



1. Application details

1.1. Permit application details

Permit application No.: 2671/1
 Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: City of Wanneroo

1.3. Property details

Property: LOT 15502 ON PLAN 43510 (KOONDOOLA 6064)
 Local Government Area: City Of Wanneroo
 Colloquial name:

1.4. Application

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

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>Beard vegetation association: 6 - Medium woodland; tuart & jarrah (SAC Bio Dataset 09/09/2008, Shepherd 2006).</p> <p>Heddle Vegetation Complex: Karrakatta complex - Central and south. Predominantly open forest of E. gomphocephala - E. marginata - E. calophylla and woodland of E. marginata - Banksia species (Hedde et al. 1980).</p>	<p>The proposal is to clear 0.09 hectares of native vegetation (~135m long x ~7m wide) for the purpose of installation of a shared use pathway along the western edge of Alexander Drive, Koondoola. This pathway is part of the 2008-2009 Perth Bicycle Network Local Government Grant funding (City of Wanneroo 2008).</p> <p>The vegetation under application is predominantly completely degraded with small sections being good and degraded. The southern portion of vegetation under application is in a completely degraded condition (0.07ha) consisting of a sparse layer of semaphore sedges, Acacia sp. and Stirlingia sp. The weed Gladiolus occurs numerously in this area.</p> <p>The central portion is in a degraded condition (0.01ha) and comprises of Allocasuarina sp. over a sparse shrub layer of Conospermum sp. and Acacia sp. over a groundcover of semaphore sedges and the weeds Briza maxima and Gladiolus.</p> <p>The northern portion of the</p>	<p>Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)</p>	<p>The condition of the native vegetation under application was sourced from the site inspection undertaken 16 September 2008 (DEC 2008).</p>

vegetation under application is in a good condition (0.01ha) and consists of semaphore sedges, shrubs and herbs including, but not limited to Conospermum sp., Acacia sp., native pea species, Jacksonia sp., Hybanthus calycinus, Caladenia sp, Anigozanthos rufus and Diuris corymbosa. The weed Briza maxima occurs sparingly throughout this 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 is not likely to be at variance to this Principle**

The vegetation under application is predominantly in a completely degraded condition (DEC 2008). The vegetation comprises of sedges, shrubs and herbs including but not limited to Allocasuarina sp., Conospermum sp., Acacia sp., native pea species, Jacksonia sp., Hybanthus calycinus, Caladenia arenicola, Caladenia paludosa, Anigozanthos sp, Diuris corymbosa and the weeds Briza maxima and Gladiolus (DEC 2008).

Although within the boundary of a known Threatened Ecological Community (TEC), that being the Endangered Floristic Community Type (FCT) 20a: Banksia attenuata woodlands over species rich dense shrublands (Gibson et al. 1994), the vegetation under application is predominantly in a completely degraded condition.

The vegetation under application is not considered likely to provide significant habitat for native fauna species due to its small area, overall degraded condition and lack of flora species required for nesting and foraging (DEC 2008).

Given the overall limited species diversity, the lack of suitable fauna habitat and the relatively small area under application, the proposed clearing is not likely to be at variance to this Principle.

Methodology References
-DEC (2008)
- Gibson et al. (1994)

(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**

There are four fauna species of conservation significance recorded in the local area (5km radius).

The vegetation under application is a small north eastern portion of a larger (137ha) remnant of native vegetation belonging to the Koondoola Regional Bushland Reserve (also identified as Bush Forever site 201).

Although a part of this Reserve, the vegetation under application is adjacent to a major road intersection on the eastern side and is in overall degraded condition (DEC 2008). This vegetation is not likely to provide suitable habitat for ground dwelling fauna such as the Quenda, which has been recorded in the local area (5km radius). Furthermore, the vegetation under application is not likely to provide suitable habitat for the Carnaby's Cockatoo which has been recorded in the local area due to the lack of habitat and feeding tree species.

Due to the relatively small area under application (0.09 hectares) the proposed clearing is not considered to comprise significant habitat therefore the proposed clearing is not considered likely to be at variance to this Principle.

Methodology References
-DEC (2008)
GIS databases
-SAC Bio datasets accessed 10/09/2008

(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 is one known record of the rare flora species being Caladenia huegelii within the local area (5km radius). This population is located ~4.8km south east from the area under application.

C. huegelii is a tuberous, perennial herb, 0.25-0.6 m high with green, cream and red flowers during Sep-Oct. It grows in deep sandy soil in mixed woodland of jarrah and banksia (Brown et al. 1998).

