at variance to this Principle.

A condition requiring the implementation of a dieback management plan has been imposed to identify any dieback affected areas and prevent the introduction or spread of this disease into unaffected areas including to areas adjacent to reserves managed for conservation.

Methodology Environmental Resources Management Australia (2000)
GIS Database:
Bushforever - MFP 07/01
CALM Regional Parks - CALM 12/04/02

(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 on Baldivis Road has a high salinity risk and the majority of the area under application has a moderate to low acid sulphate soil disturbance risk (State of Western Australia 2005), however given that proposed clearing is limited to 0.75 hectares over 2.9km of road reserve, it is not considered likely that it would result in salinity or acid sulphate soils causing a deterioration in groundwater quality.

The soils on site also generally have a high risk of water erosion, however given that the area under application is thin, linear and limited to 0.75 hectares, it is not considered likely that the proposed clearing would result in water erosion causing a deterioration in surface water quality.

Methodology State of Western Australia (2005)
GIS Database:
Geomorphic Wetlands (Classification), Swan Coastal Plain - DEC
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 limited to 0.75 hectares over 2.9km of road reserve with sandy soils that would have a high rate of infiltration. It is therefore not considered likely that the proposed clearing would cause, or exacerbate, the incidence of flooding.

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

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

Comments

The City of Rockingham has given approval for Cardno BSD to install the water main in the road reserve.

In a submission, the Rockingham Regional Environment Centre expressed concern that the proposed clearing on Baldivis Road is through the tramway reserve, which is managed by the City of Rockingham.

The City of Rockingham has advised that they would prefer that no clearing occur within the Baldivis Tramway Reserve, however if clearing was unavoidable then revegetation should be undertaken within the Reserve to the satisfaction of the City. This concern has been addressed through the clearing principles and conditions placed on the permit requiring minimal clearing and offsetting of the clearing conducted in the Tramway Reserve.

The majority of the area under application has a moderate to low acid sulphate soil disturbance risk less than 3m below surface, and the proposed water main will be installed at a depth of 1.5m. The proponent has advised that during their investigation of Eighty Road acid sulphate soils were not found to be an issue at the proposed depth, however investigations have not yet been completed on Baldivis Road. The proponent has advised that if acid sulphate soils are found to be an issue on Baldivis Road, then installation of the water main will be managed accordingly.

A section of the proposed water main route on Eighty Road is within a wetland that has been identified under

the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992*, under which filling of the wetland would contravene this policy. The CEO, under section 51P of the Environmental Protection Act 1986 can no approve clearing that would be inconsistent with an approved policy such as the abovementioned EPP.

Methodology

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Building Structure	oMechanical Removal	0.75	The assessable criteria have been addressed and the clearing as proposed is at variance to Principle f and h, and may be at variance to Principles b and e.

5. References

Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.

Environmental Resources Management Pty Ltd (2000) Baldivis Tramway Reserve Management Plan; for City of Rockingham. DEC TRIM ref. DOC27841.

EPA (2006) Guidance for the Assessment of Environmental Factors -level of assessment of proposals affecting natural areas within the System 6 region and Swan Coastal Plain portion of the System 1 Region. Report by the EPA under the Environmental Protection Act 1986. No 10 WA.

Government of Western Australia (2000) Bush Forever Volumes 1 and 2. Western Australian Planning Commission, Perth WA.

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 (2006) 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.

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

State of Western Australia (2005) Agmaps Land Manager CD Rom.

Western Australian Herbarium (1994) Department of Environment and Conservation. Text used with permission (http://florabase.calm.wa.gov.au/help/copyright). Accessed on Monday, 9 July 2007.

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)