



## 1. Application details

### 1.1. Permit application details

Permit application No.: 1599/1  
 Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: City of Armadale

### 1.3. Property details

Property: ROAD RESERVE ( SOUTHERN RIVER 6110)  
 Local Government Area: City Of Armadale & City Of Gosnells  
 Colloquial name: Road Reserve adjacent to Ranford Road. Between Balannup Rd & Tonkin Hwy.

### 1.4. Application

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

## 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><b>Beard Vegetation</b>            Association 1001; medium very sparse woodland, jarrah with low woodland; <i>banksia</i> and <i>casuarina</i> (Shepherd et al. 2001, Hopkins et al. 2001).</p> <p><b>Heddle Vegetation</b>            Complex - Southern River Complex; Open woodland of <i>E.calophylla</i> - <i>E.marginata</i> - <i>Banksia</i> species with fringing woodland of <i>E.rudis</i> - <i>M.rhaphiophylla</i> along creek beds (Heddele et al. 1980).</p>	<p>The proposal is to clear 0.57ha of native vegetation within a 1.5km long road reserve adjacent to Ranford Rd, Southern River for road widening. A small portion of the vegetation under application is located within private property on Lots 70, 69, 507 and 508, on the southern aspect of Ranford Rd. The City of Armadale is currently in the process of compulsorily acquiring this land.</p> <p>Four main areas of vegetation were observed during the site inspection. The vegetation under application on the corner of Balannup Rd comprises of a weed dominated under storey with sparse <i>Melaleuca teretifolia</i>, <i>Eucalyptus rudis</i> and <i>Hardenbergia comptoniana</i> and is in a completely degraded condition.</p> <p>The vegetation within the road reserve on the southern side of Ranford Rd from Balannup Rd to Skeet Rd comprises scattered <i>Xanthorrhoea preissii</i> and <i>Melaleuca rhaphiophylla</i> with a weed dominated under storey, also in a completely degraded condition.</p> <p>The vegetation under application on the south east corner of Skeet and Ranford Road is in a degraded condition with scattered <i>Adenanthos cygnorum</i>. The under storey is dominated by weeds including Veldt grass (<i>Ehrharta calycina</i>) and Geraldton Carnation Weed (<i>Euphorbia terracina</i>).</p> <p>The vegetation under application on the southern side of Ranford Rd from Skeet Rd to Terrier Place ranges from a completely degraded to very good condition. The vegetation within this section comprises scattered <i>Xanthorrhoea preissii</i>, <i>Adenanthos cygnorum</i> and <i>Kunzea glabrescens</i>. There are occasional communities of <i>Kunzea glabrescens</i> tall closed shrubland over scattered <i>X.preissii</i> and <i>Regelia ciliata</i> low closed heath with scattered <i>Acacia lasiocarpa</i> and <i>Hypocalymma angustifolium</i>.</p>	<p>Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)</p>	<p>The vegetation clearing description is based is based on information obtained during the site inspection undertaken 08/12/2006 (TRIM Ref. DOC13873). The condition of the vegetation ranged from completely degraded to very good: an overall condition of degraded is deemed appropriate.</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 is not likely to be at variance to this Principle**

The vegetation under application is located within a road reserve in a semi-rural residential area.

The majority of the native vegetation applied to be cleared was observed during the site inspection as being in a completely degraded to degraded condition with scattered patches of vegetation in a very good condition. Overall the upper storey was altered with obvious signs of disturbance and a weed dominated under storey. The vegetation was fairly homogenous across the site, with a low level of biological diversity. Furthermore, the vegetation is adjacent to a busy road (Ranford Rd) and has been, and will continue to be, subject to edge effects. This was evidenced by weed invasion and the overall degraded condition of the vegetation.

Being a relatively small area (~0.57ha) of degraded vegetation with a low level of biological diversity, the clearing as proposed is not likely to be at variance to this principle.

**Methodology**      Site inspection 08/12/2006 (TRIM Ref. DOC13873)

GIS databases:

- Swan Coastal Plain North 1m Orthomosaic - DLI 01/04
- Metropolitan Regional Scheme - DPI 07/10/05

#### (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**

An Environmental Impact Assessment (ATA Environmental, 2006) identified eight species of conservation significant fauna as potentially found within the area surrounding the vegetation under application, including Carnaby's Black Cockatoo, Baudin's Black Cockatoo, Rainbow Bee-eater and Quenda. These species are protected under the Wildlife Conservation Act 1950 and/or the Environment Protection and Biodiversity Conservation Act 1999.

The vegetation under application ranges from a completely degraded to very good condition with an overall low level of biological diversity. Furthermore, the vegetation under application is within close proximity to major transport routes and there is a high level of disturbance at the site, including vegetation fragmentation and edge effects evidenced by weed invasion.

