



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 1872/2
Permit Holder:	Metropolitan Cemeteries Board
Duration of Permit:	17 August 2008 – 17 August 2013

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

Clearing for the purpose of cemetery expansion.

2. Land on which clearing is to be done

LOT 501 ON DEPOSITED PLAN 52282
LOT 502 ON DEPOSITED PLAN 52282

3. Area of Clearing

The Permit Holder must not clear more than 2.1 hectares of native vegetation within the area hatched yellow on attached Plan 1872/2.

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. 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

6. Avoid, minimise etc clearing

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

- avoid the clearing of native vegetation;
- minimise the amount of native vegetation to be cleared; and
- reduce the impact of clearing on any environmental value.

7. Conservation Plan

- (a) Within six months of the commencement of the permit, the Permit Holder must:
- (i) develop a *conservation plan* for the management of the remaining native vegetation on Lots 501 and 502 on Deposited Plan 52282 and for other locations under the care, control and management of the permit holder within Bush Forever Site 386; and
 - (ii) provide the *conservation plan* to the CEO for approval.
- (b) the Permit Holder shall implement the *conservation plan* approved by the CEO for the *term* of this Permit.

8. Dieback and weed control

When undertaking any clearing or other activity pursuant to this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

PART III - RECORD KEEPING AND REPORTING

9. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit, as relevant.

- (a) In relation to the clearing of native vegetation undertaken:
 - (i) the location where the clearing occurred, recorded using Geocentric Datum Australia 1994;
 - (ii) the date that the area was cleared; and
 - (iii) the size of the area cleared (in hectares).
- (b) In relation to activities implemented under the *conservation plan* pursuant to condition 7:
 - (i) a description of the management activities undertaken in implementing the *conservation plan*; and
 - (ii) the location of any management activities undertaken recorded using Geocentric Datum Australia 1994.

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 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 17 May 2013, the Permit Holder must provide to the CEO a written report of records required under condition 9 of this Permit 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:

conservation plan means a plan developed by the permit holder to conserve, manage and enhance the environmental values of the native vegetation in accordance with condition 3;

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/s 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 *Agricultural and Related Resources Protection Act 1976*.



Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

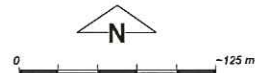
9 April 2009

Plan 1872/2



LEGEND

- | | |
|--|---|
| <p>Clearing Instruments</p> <ul style="list-style-type: none"> Areas Approved to Clear Road Centrelines Cadastre for labelling | <p>Cadastre for labelling_1
Perth Metropolitan Area
Central 20cm Orthomosaic -
Landgate07</p> |
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Scale 1:4500
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

Date 9/4/09

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

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1. Application details

1.1. Permit application details

Permit application No.: 1872/2
 Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Metropolitan Cemeteries Board

1.3. Property details

Property: LOT 501 ON PLAN 52282 (SOUTH GUILDFORD 6055)
 LOT 502 ON PLAN 52282 (SOUTH GUILDFORD 6055)
 Local Government Area: City Of Swan
 Colloquial name:

1.4. Application

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

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 Type: 1001: Medium very sparse woodland; jarrah, with low woodland; banksia & casuarina. (SAC Bio datasets 21/04/2008; Shepherd, 2006) Heddle Vegetation Complex: Guildford complex: A mixture of open forest to tall open forest of E. calophylla - E. wandoo - E. marginata and woodland of E. wandoo (with rare occurrences of E. lane-poolei). Minor components include E. rudis - M. raphiophylla. (Heddle et al. 1980)	The areas under application (total area of 2.1ha) consist of one area within Lot 502 (1.03 ha) and one area within Lot 501 (1.07 ha). These two properties are separated by Kalamunda Road. North of Kalamunda Road is Lot 502 (Crown Reserve 21697), an 11.8 ha property; and south of Kalamunda Road is Lot 501 (Crown Reserve 21697), an 18.9 ha property. Both properties are vested with the Metropolitan Cemeteries Board for a cemetery. The clearing as proposed is for extending the Guildford Cemetery to create new burial sites. The vegetation under application within Lot 502 (1.03ha) comprises three vegetation units: Marri (Eucalyptus calophylla) Closed Forest; Melaleuca pressiana and Adenanthos cygnorum Closed Low Forest; and Banksia attenuata and Banksia menziesii Open Low Forest to Low Woodland (DEC, 2008). Overall the vegetation is in a degraded to completely degraded condition with some small patches in good condition (DEC, 2008).	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The condition of the native vegetation under application was sourced from a site visit (DEC, 2008). The condition ranged from completely degraded to good.

