



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 2618/1
Permit Holder:	City of Stirling
Duration of Permit:	11 July 2009 – 11 July 2014

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Construction of fire access track.

2. Land on which clearing is to be done

Lot 14388 on Plan 18169

3. Area of Clearing

The Permit Holder must not clear more than 0.09 hectares of native vegetation within the area hatched yellow on attached Plan 2618/1.

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for activities to the extent that the Permit Holder has the power to clear native vegetation for those activities under the *Local Government Act 1995* or any other written law.

6. Compliance with Assessment Sequence and Management Procedures

Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

7. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared for the authorised purpose of this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- (a) Avoid the clearing of native vegetation;
- (b) Minimise the amount of native vegetation to be cleared; and
- (c) Reduce the impact of clearing on any environmental value.

8. Dieback and weed control

- (a) When undertaking any clearing, or other activity pursuant to this Permit the Permit Holder must take the following steps to minimise the risk of introduction and spread of *weeds* and *dieback*:
 - (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
 - (ii) shall not move soils in wet conditions;
 - (iii) ensure that no *dieback* or *weed*-affected soil, *mulch* or *fill* or other material is brought into the area to be cleared; and
 - (iv) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.
- (b) At least once in each 12 month period for the *term* of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

PART III – RECORD KEEPING AND REPORTING

9. Records to be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
 - (i) the species composition, structure and density of the cleared area;
 - (ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
 - (iii) the date that the area was cleared; and
 - (iv) the size of the area cleared (in hectares).

10. Reporting

- (a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 9 and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 11 April 2014, the Permit Holder must provide to the CEO a written report of records required under condition 9 where these records have not already been provided under condition 10(a) of this Permit.

Definitions

The following meanings are given to terms used in this Permit:

condition means the rating given to native vegetation using the *Keighery scale* and refers to the degree of change in the structure, density and species present in the particular vegetation in comparison to undisturbed vegetation of the same type;

dieback means the effect of *Phytophthora* species on native vegetation;

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

term means the duration of this Permit, including as amended or renewed; and

weed means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.



Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

11 June 2009

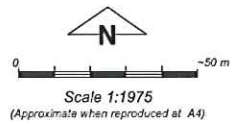
Plan 2618/1



LEGEND

- | | |
|------------------------|-----------------------------|
| Cadastre for labelling | LRS |
| Road Centrelines | MR |
| FW | N |
| HY | TR |
| LRO (cont) | Areas Approved to Clear |
| | Clearing Instruments |

Perth Metropolitan Area
North 20cm Orthomosaic -
Landgate 2007



Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

Date 11/6/09
K. Faulkner

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



Department of Environment and Conservation

WA Crown Copyright 2002

* Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.



1. Application details

1.1. Permit application details

Permit application No.: 2618/1
 Permit type: Area Permit

1.2. Proponent details

Proponent's name: City of Stirling

1.3. Property details

Property: LOT 14388 ON PLAN 18169 (MORLEY DR, DIANELLA 6059)
 Local Government Area: City Of Stirling
 Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.09		Cutting	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
Beard Vegetation Association: 1001 - Medium very sparse woodland; jarrah, with low woodland; banksia and casuarina (SAC Bio Datasets 10/09/2008; Shepherd 2006)	The proposal is to remove 0.09ha of native vegetation within Lot 14388 (a 38.5ha reserve known as Dianella Regional Open Space) to establish a fire access track.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The condition of the native vegetation under application was sourced from the site inspection (DEC, 2008).
Heddle Vegetation Complexes: Bassendean complex central and south - Woodland of E. marginata - E. calophylla with well defined second storey of Allocasuarina fraseriana and B. grandis on the deeper soils and a closed scrub on the moister sites. The understorey species reflect similarities with the adjacent vegetation complexes. (Heddle et al 1980)	The vegetation under application is described as sparse marri woodland; and banksia-casuarina low woodland (DEC, 2008). The vegetation includes Banksia spp, Casuarina sp, Corymbia calophylla, Adenanthos cygnorum, Nuytsia floribunda, Conostylis sp., Xanthorrhoea preissii and Kennedia sp. (DEC, 2008). There were areas of extensive human disturbance and weeds including veldt grass and love grass; and the soils were grey, leached sands (DEC, 2008).		

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 0.09ha of vegetation in a degraded condition and comprises areas of severe disturbance from human activities and weed invasion (DEC, 2008).

 Given the degraded condition, the low species diversity and limited habitat value of the vegetation under application it is not considered likely that the area under application comprises a high level of biodiversity.

