



## 1. Application details

### 1.1. Permit application details

Permit application No.: 1211/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Shire of Sandstone

### 1.3. Property details

Property: LOT 77 ON PLAN 238141 ( SANDSTONE 6639)  
LOT 18 ON PLAN 193955 ( SANDSTONE 6639)  
LOT 16 ON PLAN 220790 ( SANDSTONE 6639)  
PART LOT 75 ON PLAN 30223 ( SANDSTONE 6639)  
CROWN RESERVE 11714 ( SANDSTONE 6639)  
Local Government Area: Shire Of Sandstone  
Colloquial name: Site 1

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
32		Mechanical Removal	Extractive Industry

## 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 Association 18: Low woodland; mulga (Acacia aneura)	The eight areas under application (Sites 1-5 and 7-9) are for the purpose of shallow pits for gravel extraction, to facilitate the urgent repair of Shire roads severely damaged after extreme rainfall events. Six of the eight areas are adjacent to existing gravel pits and each pit will be extended within an area of four hectares (Information provided by the proponent 2006, DEC TRIM Ref IN26013).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The assessment of the condition of the native vegetation has resulted from information and photographs provided by the applicant (Information provided by the proponent 2006, DEC TRIM Ref IN26013).
Beard Vegetation Association 107: Hummock grasslands, shrub steppe; mulga and Eucalyptus kingsmillii over hard spinifex.			
Beard Vegetation Association 2121: Mosaic: Open low woodland; mulga / Succulent steppe; saltbush and bluebush on greenstone.	The vegetation proposed to be cleared is described as predominantly mulga scrub (Acacia species) on gravel/red soils (Application 2006, DEC TRIM Ref IN26013).		

## 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 areas under application occur within Beard Vegetation Associations 18, 107 and 2121, of which 24,659,110ha, 3,348,249ha and 141,528ha respectively, of the original extent remains (Shepherd et al 2001, Hopkins et al 2001). Furthermore, the vegetation proposed to be cleared is adjacent to the existing roads with five proposed pits adjacent to Paynes Find-Sandstone Road and three proposed pits adjacent to Menzies-Sandstone Road, at an average distance of 10km apart. In addition, six of the eight areas under application have been previously disturbed being adjacent to existing gravel pits (Information provided by the proponent 2006).

The areas under application and surrounds have a history of grazing and mining activities, with the vegetation being predominantly sparse mulga scrub (*Acacia* species) with minimal lower and upper storey vegetation (Information provided by the proponent 2006).

The vegetation types in which the proposed locations of clearing occur are common and widespread. In addition, grazing, mining and proximity to existing gravel pits and roadsides have reduced the biological diversity of the areas under application.

**Methodology** Information provided by the proponent (2006) (DoE TRIM Ref IN26013)

**(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**

The areas under application are within the Murchison IBRA Region, an area covering approximately 28,000,000ha of which 100% of the native vegetation remains (Shepherd et al 2001, Hopkins et al 2001). The vegetation under application is located within Beard Vegetation Associations 18, 107 and 2121, of which 24,659,110ha, 3,348,249ha and 141,528ha respectively, of the original extent remains (Shepherd et al 2001, Hopkins et al 2001). Given the amount of vegetation remaining, it is unlikely that the relatively small areas applied to be cleared will compromise the status of the vegetation associations or that habitat available to indigenous fauna.

Further, the vegetation proposed to be cleared is adjacent to the existing roads, Paynes Find-Sandstone Road and Menzies-Sandstone Road, and six of the eight sites are adjacent to existing gravel pits, areas previously disturbed (Information provided by the proponent 2006). Therefore, the vegetation applied to be cleared is not likely to be necessary for the maintenance of significant habitat for fauna indigenous to Western Australia.

Further, the vegetation proposed to be cleared is adjacent to the existing roads, Paynes Find-Sandstone Road and Menzies-Sandstone Road, and six of the eight sites are adjacent to existing gravel pits, areas previously disturbed (Information provided by the proponent 2006). Therefore, the vegetation applied to be cleared is not likely to be necessary for the maintenance of significant habitat for fauna indigenous to Western Australia.

**Methodology** Information provided by the proponent (2006) (DoE TRIM Ref IN26013)

GIS database:

- Western Australia ETM 25m 543 - AGO 02

**(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**

The nearest records of Declared Rare Flora (DRF) to the areas under application are located approximately 170km south. It is therefore unlikely that the vegetation proposed to be cleared includes, or is necessary for the continued existence of rare flora.

**Methodology** GIS database:

- Declared Rare and Priority Flora List - CALM 01/07/05

- Environmentally Sensitive Areas - DOE 08/03/05

**(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**

The nearest records of Threatened Ecological Communities (TECs) to the areas under application are located approximately 60km east. This TEC is known as Depot Springs and is groundwater dependent stygofauna. It is therefore extremely unlikely that the vegetation proposed to be cleared comprises the whole or part of or is necessary for the maintenance of a TEC.

**Methodology** GIS Databases:

- Threatened Ecological Community Database - CALM 12/04/05

- Environmentally Sensitive Areas - DOE 08/03/05

**(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 is located within Beard Vegetation Associations 18, 107 and 2121, of which 99.9% (24,659,110ha), 100% (3,348,249ha) and 100% (141,528ha) respectively, of the original extent remains (Shepherd et al 2001, Hopkins et al 2001). These vegetation types are therefore regarded as 'least concern' (>50%) in terms of biodiversity conservation (Department of Natural Resources and the Environment 2002).