As above	<p>Bennett Environmental Consulting (2002) has described the vegetation under application within Lot 501 as upland vegetation of Woodland of <i>Eucalyptus marginata</i> var. <i>elegantella</i>, <i>Banksia attenuata</i>, <i>B. menziesii</i> over Open Low Heath of <i>Hibbertia hypericoides</i> and <i>Bossiaea eriocarpa</i> over a sedgeland.</p> <p>The northern section of Lot 501 (0.46ha) includes: jarrah (<i>Eucalyptus marginata</i>), <i>Banksia</i> spp. (<i>Banksia attenuata</i>; <i>Banksia menziesii</i>), <i>Casuarina</i> sp. and grass trees (<i>Xanthorrhoea preissii</i>) with the understorey dominated by weeds, including <i>watsonia</i> and <i>freesias</i>.</p>	Pristine: No obvious signs of disturbance (Keighery 1994)	<p>The condition of the native vegetation under application was sourced from a site visit by Species and Communities Branch (DEC, 2008).</p> <p>The condition was predominantly degraded with a smaller area in completely degraded condition.</p>
As above	<p>The southern section of Lot 501 (0.61ha) includes: jarrah (<i>Eucalyptus marginata</i>), <i>Banksia</i> spp. (<i>Banksia attenuata</i>; <i>Banksia menziesii</i>), <i>Casuarina</i> sp. and grass trees (<i>Xanthorrhoea preissii</i>), woolly bush (<i>Adenanthos cygnorum</i>), running postman (<i>Kennedia prostrata</i>), catspaw (<i>Anigozanthos humilis</i>), <i>Conostylis</i> sp., <i>Hibbertia</i> sp., <i>Drosera</i> sp., <i>Thysanotus</i> sp., numerous orchids (including cowslip and donkey orchids) and weeds including <i>watsonia</i>, <i>freesias</i> and annual grasses (Site Inspection, 2007). This vegetation can be described as having an intact understorey and overstorey, and a sparse middle storey.</p>	Pristine: No obvious signs of disturbance (Keighery 1994)	<p>The condition of the native vegetation under application was sourced from a site visit by Species and Communities Branch (DEC, 2008).</p> <p>The condition was predominantly excellent with a smaller area in very good condition.</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 may be at variance to this Principle

The vegetation under application within Lot 502 included *Eucalyptus calophylla*, *Banksia* spp, *Xanthorrhoea preissii*, *Adenanthos cygnorum*, *Kennedia prostrata*, sparse areas of orchids (including the greenhood orchid) and weeds including African lovegrass, *freesias*, lupins, tagasaste, soursob, veldt grass (Site Inspection, 2007). This vegetation can be described as having an understorey dominated by weeds although an intact overstorey (Site Inspection, 2007, DEC 2008a).

Bennett Environmental Consulting (2002) has described the vegetation under application within Lot 501 as upland vegetation of Woodland of *Eucalyptus marginata* var. *elegantella*, *Banksia attenuata*, *B. menziesii* over Open Low Heath of *Hibbertia hypericoides* and *Bossiaea eriocarpa* over a sedgeland.