Methodology Reference:
 - DEC (2008)

(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 vegetation under application is in a degraded condition and comprises areas of severe disturbance from human activities and weed invasion with limited flora species (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 significant habitat for Carnaby's Cockatoo or Western Brush Wallaby, which have been recorded in the local area.

Given that the vegetation under application is highly disturbed, it is not considered that the vegetation is likely to comprise significant habitat for fauna.

Methodology Reference:
- DEC (2008)
GIS Database:
- SAC Bio Datasets 28/08/2008

(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**
Within the local area (~5km radius) there is one known record of the rare flora species *Caladenia huegelii* occurring approximately 3.5km north-east of the area under application.

Caladenia huegelii is a tuberous, perennial herb, 0.25-0.6 m high with green, cream and red flowers during Sep-Oct in grey or brown sand, clay loam (WA Herbarium, 1998-).

Although, *Caladenia huegelii* occurs within similar vegetation complex and on similar soils as for the area under application it is not considered likely that the vegetation under application includes or is necessary for the continued existence of, rare flora, as there are areas of severe disturbance and limited vegetation.

Methodology References:
- Western Australian Herbarium (1998-)
GIS Databases:
- Heddle Vegetation Complexes
- SAC Bio Datasets 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 is not likely to be at variance to this Principle**
Within the local area (~5km radius) there are two known occurrences of Floristic Community Type (FCT) 20a: *Banksia attenuata* woodland over species rich dense shrublands, which is a Threatened Ecological Community (TEC). The nearest known occurrences of this TEC are located approximately 2.6km north of the area under application.

The bushland within Dianella Open Space, which includes the area under application have been identified as: -
- FCT 4: *Melaleuca preissiana* damplands, and
- FCT 23a: Central *Banksia attenuata*-*Banksia menziesii* woodlands (Government of Western Australia, 2000).

Given the area under application is likely to be identified as floristic community type 23a; it is not considered likely that the vegetation under application comprises or is necessary for the maintenance of a threatened ecology community.

Methodology References:
- Government of Western Australia (2000)
GIS Database:
- SAC Bio Datasets 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 within the areas under application are identified as a component of Beard vegetation type 1001, and Heddle Bassendean Complex Central and South, of which there is 26.5% and 27.0% of Pre-European extent remaining respectively (Shepherd, 2006; EPA, 2006).

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents the clearance of ecological communities with an extent below 30% of that present Pre-European settlement (Commonwealth of Australia, 2001). 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.

Both vegetation communities associated with the area of vegetation under application are above the minimum 10%

target set by the EPA within the Metropolitan Region. There is only 6.6% of remnant vegetation remaining in the City of Stirling and approximately 9.0% remaining within the local area. However, given there the proposed clearing is for 0.09ha, the vegetation under application is not considered to be a significant remnant within an extensively cleared area. Therefore, the clearing as proposed is 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 Stirling**	10,519	692	6.6	
Local area (5km radius)	7,850	~700	~9.0	
Beard vegetation type*				
1001	57,412	15,241	26.5	4.8
Hedde vegetation complex***				
Bassendean-Central & South	87,477	23,624	27.0	0.7

* (Shepherd, 2006)

** (Del Marco et al, 2004)

*** (EPA, 2006)

[^] Area within Intensive Land Use Zone

Methodology References:
 - Commonwealth of Australia (2001)
 - Del Marco et al (2004)
 - EPA (2006)
 - Hedde et al (1980)
 - Shepherd (2006)
 GIS Databases:
 - Interim Biogeographic Regionalisation of Australia
 - NLWRA, Current Extent of Native Vegetation
 - 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**
 The nearest wetland and watercourse is a Conservation Category Wetland (CCW) located ~380m west and a minor tributary (Bayswater Main Drain) located ~400m west of the area under application. In addition, there were no wetland dependant species observed within the area under application (DEC, 2008).

Given the distance to the nearest wetland and watercourse, and that there is no wetland dependant vegetation within the area under application; it is not considered the proposal is likely to be at variance to this Principle.

Methodology Reference:
 - DEC (2008)
 GIS Databases:
 - Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
 - Hydrogology, 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 landscape of the areas under application and surrounds can be described as subdued dune-swale terrain (Northcote et al, 1960-68). The chief soils are leached sands on the low dunes and small areas of other sandy soils (Northcote et al, 1960-68). These soils are known to have a low Phosphorus Retention Index (PRI), and the clearing of deep-rooted perennial vegetation is likely to result in increased nutrient loss from the soil profile (McPharlin et al, 1990).

Soils within the applied area are part of the Bassendean Dune System, which are described as well drained leached grey sands. These soils have a high risk of wind erosion and phosphorus export and low risk of surface water runoff (Department of Agriculture, 2005).

