



## 1. Application details

### 1.1. Permit application details

Permit application No.: 458/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Water Corporation

### 1.3. Property details

Property: SWAN LOCATION 5342  
UNALLOCATED CROWN LAND  
Local Government Area: Shire Of Mundaring  
Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3		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
<p>Hedde vegetation Darling Scarp Complex - open forests and woodlands of Eucalyptus calophylla, E. marginata, wandoo and sheoaks; shrublands of Grevillea and Hakea species; herblands of Haemodorum and Drosera species; sedgeland of Lepidosperma squamatum; and grasslands of Meurachne alopecuroidea (Hedde et al. 1980).</p> <p>Mattiske vegetation complex DS - mosaic of open forest of E. marginata subsp. marginata - Corymbia calophylla with some admixtures with E.laeliae with occasional E. marginata subsp. elegantella. Woodlands of E. wandoo, low woodland of Allocasuarina huegeliana, closed heath of Myrtaceae-Proteaceae species.</p> <p>Mattiske vegetation complex He2 - mosaic of open forest of E. marginata subsp. thalassica - Corymbia calophylla - E. patens and woodland of E. wandoo with some E. accedens on valley slopes to woodlands of E. rudis - Melaleuca raphiophylla on valley floors (Mattiske Consulting 1998).</p> <p>Beard vegetation association 4 - medium</p>	<p>These communities were noted in the area under application:</p> <ul style="list-style-type: none"> <li>- Open woodland of Corymbia calophylla (marri) on granite or sandy loams</li> <li>- Open woodland of Eucalyptus rudis, C. calophylla, Melaleuca raphiophylla</li> <li>- Open woodland of E. wandoo, C. calophylla</li> <li>- Calothamnus quadrifidus mixed heath on granite (Mattiske Consulting Pty Ltd 2004)</li> </ul>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)</p>	<p>The vegetation condition of 'Very Good' is used as the flora survey indicated that there are areas of excellent vegetation and of degraded vegetation therefore a lower condition rating was warranted.</p> <p>Vegetation description and condition sourced from flora survey conducted by Mattiske Consulting Pty Ltd (2004).</p>

### 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 area under application varies in vegetation condition from excellent to degraded. These degraded areas are usually associated with pre-existing roads and creek-crossings (Mattiske Consulting 2004). Five different vegetation communities were identified during the floral survey ranging from Marri open woodland to Mixed heath on granite (Mattiske Consulting 2004). The area under application also forms part of the Darling Range Regional Park that was gazetted to preserve regionally significant conservation and recreation values (360 Environmental 2004). This area is also the site of the proposed Mundaring National Park. As such, the area under application is likely to contain high levels of biodiversity. However, the proponent has indicated that in an effort to reduce disturbance the clearing will follow over-head powerlines and roads.

**Methodology**      Mattiske Consulting (2004) (DoE Trim No. EI652)  
360 Environmental (2004) (DoE Trim No. EI651)

#### (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**

Specially protected fauna that is known to occur in the local area (10km radius) include:  
Chuditch (*Dasyurus geoffroii*),  
Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*),  
Forest Red-tail Black Cockatoo (*Calyptorhynchus banksii naso*),  
Peregrine Falcon (*Falco peregrinus*), and  
Quokka (*Setonix brachyurus*) (CALM 2005).

Priority listed fauna that are known to occur in the local area (10km radius) include:

Austromerope poultoni,  
Dell's Skink (*Ctenotus delli*),  
Guildford Spingtail (*Australotomurus* sp),  
Quenda (*Isoodon obesulus fusciventer*),  
Western Brush Wallaby (*Macropus irma*), and  
Woylie (*Bettongia pencillata ogilby*) (CALM 2005).  
Bandicoots and other small mammals have been seen in the area under application as well as in the local area (Mattiske Consulting 2004). Some sections of the area under application have been previously disturbed (Mattiske Consulting 2004). It is considered that due to the small size and shape of the area under application and the availability of similar habitat in the surrounding areas (CALM 2005), the proposed clearing is unlikely to have a significant effect on the fauna in the area.

**Methodology**      Mattiske Consulting (2004) (DoE Trim No. EI652)  
CALM (2005) (DoE Trim No. EI927)

#### (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, significant flora.

**Comments**      **Proposal may be at variance to this Principle**

The following Declared Rare Flora occur within the local area of the area under application:

*Acacia anomala*,  
*Acacia aphylla*,  
*Anthocercis gracilis*,  
*Conospermum undulatum*,  
*Darwinia apiculata* and  
*Thelymitra stellata* (CALM 2005).

