



## 1. Application details

### 1.1. Permit application details

Permit application No.: 1464/1

Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Mirvac Mandurah Pty Ltd

### 1.3. Property details

Property: LOT 9502 ON PLAN 49129 ( MEADOW SPRINGS 6210)

Local Government Area: City Of Mandurah

Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1.54		Mechanical Removal	Miscellaneous

## 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
Heddlle Vegetation Complex:  - Yoongarillup Complex: Woodland to tall woodland of Eucalyptus gomphocephala with Agonis flexuosa in the second storey. Less consistently an open forest of E. gomphocephala - E. marginata - E. calophylla.	The proposal includes the clearing of 1.54 hectares of native vegetation for the purpose of storing excess fill material associated with the adjacent residential development. The area under application will form part of the development in the near future and is part of a subdivision application.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	Vegetation clearing description based on a site inspection conducted by DEC officers on 25 September 2006. Vegetation is in a very good to excellent condition.
Beard Vegetation Association:  - 998: Medium woodland; tuart.	The vegetation under application comprises low open shrubland of Acacia sp., Grevillea sp., Allocasuarina humilis, Hakea sp. over Conostylis aculeata. Mature Eucalyptus gomphocephala are present on the ridge along the northeast edge of the applied area.		

## 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 vegetation under application is in very good to excellent condition, with the potential to provide habitat for significant indigenous fauna species.

Methodology DEC Site visit (25/9/2006)

### (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**

CALM (2005) advised that a total of 5 Threatened fauna species and 1 Priority fauna species have been recorded within the local area, according to database search results. The nearest record is Threatened fauna

*Calyptorhynchus banksii naso* (Forest Red-tailed Black-Cockatoo), which has been recorded approximately 1.7 kilometres from the notified area. The subspecies of the Red-tailed Black Cockatoo is restricted to the forests of the south-west. It requires tree hollows to nest and breed and is largely dependent on jarrah-marri forest. The vegetation association comprises *Acacia* shrubland with mature Tuarts on the ridge, thus it is possible that this proposal may impact on this species if Tuart trees with sufficiently sized hollows are present.

There is also the potential for the Priority fauna *Isodon obesulus fusciventer* (Quenda, P5) to occur within the area under application. The Quenda prefers areas with dense understorey vegetation, particularly around swamps and along watercourses that provide ample protection from predators, and therefore the vegetation under application may include suitable habitat suitable for this species.

The vegetation under application is in very good to excellent condition and may provide significant habitat for indigenous fauna. In the absence of specific fauna survey and trapping, it is not possible to conclusively determine if these species are present and therefore, it is considered that this proposal may be at variance to this Principle.

Given the likelihood of Quenda on site a condition has been recommended requiring trapping and translocation of Quenda prior to clearing. This will ensure all Quenda are removed to an appropriate alternative area. In addition, a condition has been recommended requiring identification and relocation of habitat hollows to ensure potential habitat for the Forest Red tailed Black Cockatoo is retained.

**Methodology** DEC Site visit (25/9/2006)  
CALM (2005)

**(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 occurrences of Declared Rare Flora (DRF) within the local area (5km radius of the application). CALM (2005) advise that a total of three Priority species have been recorded within the local area, the nearest of which are Priority species *Dillwynia dillwynioides* (P3) and *Eucalyptus rudis* subsp. *Cratyantha* (P4) located approximately 3.2 kilometres from the notified area.

*D. dillwynioides* (P3) is described on the Florabase website as a decumbent or erect, slender shrub between 0.3 - 1.2 metres high, with red, yellow and orange flowers between August and December, growing in sandy soils associated with winter-wet depressions. *E. rudis* subsp. *Cratyantha* (P4) is described on the Florabase website as a tree between 5 - 20 metres high, with rough box-type bark and white flowers between July and September, growing on loam associated with flats or hillsides. It is unlikely that these species occur within the notified area.

During a DEC site visit officers identified Priority 4 species *Jacksonia sericea* in a number of locations within an area 200m to the southwest. *J. sericea* (P4) is described as a low spreading shrub up to 0.6 m high, with orange flowers between December and February, growing in calcareous and sandy soils (Western Australian Herbarium 1996). There is therefore the potential for this species to occur within the applied area, however none were observed during a site inspection and given the small area under application and surrounding vegetation it is unlikely the area under application is necessary for the continued existence of the Priority 4 species.

**Methodology** DEC Site visit (25/9/2006)  
Western Australian Herbarium (1996)

**(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) with the local area (5km radius of the application).

The study by Bush Forever identified the TEC associated with the Spearwood Dunes as *Melaleuca huegelii* - *Melaleuca acerosa* shrublands on Limestone ridges (26a) (Government of Western Australia 2000).

Given that no *Melaleuca* species were observed during the DEC site visit within the area under application, it is not considered likely that the applied vegetation comprises, or is necessary for the maintenance of a TEC.

**Methodology** DEC Site visit (25/9/2006)  
Government of Western Australia (2000)  
GIS Database: Threatened Ecological Communities - CALM 12/4/05\_1

**(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**  
 Heddle et al (1980) defines the vegetation under application as 'Yoongarillup Complex'. Yoongarillup Complex is recognised as having a representation of 45%, and generally consists of woodland to tall woodland of *E. gomphocephala* with *Agonis flexuosa* in the second storey.