Given the relatively small and linear area under application (3m wide and 300m long; total area 0.09ha), it is not

considered that the proposed clearing is likely to cause appreciable land degradation. Therefore, it is not considered that the proposal is likely to be variance to this Principle.

Methodology **References:**
- McPharlin et al (1990)
- Northcote et al (1960-68)
- Department of Agriculture (2005)
GIS Database:
- 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**
This area under application is located within Bush forever site 280 (Dianella Open Space; also identified as a System 6 Conservation Reserve), which comprises 16ha of bushland.

The proposed clearing is likely to impact on the environmental values of this conservation area through direct removal of vegetation within Bush forever and the spread or introduction of weed 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 area under application is located within a conservation area, which will directly impact the area through the spread of weeds and dieback it is considered the proposal at variance to this Principle.

To mitigate any impacts from the proposed clearing a condition to manage weeds and dieback will be imposed on this permit.

Methodology **GIS databases:**
- Bushforever
- System 6 Conservation Reserves

(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 and watercourse is a Conservation Category Wetland (CCW) located ~380m west and a minor tributary (Bayswater Main Drain) located ~400m west of the area under application.

The area under application does not occur within 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 and linear area under application; it is not considered the proposal is likely to be at variance to this Principle.

Methodology **GIS Databases:**
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- Hydrogology, 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 area under application comprises leached Bassendean sands (Northcote et al, 1960-68), which are generally considered to have high infiltration rates and therefore a low risk of water logging.

Given the high infiltration rates of the soil mapped within the area under application and the relatively small and linear area under application, the proposal is not considered likely to cause, or exacerbate, the incidence or intensity of flooding.

Methodology **Reference:**
- Northcote et al (1960-68)
GIS Database:
- Soils, Statewide

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

Comments

The area under application has a moderate to low acid sulphate soil (ASS) risk. It is not considered likely that the proposed clearing would significantly disturb these soils so that management would be required.

The area under application is within the Proclaimed Groundwater Area of Perth. Therefore any abstraction of groundwater would require a licence. As the proposed purpose of the clearing is not associated with groundwater abstraction a groundwater licence is not required.

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

WAPC planning approval has been received for the Management Plan for Dianella Regional Open Space on the 4th June 2009 (WAPC, 2009).

Strategic Biodiversity Planning (Department for Planning & Infrastructure, 2008a and 2008b) advised that if a permit is granted an appropriate offset proposal and conditions of approval should be developed.

Lot 14388 or Crown Reserve 46683 is vested with the City of Stirling and is zoned Parks and Recreation under the Metropolitan Regional Scheme.

Methodology

References:

- City of Stirling (2008)
- Department of Planning and Infrastructure (2008a)
- Department of Planning and Infrastructure (2008b)
- WAPC (2009)

GIS databases:

- Acid Sulphate Soil risk map, Swan Coastal Plain
- Metropolitan Regional Scheme
- RIWI Act, Groundwater Areas

4. Assessor's comments

Comment

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

5. References

City of Stirling (2008) Email - Additional information on status of Master Plan and Management Plan (TRIM Ref DOC62738).

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

DEC (2008) Site Inspection Report for Clearing Permit Application CPS 2618/1, Lot 14388 Morley Drive, Dianella. Site inspection undertaken 19/08/2008. Department of Environment and Conservation, Western Australia (TRIM Ref DOC62253).

Del Marco, A., Miles, C., Taylor, R., Clarke, K. and Savage, K. (2004) Local Government Biodiversity Planning Guidelines for the Perth Metropolitan Region - Edition 1. Western Australian Local Government Association, West Perth.

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.

Department of Planning and Infrastructure (2008a) Strategic Biodiversity Planning: Letter - advice on Bush forever site 280 (Dianella Open Space) (TRIM Ref DOC61567).

Department of Planning and Infrastructure (2008b) Strategic Biodiversity Planning: Email - additional advice on Bush forever site 280 (Dianella Open Space) (TRIM Ref 62614).

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. Heddle, 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.

McPharlin, I., Delroy, N., Jeffrey, B., Dellar, G. and Eales, M. (1990) Phosphorous retention of sandy horticultural soils on the Swan Coastal Plain, W.A. *Journal of Agriculture*, Volume 31, 1990.

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.

WAPC (2009) Planning Approval for Dianella Regional Open Space Management Plan, Western Australian Planning Commission. TRIM Ref. DOC87071.

Western Australian Herbarium (1998-). *FloraBase - The Western Australian Flora*. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 10/09/2008).

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)