



**1. Application details**

**1.1. Permit application details**

Permit application No.: 2960/2  
 Permit type: Area Permit

**1.2. Proponent details**

Proponent's name: Town of Kwinana

**1.3. Property details**

Property: LOT M1084 ON PLAN 216209 (House No. 28 TUCKER STREET, MEDINA 6167)  
 Local Government Area: Town of Kwinana

**1.4. Application**

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
1		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
Heddlle Vegetation Complex: Cottesloe Complex - Central and South; Mosaic of woodland of E. gomphocephala and open forest of E. gomphocephala - E. marginata - E. calophylla; closed heath on the Limestone outcrops.	The proposal is to clear 1ha within Crown Reserve 24302 (21.7ha) for the purpose of construction of Thomas Oval community pavilion and facilities. The vegetation under application consists of two main groups, Eucalyptus woodland and Banksia woodland. Five different units were identified. The majority (0.9ha) of the area under application is of remnant Eucalyptus gomphocephala open woodland over Jacksonia furcellata, Hakea lissocarpa and Macrozamia fraseri open shrubland over mixed species low shrubland and Ehrharta calycina open grassland. This unit is considered to be of the floristic community type 21a and occurs in a degraded condition. Remnant Banksia grandis, B. menziesii and B. attenuata low woodland with emergent canopy of Eucalyptus gomphocephala and Corymbia calophylla over Xanthorrhoea preissii and Macrozamia fraseri low open shrubland over mixed species open herbland and Ehrharta calycina open grassland occurs in a degraded condition (0.03ha).	Degraded; Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Vegetation clearing description based on a site Vegetation survey undertaken during spring of 2008 (Niche Environmental Services 2008).
Beard Vegetation Association 998: Medium woodland; tuart (Shepherd 2007, SAC Bio Datasets 16/02/2009).			
As above	A stand of Eucalyptus gomphocephala over very occasional mixed native species and weeds over cultivated lawn occurs in a completely degraded condition. Another stand of Eucalyptus gomphocephala over cultivated lawn with no native species occurs in a completely degraded condition. A stand of Banksia grandis over cultivated lawn also occurs in a completely degraded condition.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	As above

### 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 consists of remanent *Eucalyptus gomphocephala* open woodland over *Jacksonia furcellata*, *Hakea lissocarpa* and *Macrozamia fraseri* open shrubland and mixed species low shrubland and *Ehrharta calycina* open grassland in a degraded condition. Remnant *Banksia grandis*, *B. menziesii* and *B. attenuata* low woodland with emergent canopy of *Eucalyptus gomphocephala* and *Corymbia calophylla* over *Xanthorrhoea preissii* and *Macrozamia fraseri* low open shrubland and *Ehrharta calycina* open grassland also occurs in a degraded condition. The area under application also includes a stand of *Eucalyptus gomphocephala* over very occasional mixed native species and cultivated lawn and a stand of *Eucalyptus gomphocephala* over cultivated lawn. Both are in a completely degraded condition. A stand of *Banksia grandis* over cultivated lawn occurs in a completely degraded condition.

A flora and vegetation survey undertaken during November 2008 identified 33 native species and 32 exotic species within the area under application (Niche Environmental Services 2008).

The area under application is not considered likely to provide significant habitat for conservation significant or local fauna species.

Given the small area under application (1ha), the overall degraded condition of the vegetation, lack of native under storey, habitat for conservation significant species and low species diversity; it is considered that the area under application is not likely to be at variance to this Principle.

**Methodology** **References**

- Niche Environmental Services (2008)
- GIS Databases
- SAC Bio Datasets 16/02/09

#### (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 five fauna species of conservation significance recorded within the local area (5km radius).

The vegetation under application is a small central portion (1ha) of a larger (959.8ha) remnant of native vegetation that forms part of Bushforever site 349 (Leda and Adjacent Bushland).

The vegetation under application is degraded to completely degraded condition (Niche Environmental Services 2008) and provides limited habitat for the Quenda (*Isodon obesulus fusciventer*) and the Black-striped Snake (*Neelaps calonotos*), which has been recorded in the local area (5km radius) (DEC 2007).

Due to the relatively small area under application (1 hectare) and the connectivity to better habitat in the rest of Bushforever site 349, the proposed clearing is not considered to comprise significant habitat for fauna and therefore, is not likely to be at variance to this Principle.

**Methodology** **References**

- DEC (2007)
- Niche Environmental Services (2008)
- GIS Database
- SAC Bio Datasets 16/02/2009

#### (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**

Two rare flora species have been recorded in the local area (~5km radius) including *Diuris micrantha* and *Caladenia huegellii* occurring 300 m east and 4.6 km east of the area under application, respectively.