Flora and vegetation surveys undertaken in July and October 2001 within 24 hectares of Guildford Cemetery (Bennett Environmental Consulting, 2002) included the southern area under application (Lot 501). Part of southern area under application was inferred as community type 20a: *Banksia attenuata* woodlands over species rich dense shrublands, which is recognised as an 'endangered' Threatened Ecological Community (Bennett Environmental Consulting, 2002). A plot near the southern area under application and within the same vegetation unit identified approximately fifty species including three weed species and one significant species *Pityrodia bartlingii* (being disjunct from their known geographical range). In addition, the vegetation under application may provide habitat for ground dwelling fauna such as the quenda, feeding habitat for Carnaby's

Black-Cockatoo (*Calyptorhynchus latirostris*) and habitat for the Western Swamp Tortoise.

Given the number of flora species identified, including one significant species *Pityrodia bartlingii*, that a portion of the vegetation under application may be a Threatened Ecological Community and the potential habitat value of the vegetation it is considered the areas under application may comprise a high level of biological diversity. Therefore, the proposed clearing may be at variance to this Principle.

A condition to develop and implement a conservation plan for the remaining areas of Lots 501 and 502 has been imposed on this permit.

Methodology Reference:
- Bennett Environmental Consulting (2002)
- Site Inspection (2007)
- DEC (2008a)

(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 may be at variance to this Principle

There are five fauna species conservation significance recorded within the local area (2km radius) being Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*), Baudin's Black-Cockatoo (*Calyptorhynchus baudinii*), Quenda (*Isoodon obesulus fusciventer*), Black Bittern (*Ixobrychus flavicollis australis*) and Bush Stonecurlew (*Burhinus grallarius*). The closest record being, Carnaby's Black-Cockatoo, is located approximately 60m north-west of the northern area under application.

The Black-Cockatoo is listed as a Schedule 1 species under the Wildlife Conservation (Specially Protected Fauna) Notice 2006. Fauna listed as Schedule 1 fauna are rare or likely to become extinct and are declared to be fauna in need of special protection. The Carnaby's Black-Cockatoo is known to feed on a large variety of plants including Proteaceous species (e.g. banksia, dryandra and grevillea), marri nuts (*Corymbia calophylla*), jarrah (*Eucalyptus marginata*), tuart (*Eucalyptus gomphocephala*) and a range of introduced species, (Birds Australia WA, 2006). The Baudin's Black-Cockatoo is a seasonal visitor of the eastern edge of the coastal plain and feeds on the seeds of eucalypts and proteaceous species (DEC Fauna Habitat Notes, 2007).

DEC Fauna Habitat Notes (2007) indicate that Quenda prefers areas with dense understorey vegetation, particularly around swamps and along watercourses, that provides ample protection from predators.

A site inspection (2007) of the areas under application identified the vegetation under application as including numerous Banksias, Marri and Jarrah with a sparse shrub layer and a dense herb layer, which may provide habitat for ground dwelling fauna including Quenda and feeding habitat for Carnaby's Black-Cockatoo. In addition, a flock of Carnaby's Black-Cockatoos were observed feeding on marri seed, and numerous Quenda diggings were observed, within the northern area under application (Lot 502) during the site inspection (2007).

A Conservation Category wetland is located adjacent to the southern area under application and has been identified as being habitat for the Western Swamp Tortoise, which is Australia's most endangered vertebrate species; few areas of suitable habitat remain (EPA, 1999). The Western Swamp Tortoise's habitat comprises ephemeral swamps (dry from mid-summer to early autumn) and adjacent bushland, including Banksia woodland, where the tortoise remain dormant during summer in underground holes or under leaf litter; the vegetation within southern area under application provides such a habitat (EPA, 1999). However only 0.61 ha under application is within this area.

A condition to develop and implement a conservation plan for the remaining areas of Lots 501 and 502 has been imposed on this permit.