The vegetation under application is located adjacent to two Bush Forever sites (342 and 413). Biodiversity Coordination Section, DEC (2006) advise that Bush Forever sites 342 and 413 at 296ha and 76.6ha respectively, are likely to provide fauna habitat of equal or better quality than the vegetation that is proposed to be cleared given that the vegetation within these sites is largely intact. Given this, the vegetation under application is unlikely to be considered to provide significant habitat. Therefore the proposal is not likely to be at variance to this Principle.

**Methodology**      Biodiversity Coordination Section, DEC (2006) (TRIM Ref. DOC13871)

Site inspection 08/12/2006 (TRIM Ref. DOC13873)

ATA Environmental (2006)

GIS database:

- Swan Coastal Plain North 1m Orthomosaic - DLI 01/04

#### (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 several known populations of Declared Rare (DRF) and Priority Flora within a 5km radius of the area under application. The closest known population is *Verticordia lindleyi* subs. *lindleyi* (Priority 4), approximately 200m north of the south eastern end of the vegetation under application.

Other known Declared Rare Flora (DRF) and Priority Flora populations within a 5km radius include approximately:

- 10 populations of *Caladenia huegelii* (Rare)
- 9 populations of *Diuris purdiei* (Rare)
- 2 populations of *Drakaea elastica* (Rare)
- 1 population of *Drakaea micrantha* (Rare)
- 4 populations of *Tripteroctopus paniculatus* (Priority 1)
- 1 population of *Rhodanthe pyrethrum* (Priority 3)
- 2 populations of *Verticordia lindleyi* subs. *lindleyi* (Priority 4)
- 2 populations of *Jacksonia sericea* (Priority 4)
- 2 populations of *Drosera occidentalis* subs. *occidentalis* (Priority 4)
- 2 populations of *Villarsia submersa* (Priority 4)

All of the known DRF and Priority Flora occur within the same Heddle Complex (Heddle et al. 1980), Beard Vegetation associations (Hopkins et al. 2001) and soil unit (Cb38).

However, no DRF or Priority Flora populations were found during surveys conducted within the project area (ATA Environmental, 2006). Biodiversity Coordination Section, DEC (2006) advice indicates that given that no DRF or Priority species were identified during surveys undertaken, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Biodiversity Coordination Section, DEC (2006) (TRIM Ref. DOC13871)  
ATA Environmental (2006)  
GIS databases:  
- Declared Rare and Priority Flora List - CALM 01/07/05  
- Threatened Plant Communities - DEP 06/95  
- Heddle Vegetation Complexes - DEP 21/06/95  
- Pre-European Vegetation - DA 01/01  
- Soils, Statewide - DA 11/99

**(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 approximately 22 known occurrences of Threatened Ecological Communities (TEC) within a 5km radius of the vegetation under application. The closest TEC is approximately 800m north of the western end of the vegetation under application. This TEC is the vulnerable Floristic Community Type 8 known as 'Herb rich shrublands in clay pans' (Gibson, 1994) Two TECs are located within the adjacent Bush Forever site (342) approximately 1.3kms south of the vegetation under application. These TECs are the endangered Floristic Community Type 10a known as 'Shrublands on dry clay flats'.

No TECs were identified during surveys undertaken for an Environmental Impact Assessment in October 2005 (ATA Environmental, 2006). Furthermore, the soil associated with the vegetation under application was identified during the site inspection as light grey sandy soil. Given this, the vegetation under application is not likely to comprise the whole or part of a TEC. Therefore the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Site inspection 08/12/2006 (TRIM Ref. DOC13873)  
Gibson (1994)  
ATA Environmental (2006)  
GIS database:  
- Threatened Ecological Communities - CALM 12/4/05

**(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 likely to be at variance to this Principle**  
The vegetation under application is a component of Beard Vegetation Association 1001 (Hopkins et al. 2001) and Heddle: Southern River Complex (Heddle et al. 1980) of which 27.8% and 19.8% of Pre European extent remain respectively (Shepherd et al. 2001).

Beard Vegetation Association 1001 can be described as medium very sparse woodland, jarrah with low woodland; banksia and casuarina (Hopkins et al. 2001). Heddle: Southern River Complex can be described as open woodland of E.calophylla - E.marginata - Banksia species with fringing woodland of E.rudis - M.rhaphiophylla along creek beds (Heddle et al. 1980).