The areas under application are mapped within the Murchison IBRA Region of which 100% of native vegetation remains (Shepherd et al 2001, Hopkins et al 2001). Given the size of the proposed clearing compared to the area of remnant vegetation remaining within the Region (28,206,195ha) (Shepherd et al 2001), the proposed clearing will not be significant as remnants of native vegetation.

**Methodology** Department of Natural Resources and Environment (2002)  
Hopkins et al. (2001)  
Shepherd et al. (2001)  
GIS Databases:  
- Pre-European Vegetation - DA 01/01  
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00

**(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 at variance to this Principle**

The area under application is in an arid environment with no permanent watercourses or wetlands. Significant rain events create large floodplains due to the flat topography of the region. Due to the small size of the area under application it is unlikely that the clearing as proposed will have a significant impact on any associated watercourse or wetland.

**Methodology** GIS Databases:  
- Hydrography, linear - DOE 01/02/04

**(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 landforms of the areas under application and surrounds can be described as sandy outwash plains from granites, gneisses, and allied rocks with numerous small waterways and broken slopes and ridges characterised by breakaways, generally on gneissic granites and allied rocks. The chief soils are shallow red earthy sands with small areas of shallow red earths and red earthy loams, with some shallow ironstone gravels. A red-brown hardpan commonly occurs at depths of less than 40 inches, ensuing large areas of land are required to obtain shallow gravels.

To reduce the likelihood of soil erosion and to aid rehabilitation the management action to be undertaken will be to remove and retain the overburden, to be progressively dispersed with a bulldozer onto completed sections of the shallow gravel pits (Bill Atkinson 2006).

With an average annual rainfall of 250mm and an average annual evaporation rate of 3,400, there is little surface flow during normal seasonal rains, reducing the likelihood of water erosion.

Given the small size of the area under application in context with the regional surroundings, the previous history of disturbance in the area and the soil types it is unlikely that the proposed clearing will cause any further significant land degradation.

**Methodology** Bill Atkinson (2006) (DEC TRIM Ref DOC1165)  
Information provided by the applicant (2006) (DoE TRIM Ref IN26013)  
GIS Databases:  
- Evaporation Isopleths - BOM 09/98  
- Isohyets - BOM 09/98  
- Soils, Statewide - DA 11/99

**(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**

There are no conservation areas within close proximity (<100km) of the areas under application with the nearest conservation areas being CALM Managed Lands, located approximately 120km south (Mt Manning Range Nature Reserve), 150km north-east (Wanjarri Nature Reserve), 170km south-west (Karroun Hill Nature Reserve) and 250km south-east (Goongarrie National Park) of the proposed clearing. Given the distance between the areas under application and the CALM Managed Lands the proposed clearing is not likely to have an impact on the environmental values of the surrounding conservation areas.

**Methodology** GIS databases:  
- CALM Managed Lands and Water - CALM 01/07/05

**(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**

With an average annual rainfall of 250mm and an annual evaporation rate of 3,400mm there is likely to be little surface flow during normal seasonal rains. It is only during major rainfall events that there is any significant surface flow and this flow during these events tends to be relatively fresh. The Raeside-Ponton Catchment within the Salt Lake Basin becomes a medium for the collection and transportation of the major flows.

With high annual evaporation rates and low annual rainfall there is little recharge into regional groundwater table, which at this sites are between 1,000 mg/l and 7,000 mg/l and is considered to be marginal to low saline. The proposed clearing of native vegetation for this proposal is unlikely to have an impact on regional groundwater considering the magnitude of the Yilgarn-Goldfields Groundwater Province (~300,000 sq km) and the extent of native vegetation remaining in the Murchison Region (~100%) (Shepherd et al 2001).

**Methodology Shepherd et al. (2001)**

GIS Databases:

- Evaporation Isopleths - BOM 09/98
- Isohyets - BOM 09/98
- Groundwater Salinity, Statewide - 22/02/00
- Hydrography, linear - DOE 01/02/04
- Groundwater Provinces - WRC 98
- Hydrographic Catchments, Catchments - DOE 23/03/05

**(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 at variance to this Principle**

With an average annual rainfall of 250mm and an annual evaporation rate of 3,400mm there is little surface flow during normal seasonal rains. It is only during major rainfall events that there is a likelihood of flooding for which the broad valleys and lake systems of the region are designed to compensate and sustain floodwaters.

**Methodology GIS Databases:**

- Evaporation Isopleths - BOM 09/98
- Isohyets - BOM 09/98
- Hydrography, linear - DOE 01/02/04

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

**Comments**

The area under application is within the Proclaimed Groundwater Area of East Murchison. Therefore any abstraction of groundwater would require a licence. However, considering this application is only for gravel extraction, no licence will be necessary.

There is no other RIWI Act Licence, Works Approval or EPA Act Licence that affects the area under application.

There is a Native Title Claim over the area under application. The Department of Environment and Conservation's advertising of the application in the West Australian newspaper constitutes legal notification of the native title representative body for the purpose of the future act procedures under the Native Title Act 1993. No response was received from the representative body.

The Department advises that the proponent contact the relevant authorities to seek advice on whether or not the road works will impact upon the Aboriginal Sites of Significance listed within the area under application.

**Methodology GIS databases:**

- Aboriginal Sites of Significance - DIA 28/02/03
- Native Title Claims - DLI 7/11/05
- DPI Permission for Native title EI 4677
- RIWI Act, Groundwater Areas - WRC 13/06/00
- RIWI Act, Surface Water Areas - WRC 18/10/02

**4. Assessor's recommendations**

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Extractive Industry	Mechanical Removal	32	Grant	The Clearing Principles have been addressed and no issues have been raised. The assessing officer therefore recommends that the permit should be granted.

## 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.
- Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
- 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.

## 6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)