C. huegelii grows in similar soil and vegetation complex as the area under application. Management plan (Ecoscape 2008) outlines that no rare flora has been identified within the Koondoola Regional Bushland Reserve. Furthermore, a site inspection (DEC, 2008) of the area under application identified *Caladenia* spp., which were identified by DEC Species and Communities Branch (2008a) as being *Caladenia arenicola* and *Caladenia paludosa*. Therefore, proposed clearing is not considered likely to be at variance to this Principle.

- Methodology** **References**
 -Brown et al. (1998)
 - DEC (2008)
 - DEC (2008a)
 -Ecoscape(2008)
GIS Database:
 -Hedde Vegetation Complexes
 -SAC Bio datasets accessed 10/09/2008
 -Soils, Statewide

(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 may be at variance to this Principle**
 The area under application is located within the boundary of a known Threatened Ecological Community (TEC), that being the Endangered Floristic Community Type (FCT) 20a: *Banksia attenuata* woodlands over species rich dense shrublands (Gibson et al. 1994). In addition, there are 34 known occurrences of this TEC in the local area (5km radius).

 The vegetation under application is in completely degraded to good condition (DEC 2008). Given the condition of the area under application, the proposed clearing is considered may be at variance to this Principle.

- Methodology** **References**
 -DEC (2008)
 -Gibson et al. (1994)
GIS Databases:
 -SAC Bio datasets accessed 10/09/2008

(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 associated with Beard Vegetation Association 6. There is approximately 26.6% pre-European vegetation extent remaining (Shepherd 2006). The vegetation under application is also associated with Hedde Vegetation Complex Karrakatta Complex -Central and South which has 29.5% pre-European vegetation extent remaining (EPA 2006).

 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 (Commonwealth of Australia 2001). Both of the mapped vegetation complexes associated within the area under application are below the State Government's biodiversity conservation target of 30%. However, the EPA (2006) recognises the Perth Metropolitan Region as a constrained area, providing for the reduction of vegetation complexes to a minimum of 10% of the Pre-European extent.

 Given the area under application is located within the Perth Metropolitan Region and belongs to vegetation complexes that have over 10% of its pre-European extent, it is considered not likely to be at variance to this Principle.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Swan Coastal Plain [^]	1,501,456	571,758	38.1	
City of Wanneroo**	78,809	45,361	57.6	
Beard vegetation type*				
6	56,345	15,013	26.6	33.6
Hedde vegetation complex***				
Karrakatta Complex-Central	49,912	14,729	29.5	2.5

And\South

* (Shepherd, 2006)

** (Shepherd et al. 2001)

*** (EPA, 2006)

^ Area within Intensive Land Use Zone

Methodology **References**
-Commonwealth of Australia (2001)
-EPA (2006)
-Shepherd et al. (2001)
-Shepherd (2006)
GIS Databases:
-Hedde Vegetation Complexes
-Interim Biogeographic regionalisation of Australia
-SAC Bio Datasets 10/09/2008

(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**
Two Conservation Category wetlands and one Resource Enhancement wetland occur within the local area (5km radius), being 1.05km south east, 1.2km south and 1.3km south west of the applied area respectively. The nearest watercourse is Bennet Brook ~4.4km south east from the area under application.

A minimum wetland buffer of 50m is required for all proposed developments to protect wetland values and functions (Water and Rivers Commission 2001). Given the distance to the wetlands and watercourse the proposed clearing is not considered likely to be at variance to this Principle.

Methodology **References**
-Water and Rivers Commission (2001)
GIS Databases:
-Geomorphic Wetland (Management Categories) Swan Coastal Plain
-Geomorphic Wetland (Classification) Swan Coastal Plain
-Hydrography, Linear

(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 is located on subdued dune-swale terrain (Northcote et al. 1960-68). Soils within the applied area are part of the Bassendean Dune System; these soils have a high to very high risk of wind erosion and phosphorus export (Department of Agriculture 2005).

Given that the relatively small area under application (0.09 hectares), it is not considered likely that the proposed clearing will cause appreciable land degradation.

Methodology **References**
-Department of Agriculture (2005)
-Northcote et al. (1960-68)
GIS databases
-Soils, Statewide

(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**
The area under application is within Bush Forever site 201 (Koondoola Regional Bushland Reserve) and therefore will have a direct impact on this conservation area. In addition, the proposed clearing could impact on this conservation area through the spread and introduction of weeds species or dieback by machinery. These are serious consequences associated with the spread of such exotic species into areas reserved for conservation, including the potential local extinction of species.

Given the proposed clearing will directly impact the conservation area; it is considered that the proposal is at variance to this Principle.