The area under application consists of *Banksia* and *Eucalyptus gomphocephala* woodlands in a degraded to completely degraded condition (Niche Environmental Services 2008) occurring on siliceous sands brown sands and leached sands (Northcote et al. 1960-68).

The area under application does not contain the suitable habitat for the species *Diuris micrantha*, a tuberous perennial herb which occurs in winter-wet swamps and in shallow water (Western Australia Herbarium, 1998-).

*Caladenia huegellii* is a tuberous perennial herb which flowers between September and October and occurs on Grey or brown sand, clay loam (Western Australia Herbarium 1998-) in woodlands of Jarrah and *Banksia* (CALM 2007).

A flora survey of the area under application was undertaken during November 2008 and did not identify any rare flora (Niche Environmental Services 2008). The survey was conducted outside of the flowering time for *Caladenia huegelii*, however due to the degraded to completely degraded condition of the vegetation, it is not considered likely for this species to occur within the area under application. Therefore, it is not considered likely for the proposed clearing to be at variance to this Principle.

- Methodology**    **References**  
 -CALM (2007)  
 -Niche Environmental Services (2008)  
 -Northcote et al. (1960-68)  
 -Western Australian Herbarium (1998-)  
 GIS Databases  
 -SAC Bio Databases 16/02/09  
 -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 is not likely to be at variance to this Principle**  
 There are two Threatened Ecological Communities (TEC) recorded in the local area (~5km radius) they being Floristic Community Type (FCT) 26a: *Melaleuca huegelii* - *M. acerosa* shrublands of limestone ridges, and FCT19: Sedges in Holocene dune swales occurring 2.5 km north and 3 km southwest of the area under application, respectively.
- The flora and vegetation survey undertaken in November 2008 (Niche Environmental Services 2008) identified the vegetation under application as *Banksia* and *Jarrah* woodland in a degraded condition and did not identify a TEC within the area under application. Therefore, it is not considered likely for the area under application to be at variance to this Principle.

- Methodology**    **References**  
 -Niche Environmental Services (2008)  
 GIS Databases  
 - SAC Bio Databases 16/02/09

**(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 the Beard Vegetation Association 998 which has approximately 41.6% pre-European vegetation extent remaining respectively (Shepherd 2007). The vegetation under application is also associated with Heddlé Vegetation Cottesloe Complex - Central and South, which has 41.1%, 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). None of the mapped vegetation complexes associated with the area under application are below the State Government's biodiversity conservation target of 30%.
- In addition, the area under application is within the central portion of Bushforever site 349: Leda and Adjacent Bushland and is connected to the large surrounding bushland remnant which constitutes a regionally significant contiguous bushland/wetland linkage (Government of Western Australia 2000). As the area under application is a very small portion (1 ha) of this large remnant, it is not considered likely for the area under application to be significant remnant vegetation in an area that has been extensively cleared and is not considered likely to be at variance to this Principle.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Swan Coastal Plain	1,501,208	583,140	38.8	32.5
Town of Kwinana*	11,998	4,821	40.2	9.3
Local Area (~5km radius)	6,709	3,923	58.5	
Beard vegetation type 998*	51,015	21,225	41.6	38.1

Hedde vegetation complex**				
Cottesloe Complex - Central and South	44,995	18,474	41.1	8.8

\* (Shepherd 2007)

\*\* (EPA 2006)

**Methodology**    **References**  
 -Commonwealth of Australia (2000)  
 -EPA (2006)  
 -Government of Western Australia (2000)  
 -Shepherd (2007)  
**GIS Databases**  
 -NLWA, Current Extent of Native Vegetation  
 - Hedde Vegetation Complexes  
 -SAC Bio Databases 17/02/09

**(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 nearest wetlands to the area under application are a Resource Enhancement Wetland (REW) occurring ~400m south and a Resource Enhancement Wetland occurring ~600 m west of the area under application. The nearest watercourse is the Peel Main Drain ~4 km east of the area under application.

The area under application is comprised of a Banksia and Jarrah woodland on sandy soils (Niche Environmental Services 2008).

Given the distance to the nearest wetlands and watercourses and given that no wetland vegetation was observed during the flora survey (Niche Environmental Services 2008) the proposed clearing is not considered likely to be at variance to this Principle.