Methodology References:
- Birds Australia WA (2006)
- DEC Fauna Habitat Notes.xls February (2007)
- EPA (1999)
- Government of Western Australia (2000)
- Site Inspection (2007)
GIS Database:
- SAC Bio Datasets 22/04/2008

(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 rare flora in the local area (2km radius). The recorded rare flora (*Macarthuria keigheryi*) is located approximately 1.7km south-west of the area under application, on the same soils and Beard vegetation type, however is within different Heddl vegetation complex than the area under application.

The rare flora grows in low-lying winter damp sands under banksias and kingias; flowering in spring, but can extent into summer (Brown et al 1998).

Bennett Environmental Consulting (2002) undertook a flora and vegetation survey of the remnant bushland at Guildford Cemetery in July and October 2001. No rare flora species were identified during these surveys (Bennett Environmental Consulting, 2002).

DEC (2008a) conducted a site inspection of the remnant bushland on Lot 502 and did not identify any Declared Rare Flora on Lot 502.

Given no rare flora was observed during the flora surveys and site inspection undertaken within the area under application it is not considered likely to be at variance with this principle.

Methodology

References:

- Bennett Environmental Consulting (2002)
- Brown et al (1998)
- DEC (2008a)
- Western Australian Herbarium (1998-).

GIS Databases:

- Heddle Vegetation Complexes
- Pre-European Vegetation
- SAC Bio Datasets 22/04/2008
- 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

There are three occurrences of Threatened Ecological Communities (TEC) mapped within the local area (2km radius). These three mapped TECs have been identified as being community types:

7- Herb rich saline shrublands in claypans, located ~370m east south-east of the southern area under application;

20b- Eastern Banksia attenuata and/or E. marginata woodlands, located ~400m east south-east of the southern area under application; and

20a- Banksia attenuata woodlands over species rich dense shrublands, located ~1.2m east south-east of the southern area under application.

Flora and vegetation surveys were undertaken in July and October 2001 within 24 hectares of Guildford Cemetery (Bennett Environmental Consulting, 2002), which included the southern area under application. From a survey plot (Plot 12) in Lot 501 and adjacent to an area under application, the vegetation was inferred by Bennett as Floristic Community Type (FCT) 20a: Banksia attenuata woodlands over species rich dense shrublands. However, a statistical analysis of the survey data by E.A. Griffin and Associates indicated that the vegetation in the plot adjacent to the area under application may be a sub-type of FCT 21 (DEC, 2008).

It is possible that Bennett's Plot 12 is located in vegetation that is a continuum between FCT groups 21 and 20a; the flora taxa recorded in Plot 12 include floristic elements that would be expected in either FCT 20a or FCT group 21 (DEC, 2008). FCT 20a is recognised as an 'endangered' Threatened Ecological Community, and two of the three sub-types of FCT 21 are Priority 3 communities (DEC, 2008).

Species and Communities Branch (DEC, 2008) advised that the northern portion of Lot 501 [in degraded to completely degraded condition and covers an area ~0.46ha] may no longer be considered to be a TEC, even if it had aligned with a TEC in the past. Furthermore, to be certain of the identity of the FCT that occurs within the southern portion of Lot 501 [in excellent to very good condition and covers an area ~0.61ha], it is recommended to install plot/s within the vegetation in excellent and very good condition, score them at least twice at suitable times of the year, and appropriately analyse the data against that held in Gibson et al. (1994) (DEC, 2008).

Lot 502 comprises similar vegetation however the condition of the vegetation was rated by DEC (2008a) as Degraded to Completely Degraded. This area under application although containing species consistent with the eastern side of the coastal plain, may no longer be considered to be a TEC due to its condition, even if it had aligned with a TEC in the past.

Although the majority of the area under application is in a degraded to completely degraded condition the area in excellent within Lot 501 may be the endangered TEC FCT 20a and therefore the clearing as proposed may be at variance to this Principle.

A condition to develop and implement a conservation plan for the remaining areas of Lots 501 and 502 has been imposed on this permit.