Vegetation under application is also classified as vegetation association 998 (Shepherd et al. 2001). This association has a representation of 35.9% of the pre-European extent and is generally described as medium woodland of *E. gomphocephala*.

These vegetation types have representations above the recommended minimum level of 30%, as recognised by both the EPA and the State Government (EPA, 2003; Department of Natural Resources and Environment, 2002) and the proposal is therefore not likely to be at variance with this principle.

Pre-European	Current area (ha)	Remaining extent (ha)	Conservation %	% in reserves/DEC-status***	managed land
IBRA Bioregion	1,529,235	657,450	43.0*	Depleted	
City of Mandurah	18,611	8,933	48%*	Depleted	
Local Area (~10km radius)	~12,800	~3,800	~29%	Vulnerable	
Heddle vegetation complex			**		
- Yoongarillup Complex	24,767	11,140	45.0%	Depleted	13.9%
Beard vegetation associations			*		
- 998	51,094	18,320	35.9%	Depleted	32.9%

\* (Shepherd et al. 2001)

\*\* (EPA, 2003)

\*\*\* (Department of Natural Resources and Environment 2002)

**Methodology**      Heddle et al. (1980)  
 Shepherd et al. (2001)  
 Department of Natural Resource and Environment (2002)  
 EPA (2003)

**(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 not likely to be at variance to this Principle**  
 There are no known wetlands located within the applied area. The nearest known wetland is Goegrup Lake, a listed Conservation Category Welland and EPP (Lake), which is located approximately 1.7 kilometres to the south-east of the proposed area.

Given the distance to the nearest wetland, and that no wetland dependent vegetation was observed during the site visit, it is not considered likely that the vegetation under application is growing in, or in association with, a watercourse or wetland.

**Methodology**      DEC Site visit (25/9/2006)  
 GIS Database  
 - Geomorphic Wetlands - Swan Coastal Plain - DOE 15/09/04  
 - EPP, Lakes - DEP 28/07/03

**(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**  
 Soils within the area are described as Spearwood S2b phase, comprising shallow to deep siliceous yellow-brown sands. These soils are associated with a nil risk of Acid Sulphate Soils, salinity and waterlogging (State of Western Australia 2005). However, it is considered that the removal of vegetation from the sandy soils does have the potential to result in wind erosion.

Given that the proposed land use of the area under application involves the filling of the site, it is not considered that the proposed clearing would result in wind erosion. The proposal is therefore not considered likely to result in appreciable land degradation.

**Methodology**      State of Western Australia (2005)

**(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 nearest DEC managed area is located approximately 1.6 km to the east of the applied area on the opposite side of the rail reserve. The vegetation under application may form part of a corridor linking vegetation to the north and south, however a portion of this corridor is being retained within the rail reserve.

Given that the area under application is separated from the nearby conservation reserve by the rail line, and given that vegetation is being retained within the rail reserve, it is not considered likely that the proposed clearing would have an impact on the environmental values of this, or any conservation reserve.

**Methodology** GIS Database: CALM Managed Lands and Waters - CALM 1/07/05\_1

**(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 of native vegetation from the applied area may result in an increase in direct infiltration of rainwater, however the area under application has a low risk of acid sulphate soils and salinity, and therefore proposal is not likely to cause deterioration in the quality of underground water.

Water erosion is not likely to occur as a result of the proposed clearing given that the area under application will be filled as part of the proposed land use, and given the distance to the nearest waterbody, the proposal is not likely to cause deterioration in the quality of surface water.

**Methodology** GIS Databases:  
Acid Sulphate Soils, SCP - DOE  
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**

The area under application is located approximately 1.7 kilometres from Goegrup Lake, at an elevation of approximately 10 metres. It is not considered likely that the removal of vegetation from site would have an impact on peak flood height or duration.

**Methodology** GIS Database - Topographic Contours, Metropolitan Area - DLI

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

**Comments**

Lot 9502 on Plan 49129 is part of a Native Title Claim however, since it is privately owned the Native Title has been extinguished under the Native Title Act. Therefore the clearing as proposed should not fall under the future acts process of the Native Title Act 1993.

The City of Mandurah advise that the lot is zoned urban for a super lot and due to fill requirements vegetation is unable to be retained. The permit has been amended to exclude the area where vegetation retention may be possible through subdivision process.

**Methodology**

**4. Assessor's comments**

Purpose	Method	Applied area (ha)/ trees	Comment
Miscellaneous	Mechanical Removal	1.54	The assessable criteria have been addressed, and the proposed clearing may be at variance to Principle (a) and (b).  Conditions imposed on the permit include a requirement to translocate Quenda, and ensure trees are surveyed for habitat value.

**5. References**

Clearing Assessment Unit's biodiversity advice for land clearing application. Advice to Director General, Department of Environment and Conservation (DEC), Western Australia. TRIM ref xxxxx  
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.  
EPA (2003) 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.  
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.  
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.  
Site Visit 25/9/06, Department of Environment and Conservation (DEC), Western Australia. TRIM ref DOC14486.  
Western Australian Herbarium, Department of Environment and Conservation. Text used with permission (<http://florabase.calm.wa.gov.au/help/copyright>). Accessed on Monday, 29 January 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)