**Methodology**    **References**  
 - Niche Environmental Services (2008)  
**GIS Databases**  
 -Geomorphic Wetland (Mgt Categories), 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 has chief soils of siliceous sands with smaller areas of brown sands and leached sands (Northcote et al. 1960-68) and occurs within the Bassendean Dune System (Department of Agriculture 2005). These soils have a high to very high risk of wind erosion and phosphorus export (Department of Agriculture, 2005).

The high wind erosion potential is due to the sandy nature of the topsoil and without appropriate ground cover, windbreaks or adequate dust suppression on exposed surfaces, clearing of vegetation may cause land degradation. However, due to the small area under application (1 ha) and proposed end landuse, it is unlikely for the proposed clearing to 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 349 (Leda and Adjacent Bushland) and therefore will have a direct impact on this conservation area by the removal of native vegetation.

In addition, the proposed clearing could impact on this conservation area through the spread and introduction of weeds species or dieback by machinery. There 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. A condition has been placed on the permit to offset the impacts to Bush Forever site 349 and to reduce the potential introduction of weeds and dieback.

**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 wetlands to the area under application are a Resource Enhancement Wetland (REW) occurring ~400m south and a Resource Enhancement Wetland occurring ~600 m west of the area under application. The nearest watercourse is the Peel Main Drain ~4 km east of the area under application.

Given the distance to the nearest wetland and watercourse the proposed clearing is not considered likely to cause deterioration to the quality of surface water in the local area.

Salinity risk and groundwater salinity for the area under application is considered to be low.

Given the low risk of salinity and groundwater salinity, the distance to local wetlands and watercourses and the relatively small area to be cleared (1ha), the proposed clearing is considered not likely to cause deterioration to the quality of groundwater in the local area.

**Methodology** GIS Databases:  
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain  
- Groundwater Salinity, Statewide  
- Hydrography, linear  
- Salinity Risk LM 25m

**(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 wetlands to the area under application are a Resource Enhancement Wetland (REW) occurring ~400m south and a Resource Enhancement Wetland occurring ~600 m west of the area under application. The nearest watercourse is the Peel Main Drain ~4 km east of the area under application.

The area under application has chief soils of siliceous sands with smaller areas of brown sands and leached sands (Northcote et al. 1960-68).

Given the distance of the nearest wetland and watercourse to the area under application; and the sandy soils of the area (Northcote et al. 1960-68), the proposed clearing is not considered likely to cause, or exacerbate the incidence or intensity of flooding.

**Methodology** References  
-Northcote et al. (1960-68)  
GIS Databases  
-Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain  
-Hydrography, linear

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

**Comments**

The area under application is zoned Parks and Recreational under the Metropolitan Regional Scheme.

The proposed clearing is to occur at Thomas Oval to facilitate the development of recreation infrastructure at the Oval. Thomas Oval is within the Crown Reserve 24302 which is vested with the Town of Kwinana.

The area under application is within Bushforever site 349: Leda and Adjacent Bushland. An application for development approval from the Western Australian Planning Commission (WAPC) has been submitted and is under assessment.

The north-eastern portion (0.3ha) of the area under application has moderate to high Acid Sulphate Soil risk. However, it is considered unlikely for the proposed clearing to result in Acid Sulphate Soils due to the limited soil disturbance.

Direct Interest Submission received from DPI (2009) stated that they do not have any objections to this clearing application. Subject to the conditions that any regionally significant vegetation proposed to be cleared be offset with the rehabilitation of degraded areas within Bush Forever site 349 at a ratio of 2:1. Also temporary fencing is to be constructed prior to the commencement of any construction works.

- Methodology**    **References**  
 -DPI (2009)  
 -Niche Environmental Services (2008)  
 GIS Databases  
 -Acid Sulfate Soil Risk Map, Swan Coastal Plain  
 -Town Planning Scheme Zones  
 -Metropolitan Regional Scheme

#### 4. Assessor's comments

**Comment**

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

#### 5. References

Commonwealth of Australia (2001) National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.

DEC (2007) DEC Fauna Habitat Notes.xls. February 2007. Department of Environment and Conservation, Western Australia.

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 (2009) Direct Interest Submission. Department for Planning and Infrastructure, Resource Protection and Management section. TRIM Ref. DOC78016.

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.

Government of Western Australia (2000) Bush Forever Volumes 1 and 2. Western Australian Planning Commission, Perth WA.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Niche Environmental Services (2008) Flora and Vegetation Survey at Thomas Oval, Tucker Road, Medina. Prepared for 360 Environmental. TRIM Ref. DOC75080

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.

Western Australian Herbarium (1998-). FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 25/02/2009).

#### 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 (now DEC)
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 DoW)