Methodology

References:

- Bennett Environmental Consulting (2002)
- DEC (2008a)
- GIS Database:
- SAC Bio Datasets 22/04/2008

(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 at variance to this Principle

The vegetation within the areas under application has been identified as a component of Beard vegetation type 1001, and Heddle Guildford Complex, of which there is 26.5% and 5.0% of Pre-European extent remaining respectively (Shepherd, 2006; EPA, 2006). In addition, the Beard vegetation type and the Heddle vegetation complex are identified as having 4.5% and 0.2% (Shepherd, 2006; EPA, 2006) representation within secure tenure.

Bennett Environmental Consulting (2002) advised that the vegetation within the Guildford Cemetery is identified as a component of Heddle Guildford Complex on the western half, which includes the areas under application, and Heddle Southern River Complex on the eastern half.

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). The vegetation associations in the areas under application are below the recommended minimum of 30% representation.

While EPA (2006) recognises that this representation level may be modified to a minimum 10% level within the constrained areas of the Swan Coastal Plain, the current representation of Guildford Complex (5.0%) still does not meet this reduced criterion. Furthermore, Bush Forever has identified the vegetation under application as being regionally significant vegetation on the Swan Coastal Plain within the Perth Metropolitan Region (Government of Western Australia 2000).

Although the majority of the area under application is in degraded to completely degraded condition vegetation under application is extremely under represented therefore the clearing as proposed is considered at variance with this Principle.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion				
- Swan Coastal Plain*	1,501,456	571,758	38.1	NA
City of Swan**	104,220	46,043	44.2	NA
Beard Vegetation Type*				
1001	57,412	15,241	26.5	4.5
Heddle ***				
Guildford Complex	92,497	4,662	5.0	0.2
Southern River Complex	57,979	11,501	19.8	1.5

* (Shepherd 2006)

** (Del Marco et al, 2004)

*** (EPA 2006)

Methodology

References:

- Commonwealth of Australia (2001)
 - Del Marco et al. (2004)
 - Bennett Environmental Consulting (2002)
 - EPA (2006)
 - Government of Western Australia (2000)
 - Shepherd et al (2006)
- GIS Databases:**
- Pre-European Vegetation
 - Heddle Vegetation Complexes
 - Interim Biogeographic Regionalisation of Australia

(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

There is a seasonally waterlogged Conservation Category wetland (dampland) located within Lot 501. This

wetland covers an area of approximately 7.9ha and is immediately adjacent to the southern area under application. CCWs are recognised as wetlands with high ecological values and are the highest priority wetlands for protection. There should be no further loss or degradation of CCWs and their protection also requires the retention of an adequate buffer (Government of Western Australia, 1997).

In addition, there is a seasonally waterlogged Conservation Category wetland located approximately 140m east of the areas under application, a seasonally inundated Resource Enhancement wetland (sumpland), located approximately 180m north of the areas under application, and an ANCA wetland (known as Perth Airport Woodland Swamps) located approximately 260m south-east of the southern area under application.

Although the Conservation Category Wetland has been excluded from the areas under application the clearing is proposed within the critical zone of influence (within 50m of mapped wetland), which may adversely impact the ecological processes and functions within the wetlands (Hill et al, 1996). Therefore, the vegetation under application is considered to be growing in association with a wetland and the proposal to clear is at variance to this principle.

A condition to develop and implement a conservation plan for the remaining areas of Lots 501 and 502 has been imposed on this permit.

Methodology **References:**
- Government of Western Australia (1997)
- Hill et al (1996)
GIS Databases:
- ANCA, Wetlands
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain

(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 Sandy dunes with intervening sandy and clayey swamp flats (Northcote et al, 1960). The sands within the areas under application are identified as predominantly Bassendean Sand or quartz sand with the southern area identified as Guildford Formation or clay, loam, sand and gravel.