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

	Pre-European (ha)*	Current extent (ha)*	Remaining (%)*	Conservation** % In reserves/CALM status	% In reserves/CALM managed land
IBRA Bioregions					
Swan Coastal Plain	1 498 297	626 512	41.8	Depleted	
City of Armadale	55,885	42,911	76.8	Least concern	
Vegetation type:					
Beard: 1001	57327	15957	27.8	Vulnerable	3.7
Heddle:					
Southern River Complex	57,979	11,501	19.8	Vulnerable	1.5

\* (Shepherd et al. 2001)

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

Beard Vegetation Association 1001 and Heddle: Southern River Complex representations are below the State Government's National Objectives and Targets for Biodiversity Conservation, at only 27.8% and 19.8% respectively. Below the 30% target, species extinction is believed to occur at an exponential rate and any further clearing may have irreversible consequences for the conservation of biodiversity.

Furthermore, both vegetation associations in secure tenure are well below the 15% pre-1750 distribution of each vegetation ecosystem that should be protected in a comprehensive, adequate and representative reserve system recommended by JANIS Forests Criteria (1997).

Despite the low vegetation representations of Beard's Vegetation Association (1001) and Heddle's Southern River Complex, EPA (2003) recognises that vegetation representation within the constrained area of the metropolitan region may be varied to a minimum representation level of 10%. As the vegetation within the area under application is not from an ecological community below the 10% pre-clearing extent, a threatened ecological community, or part of a regional significant linkage, this minimum 10% representation level may apply.

**Methodology** EPA (2003)  
Site inspection 08/12/2006 (TRIM Ref. DOC13873)  
JANIS Forests Criteria (1997)  
Shepherd et al. (2001)  
Hopkins et al. (2001)  
Department of Natural Resources and Environment (2002)  
GIS databases:  
- Heddle Vegetation Complexes - DEP 21/06/95  
- 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 at variance to this Principle**

The vegetation under application adjoins three Conservation Category Wetlands (CCWs) and a multiple use sumpland. Part of the vegetation under application is within a mapped Resource Enhancement Wetland (REW).

Two of the CCWs are part of the Balannup Lake system. The third area is a Conservation Category sumpland opposite Terrier Place. CCWs are wetlands with high ecological values and are the highest priority wetlands for protection. CCWs are recognised under objective one of the Wetlands Conservation Policy for Western Australia as valuable (Government of Western Australia, 1997). Therefore, government agencies and the Environmental Protection Authority consider there should be no further loss and degradation of these wetlands. Their protection also requires the retention of an adequate buffer.

Three sections of the vegetation under application are contained within areas mapped as REWs. These wetlands are priority wetlands which may have been partially modified but still support substantial ecological attributes and functions. The ultimate objective for REWs is for management, restoration and protection towards improving their conservation value (Water and Rivers Commission, 2001).

The vegetation under application is also located within the ANCA listed Gibbs Road Swamp System.

The clearing as proposed occurs within the Water and Rivers Commissions recommended minimum buffer area of 50m (Water and Rivers Commission, 2001). Given this, and the location of the vegetation under application within and adjacent to significant wetland areas, the proposed clearing is at variance to this Principle.

**Methodology** Government of Western Australia (1997)  
Water and Rivers Commission (2001)  
GIS databases:  
- ANCA, Wetlands - CALM 08/01  
- EPP, Areas - DEP 06/95  
- EPP, Lakes - DEP 1/12/92  
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DEC  
- Hydrography, linear - DOE 1/2/04  
- RAMSAR, Wetlands - CALM 14/02/03

**(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.**

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

The vegetation under application lies within soil unit Cb38. These soils are associated with intervening sandy and clayey swamp flats with leached sands as chief soils. These soils are sometimes associated with a clay D horizon below 5 ft, on the dunes and sandy swamps (Department of Agriculture, 2004). The soil associated with the vegetation under application was identified during the site inspection as light grey sandy soil.

The majority of the vegetation under application lies within a Class 2 Acid Sulphate soil (ASS) Risk area. This Class is defined as a having a moderate to low risk of ASS occurring within 3m of natural soil surface that could be disturbed by most land development activities.

The remaining area of vegetation lies within a Class 1 Acid Sulphate Risk area. This Class is defined as having a high to moderate risk of ASS occurring within 3m of natural soil surface that could be disturbed by most land development activities.

Given the moderate to high risk of ASS in the area, the proposed clearing may be at variance to this Principle.

**Methodology** Site inspection 08/12/2006 (TRIM Ref. DOC13873)  
ATA Environmental (2006)  
Department of Agriculture (2004)  
GIS databases:  
- Soils, Statewide - DA 11/99  
- Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC

**(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 is one DEC managed area (Balannup Lake Nature Reserve) adjacent to the north western end of the vegetation under application.