The following Priority species also occur within 10km of the area under application:

*Thelymitra* sp (Crystal Brook Star Orchid),  
*Diplolaena andrewsii*,  
*Pithocarpa corymbulosa*,  
*Acacia oncinophylla* subsp *oncinophylla*,  
*Aotus cordifolia*,  
*Halgania corymbosa*,  
*Boronia tenuis*,  
*Darwinia pimelioides*,

Grevillea pimeleoides,  
Senecio leucoglossus and  
Tetratheca sp Granite (CALM 2005).

These species occur on the same broad vegetation type as the area under application. However a vegetation and flora survey of the area under application did not identify any of these or any other Declared Rare Flora species (Mattiske Consulting 2004). The Priority 3 Tetratheca species was located during the vegetation and flora survey, however the population density is described as being occasional to common (Mattiske Consulting 2004). CALM (2005) indicates that through appropriate management major biodiversity impacts can be minimised.

**Methodology** Mattiske Consulting (2004) (DoE Trim No. EI652)  
CALM (2005) (DoE Trim No. EI927)  
GIS Databases:  
- Declared Rare and Priority Flora List - CALM 13/08/03

**(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a significant ecological community.**

**Comments** **Proposal is not likely to be at variance to this Principle**  
There are a number of Threatened Ecological Communities (TECs) within the local area (10km radius), most of which occur on a different vegetation type to the one under application. No TECs were identified during the flora and vegetation survey (Mattiske Consulting 2004). Therefore there is a low probability of the clearing as proposed being at variance to this Principle.

**Methodology** Mattiske Consulting (2004) (DoE Trim No. EI652)  
GIS Databases:  
Threatened Ecological Communities - CALM 15/07/03

**(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 at variance to this Principle**  
The vegetation under application consists of a number of vegetation complexes. The Mattiske vegetation complexes include Darling Scarp (43.3% remaining), Helena 2 (73.1% remaining) and Murray 2 (74.2% remaining) (Mattiske Consulting 1998). The Heddle vegetation complexes include Darling Scarp Complex (36.9% remaining), Helena Complex in low to medium rainfall (no information available) and Murray and Bindoon Complex in medium to low rainfall (no information available) (Heddle et al 1980). The Beard vegetation complex has 23.5% of vegetation remaining.  
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-European (Department of Natural Resources and Environment 2002, EPA 2000). Although Beard vegetation association (4) is below the 30% target threshold, the Mattiske and Heddle vegetation descriptions are more recent and more detailed. Therefore the clearing as proposed is not likely to be at variance to this Principle.

	Pre-European area (ha)	Current extent (ha)	Remaining %*	Conservation Status**	% in reserves/CALM-managed land
IBRA Bioregion - Jarrah forest	4,544,355	2,665,480	58.0	Least concern	
Shire - Carnarvon	No information available				
Beard vegetation association 4		1,247,834	292,993	23.5	Vulnerable 14.8
Mattiske vegetation complex DS		291,043	126,045	43.3	Depleted
Mattiske vegetation complex He2		163,414	119,424	73.1	Least concern
Mattiske vegetation complex My2		593,148	440,381	74.2	Least concern
Heddle vegetation complex DS		49,338	18,227	36.9	Depleted

\* Shepherd et al (2001)

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

**Methodology** Mattiske Consulting (1998)  
Heddle et al. (1980)  
Department of Natural Resources and Environment (2002)  
EPA (2000)  
Shepherd et al (2001)  
Hopkins et al (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 is not likely to be at variance to this Principle**

The Helena River runs as close as 50m to the proposed clearing. The proposed clearing is a long, narrow strip with vegetation present between the clearing and the watercourse. Therefore it is unlikely that the proposed clearing would have a significant effect on the River.

**Methodology** 360 Environmental (2004) (DoE Trim No. EI651)  
GIS Databases:  
- Hydrography, linear - DOE 01/02/04  
- Geomorphic wetlands - Swan Coastal Plain - DOE 15/09/04

**(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 area under application has a Class 3 Acid Sulphate Soil (ASS) risk, which indicates that there is no known risk of shallow or deeper ASS occurring. The area under application could potentially be subject to water erosion due to the high mean annual rainfall (900-1000mm) and location in a valley. The proposed clearing may also result in increased run-off into the Helena River, which may cause an increase in sedimentation of the River. However due to the size and shape (long and narrow) it is unlikely that the proposed clearing would cause appreciable land degradation.