The potential land degradation issues risks are eutrophication, wind erosion and waterlogging; however, given the relatively small size of the areas under application (1.03ha and 1.07ha) the risks are considered to be low (DAFWA, 2007). Therefore, it is not considered that the clearing as proposed is likely to cause appreciable land degradation.

Methodology **References:**
- DAFWA (2007)
- Northcote et al (1960)
GIS Database:
- Geology, 250K
- 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 may be at variance to this Principle**
The areas under application are located immediately adjacent to Bush Forever Site 386 (Perth Airport and Adjacent Bushland). Bush Forever Site 386 (total area of ~620ha) contains extremely significant bushland within the eastern side of the Swan Coastal Plain and is part of a regionally significant fragmented bushland/wetland linkage (Government of Western Australia 2000). Further, aerial mapping of the local area shows vegetated connectivity, which is likely to provide an ecological linkage from the areas under application to the surrounding conservation areas (Bush Forever Site 386).

In addition, the areas under application are located adjacent to an area listed on the Register of the National Estate, being Munday Swamp Bushland. This area of National Significance, which is registered for natural and indigenous cultural values, extends over ~290ha and the bushland contains remnants of both the Guildford and Southern River Vegetation Complexes and Munday Swamp, a regionally important wetland; includes examples of vegetation communities uncommon in the Perth region and three threatened ecological community types; and is highly significant for its diversity (Australian Heritage Council, 2007).

The proposed clearing also has the potential to indirectly impact the environmental values of the adjacent reserves through the spread or introduction of weed species, and especially dieback, by machinery. This has the potential to spread dieback into areas of Bush Forever Site 386 and Munday Swamp Bushland. There are serious consequences associated with the spread of such diseases and exotic species into areas reserved for conservation, including the potential local extinction of species.

Given the proposed clearing is immediately adjacent to these conservation areas, it is considered that the clearing as proposed may have indirect impacts on the environmental values of nearby conservation areas through and the spread of weed species or dieback and therefore may be at variance with this principle.

Conditions to manage weeds and dieback have been imposed for this clearing.

Methodology References:

- Australian Heritage Council (2007)
- Government of Western Australia (2000)

GIS databases:

- DEC Managed Lands and Waters
- Bushforever - MFP 07/01
- Register of National Estate - EA 28/01/03
- Perth Metropolitan Area Central 20cm Orthomosaic - Landgate07

(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 may be at variance to this Principle**

There is a seasonally waterlogged Conservation Category wetland (dampland) located within Lot 501. This wetland covers an area of approximately 7.9ha and is adjacent to the southern area under application. CCWs are recognised as wetlands with high ecological values and are the highest priority wetlands for protection. There should be no further loss or degradation of CCWs and their protection also requires the retention of an adequate buffer (Government of Western Australia, 1997).

In addition, there is a seasonally waterlogged Conservation Category wetland located approximately 140m east of the southern area under application and a seasonally inundated Resource Enhancement wetland (sumpland), located north of the northern area under application.

The minimum recommended buffer distance for wetlands is 50m and this is designed to protect wetlands from potential deleterious impacts while helping safeguard and maintain ecological processes and functions within the wetland and, whenever possible, in the buffer (WRC, 2001). The southern area under application includes vegetation that is within the 50m buffer of the adjacent Conservation Category Wetland with the vegetation considered to be in very good condition. The clearing of this vegetation may result in impacts to the water quality of the adjacent wetland.

The areas under application are not located in a Public Drinking Water Source Area and are identified as having predominantly no salinity risk.

Given that some of the vegetation under application is within the recommended wetland buffer, the clearing as proposed may cause deterioration in the quality of surface water within the adjacent wetland. Therefore the clearing as proposed may be at variance to this principle.

Methodology References:

- Site Inspection (2008)
- WRC (2001)

GIS Databases:

- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- 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**

There is a seasonally waterlogged Conservation Category wetland (dampland) located adjacent to the southern area under application. In addition, there is a seasonally waterlogged Conservation Category wetland located approximately 140m east of the southern area under application and a seasonally inundated Resource Enhancement wetland (sumpland), located north of the northern area under application. Given the relatively small size of the areas under application (1.03ha and 1.07ha), the clearing as proposed is not considered likely to cause or increase the incidence or intensity of localised flooding.