The vegetation under application is also adjacent to two Bush Forever sites. These are:

- Anstey/Keane Dampland and Adjacent Bushland, Forrestdale (BF site 342); and
- Balannup Lake and Adjacent Bushland, Southern River/Forrestdale (BF site 413).

Although the vegetation under application is located adjacent to these conservation areas, the overall condition of the vegetation is degraded and scattered with a low level of biological diversity. Given this and the small area to be cleared (~0.57ha), the vegetation under application is not considered to contribute significantly to the environmental values of the nearby conservation areas. Therefore it is not likely to be at variance to this Principle.

**Methodology** GIS databases:  
- Bushforever - MFP 07/01  
- Clearing Regulations - Environmentally Sensitive Areas - DOE 30/5/05  
- CALM Managed Lands and Waters - CALM 1/07/05

**(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**

The area under application is not located within any Public Drinking Water Source Areas (PDWSA) or PDWSA Protection Zones.

Given the existing degraded nature of the majority of the vegetation under application and relatively small area to be cleared (~0.57ha), the proposed clearing is not likely to cause deterioration in the quality of surface or underground water. Therefore, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** GIS database:  
- Public Drinking Water Source Areas (PDWSAs) - DOE 07/02/06

**(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 vegetation under application occurs within an area associated with an annual rainfall of approximately 900mm and an annual evaporation rate of approximately 1800mm. Given this, the degraded and fragmented condition of the vegetation and the small area applied to be cleared (~0.57ha), the proposed clearing is not likely to cause or exacerbate the incidence or intensity of flooding.

**Methodology** GIS databases:  
 - Rainfall, Mean Annual - BOM 30/09/01  
 - Evaporation Isoleths - BOM 09/98

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

**Comments**

There are no known Aboriginal Sites of Significance within the area under application. As the clearing is in accordance with a statutory power under the Local Government Act 1995, the clearing is considered to be a secondary approval and the future act regime of the Native Title Act 1993 does not apply.

A small portion of the vegetation under application is located within private property on Lots 70, 69, 507 and 508 on the southern aspect of Ranford Rd. The City of Armadale is currently in the process of compulsorily acquiring this land for the road upgrade (TRIM Ref. DOC14736).

The vegetation under application adjoins three Conservation Category Wetlands (CCWs) and a multiple use sumpland. Part of the vegetation under application is within a mapped Resource Enhancement Wetland (REW) and is located within the ANCA listed Gibbs Road Swamp System. Therefore, the clearing as proposed occurs within the Water and Rivers Commissions recommended minimum buffer area of 50m (WRC, 2001).

The Bush Forever office have advised that there is no objection to the proposed clearing and recommend that there be no vegetation, earth spoil or any other debris disposed of within the boundary of the adjoining Bush Forever sites (TRIM Ref. DOC12961).

**Methodology** Water and Rivers Commission (2001)  
 GIS databases:  
 - Native Title Claims - DLI 7/11/05  
 - Aboriginal Sites of Significance - DIA  
 - RIWI Act, Areas - WRC 05/04/02

**4. Assessor's comments**

Purpose	Method	Applied area (ha)/ trees	Comment
Road construction or maintenance	Mechanical Removal	0.57	Assessment against the Principles of Clearing, as listed in Schedule 5 of the Environmental Protection Act 1986, has been undertaken and the proposed clearing is at variance to Principle (f) and may be at variance to Principle (g) as the vegetation under application is associated with an ANCA listed and Resource Enhancement Wetland, and is within a moderate to high Acid Sulphate Soil (ASS) risk area. The vegetation under application is also within the buffer zone for three adjacent Conservation Category Wetlands (CCWs).  Notwithstanding, the vegetation under application is in an overall degraded condition with limited environmental values. Given the small area to be cleared (~0.57ha), the assessing officer recommends that a permit be granted with conditions relating to weed and dieback control, protection of the adjacent Bush Forever site and preparation of an offset package.

**5. References**

Biodiversity Coordination Section, DEC (2006) (TRIM Ref. DOC13871)

ANCA (1996) A Directory of Important Wetlands in Australia. Second Edition. Australian Nature Conservation Agency, Canberra

ATA Environmental (2006) Environmental Impact Assessment Report, Prepared for the City of Armadale.

Department of Agriculture (2004) Soil-landscape mapping, Western Australia Department of Agriculture, Date accessed 01/12/2006

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 (2001) Environmental Protection of Wetlands. Preliminary Position Statement No.4. Perth, Western Australia.

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.

Gibson et al. (1994). A Floristic Survey of the Southern Swan Coastal Plain. Western Australian Department of Conservation and Land Management.

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.

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.

JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.

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.

Water and Rivers Commission (2001) Position Statement: Wetlands

## 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)