Methodology **GIS Database:**
-Bushforever

(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 nearest wetland (Conservation category sumpland) is 1.05km south east of the area under application and the nearest watercourse (Bennet Brook) is ~4.4km south east from the area under application.

The area under application occurs within a Public Drinking Water Source Area and has a low risk of salinity.

Given the distance to the nearest wetland and watercourse, and the relatively small area under application, the proposed clearing is not considered likely to be at variance to this Principle.

Methodology GIS Databases

- Geomorphic Wetlands (Management caetgories) Swan Coastal Plain
- Geomorphic Wetlands (Classification) Swan Coastal Plain
- Hydrography, Linear
- Public Drinking Water Source Areas (PDWSAs)
- 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 nearest wetland (Conservation category sumpland) to the area under application is 1.05km south east. Whilst the nearest watercourse is Bennet Brook, ~ 4.4 km south east from the area under application.

Given the distance to the nearest wetland and watercourse; the proposed clearing it not considered likely to cause, or exacerbate, the incidence or intensity of flooding.

Methodology GIS Databases

- Geomorphic Wetlands (Management categories) Swan Coastal Plain
- Geomorphic Wetlands (Classification) Swan Coastal Plain
- Hydrography, Linear

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

Comments

The proposal is to clear 0.09 ha of native vegetation for the installation of a shared pathway; this installation will be the extension of an existing pathway and is funded by the 2008-2009 Perth Bicycle Network Local Government Grant (City of Wanneroo 2008).

Planning approval from the WAPC has been obtained on 30 January 2009.

Strategic Biodiversity Planning (SBP) (DPI, 2008), Incorporating Bush Forever, has no objections to the clearing for dual use pathway.

Two submissions were received in relation to the proposed clearing (2008a and 2008b) and the biodiversity issues raised have been addressed under the clearing principles where relevant.

Methodology

Koondoola Regional Bushland Reserve is vested with the City of Wanneroo.

References

- City of Wanneroo (2008)
 - DPI (2008)
 - Submission (2008a)
 - Submission (2008b)
 - WAPC (2009)
- GIS Databases
-Cadastre

4. Assessor's comments

Comment

The assessable criteria have been addressed and the clearing as proposed is at variance to Principle (h) and may be at variance to Principle (d).

5. References

Brown A., Thomson-Dans C. and Marchant N.(1998). Western Australia's Threatened Flora, Department of Conservation and

- Land Management, Western Australia.
- City of Wanneroo (2008) Environmental Assessment for the Application for Native Vegetation Clearing - Purpose Permit. TRIM Ref DOC60390
- Commonwealth of Australia (2001) National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.
- DEC (2008) Site Inspection 16 September 2008 on Lot 15502, Intersection of Alexander Drive and Marrangaroo Drive, Koondoola; Department of Environment and Conservation (DEC), Western Australia. TRIM Ref DOC62894
- DEC (2008a) DEC Species and Communities Branch - rare flora advice. Department of Environment and Conservation (DEC), Western Australia. TRIM Ref DOC63373
- Department of Agriculture (2005) AgMaps Land Manager CD-rom for the Shires of Serpentine-Jarrahdale, Kwinana, Rockingham, Mandurah, Murray, Boddington, Waroona and Harvey. Department of Agriculture, Western Australia. ISSN: 1448-235X.
- DPI (2008) Strategic Biodiversity Planning -advice for Bush Forever Site 201 Koondoola Open Space, Department of Planning and Infrastructure (DPI), Western Australia. TRIM Ref DOC63478
- Ecoscape (Australia Pty Ltd) (July 2008) Koondoola Regional Bushland Management Plan, Prepared for City of Wanneroo, Perth WA. TRIM Ref DOC60390
- EPA (2006) Guidance for the Assessment of Environmental Factors - Level of Assessment for Proposals Affecting Natural Areas Within the System 6 Region and Swan Coastal Plain Portion of the System 1 Region. Guidance Statement No 10. Environmental Protection Authority, Western Australia.
- Gibson N., Keighery B., Keighery G., Burbidge A. and Lyons M. (1994). A Floristic Survey of the Southern Swan Coastal Plain. Western Australian Department of Conservation and Land Management and the Western Australian Conservation Council.
- 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.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Shepherd, D.P. (2007). 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.
- Submission (2008a) Direct Interest Submission. TRIM Ref DOC 63843
- Submission (2008b) Direct Interest Submission. TRIM Ref DOC 63854
- WAPC (2009) Approval to Commence Development ? Lot 15502 Alexander Drive, Koondoola ? City of Wanneroo. TRIM Ref. DOC75953
- Water and Rivers Commission (2001). Position Statement: Wetlands, Water and Rivers Commission, Perth.

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)