**Methodology** GIS Databases:  
- Acid Sulphate Soil risk map, SCP - DOE01/02/04  
- Topographic Contours, Statewide -DOLA 12/09/02

**(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**

A section of the area under application is currently within the boundaries of the proposed Mundaring National Park. The Contract Environmental Management System outlines a methodology for the clearing which if followed would reduce the risk of biodiversity impacts to the surrounding area (360 Environmental 2004). Part of this proposed methodology includes any vegetative material from trees greater than 400 mm in diameter shall be used as part of the restoration program as habitat, rehabilitation logs and/or mulched; the Contractor shall demarcate protectable trees, the clearing zone and the vegetation to be retained and shall be marked out using CALM's 'Land Clearing Demarcation Standards 1999'; the Contractor shall remove trees in such a manner that they fall within the approved clearing area (360 Environmental 2004). If the clearing methodology outlined in the Contract Environmental Management System is abided by and, given the long, narrow shape of the area under application, impacts to the surrounding area should be minimised.

**Methodology** 360 Environmental (2004) (DoE Trim No. EI651)

**(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 proposed clearing may increase surface water run-off into the Helena River and may also increase sedimentation levels of the River. However given the small size and long, narrow shape of the area under application and its location downstream from the Helena Dam, it is unlikely that the proposed clearing will have a significant effect on surface water or groundwater quality.

**Methodology** GIS Databases:  
- Public Drinking Water Source Areas (PDWSAs) - DOE 04/11/04

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.**

**Comments Proposal is not likely to be at variance to this Principle**

As the area under application is located in a valley or low-lying area, there is the potential for an increase in surface run-off into the Helena River. However, the small size and long and narrow shape of the area under application would not be likely to result in an increase in the incidence of flooding or peak flood height.

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

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

### Comments

The proponent has applied for approval from Swan River Trust to build and construct within the Swan River Trust Management Area.

The proposal to replace the Lower Helena Pump Station was submitted to the EPA for Environmental Impact Assessment. The level of assessment has been set at 'Not Assessed - managed under Part V (clearing) of the EP Act'. This permit is the outcome of this management.

### Methodology

Tammy Kostas, Swan River Trust (pers coms 8th March 2005)

Hans Jacobs, Department of Environment (pers coms 27th January 2005, 12 April 2005)

## 4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Building or Structure	Mechanical Removal	3	Grant	<p>The assessable criteria have been addressed and the proposed clearing may be at variance with Principles a, c and h.</p> <p>For Principle a, the area under application is located within the boundaries of the proposed Mundaring National Park. However the proponent has indicated that the clearing will follow existing powerlines and roads to reduce the amount of 'new' clearing.</p> <p>For Principle c, the Priority 3 species, <i>Tetratheca</i> sp Granite, is found within the area under application, however its population density is described as occasional to common, CALM also advise that the proposed clearing is unlikely to significantly impact on any specially protected flora.</p> <p>For Principle h, a section of the area under application falls within the boundary of the proposed Mundaring National Park. If carefully managed under an appropriate Contract Environmental Management System such as that proposed by the proponent in their submission for Environmental Impact Assessment Approval, the proposed clearing could be managed so as to have a low impact on the environmental values of the proposed Mundaring National Park. The long, narrow shape of the area under application also acts to minimise impact on the environmental values.</p> <p>Thus, the assessing officer recommends that this permit should be granted and that the proponent follows and upholds the Contract Environmental Management System (in relation to the clearing methodology) to ensure that the impact to the surrounding environment is minimised.</p>

## 5. References

- 360 Environmental (2004) Lower Helena Pump Station Replacement Project Environmental Impact Assessment Referral Document. Prepared for Water Corporation.
- CALM (2005) Land clearing proposal advice. Advice to A/Director General, Department of Environment (DoE). Department of Conservation and Land Management, Western Australia. DoE TRIM ref EI927.
- 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.
- 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, BJ (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Mattiske Consulting (1998) Mapping of vegetation complexes in the South West forest region of Western Australia, CALM.
- Mattiske Consulting Pty Ltd (2004) Flora and Vegetation Survey of the Proposed Underground Cable Route from Darlington Substation to the Lower Helena Dam Substation. Prepared for 360 Environmental.
- 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.