Methodology GIS Database:

- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain

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

Comments

A submission (2007) for the proposed clearing of the original areas under application (4.45ha) was received.

The submission considered biodiversity and habitat values; presence of priority flora; significance as remnant native vegetation; occurrence of wetlands; land degradation issues; environmental values of adjacent conservation areas; deterioration in quality of surface water. These issues were considered as part of the assessment. The submission stated that any further clearing works occurring at Guildford Cemetery is opposed; and that the clearing proposal is environmentally unacceptable.

Bush Forever office (Department of Planning and Infrastructure, 2007a) advised that there have been numerous meetings on the expansion of the Guildford Cemetery, between the Bush Forever Interagency Technical Coordinating Group (comprising DPI and DEC) and the Metropolitan Cemeteries Board. In 2005, an agreed outcome was met, with the addition of 10.95 ha of land to the Guildford Cemetery, and the exclusion of this land from Bush Forever (Lots 2 and 56). The Bush Forever boundary was changed to reflect this, on the proviso that the Metropolitan Cemeteries Board would manage the rest of the site for conservation purposes.

Bush Forever (Department of Planning and Infrastructure, 2007b) confirmed that the two amended areas to be cleared (1.03Ha and 1.07Ha) are outside the Bush Forever boundary. As such, there are no objections to any clearing outside the Bush Forever area

The clearing proposal of 2 hectares was referred to the Environmental Protection Authority (EPA, 2007). The EPA recommended that the proposal (clearing of 2 hectares of native vegetation, Kalamunda Road South Guildford) be 'Not Assessed - Public Advice Given & Managed under Part V of the EP Act (Clearing)'. The appeal period closed 10 September 2007; an appeal against the decision was lodged. The outcome of the appeal was finalised on the 15 April 2008.

Bennett Environmental Consulting (2002) undertook a flora and vegetation survey of the remnant bushland at Guildford Cemetery in July and October 2001; this survey included Lot 501, but not Lot 502. One priority taxa and one significant species were recorded from within the bushland, including *Eucalyptus marginata* subsp. *elegantella* (P2) and *Pityrodia bartlingii* (Significant species). *Eucalyptus marginata* subsp. *elegantella* is no longer a Priority species (Western Australian Herbarium, 1998-).

The area under application is within the Proclaimed Groundwater Area of Perth. Therefore any abstraction of groundwater would require a licence. However, this application for new burial areas is not associated with ground water extraction.

Additional nutrients from the proposed land use may have a detrimental affect on the groundwater and the adjacent wetland if there isn't an appropriate buffer.

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

There is an Aboriginal Sites of Significance listed within the areas under application, the applicant will be advised of their obligations under the Aboriginal Heritage Act 1972.

Lot 501 (Crown Reserve 21697) and Lot 502 (Crown Reserve 21697) are vested with the Metropolitan Cemeteries Board for the land use of Cemetery. Lot 501 and Lot 502 are both zoned Public Purposes under the Metropolitan Regional Scheme.

Methodology

References:

- Bennett Environmental Consulting (2002)
- Department of Planning and Infrastructure (2007a)
- Department of Planning and Infrastructure (2007b)
- EPA (2007)
- Submission (2007)
- Western Australian Herbarium (1998-)

GIS databases:

- Aboriginal Sites of Significance
- Cadastre
- Metropolitan Regional Scheme
- RIWI Act, Groundwater Areas
- RIWI Act, Surface Water Areas

4. Assessor's comments

Comment

The assessable criteria have been addressed and the clearing as proposed is at variance to Principles (e) and (f); and may be at variance to Principles (a), (b), (d), (h) and (i).

5. References

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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)