



1. Application details

1.1. Permit application details

Permit application No.: 1694/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Westminster Estates Pty Ltd

1.3. Property details

Property: LOT 10 on Plan 12465 (House No. 2469 MARMION JINDALEE 6036)
Local Government Area: City Of Wanneroo
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3.5		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 <i>Eucalyptus gomphocephala</i> and open forest of <i>Eucalyptus gomphocephala</i> , <i>E. marginata</i> , <i>E. calophylla</i> , closed heath on limestone outcrops.	The proposal is to clear 3.5ha of native vegetation for the purpose of receiving excess fill from the adjoining Lot 12 and to utilise this fill to level the area under application for a proposed primary school at this site.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	Vegetation clearing description is based on a site visit conducted by DEC officers on 12 March 2007. The area under application (3.5ha) is located within the southeast corner of Lot 10 on Plan 12465 and was subject to a spring flora survey conducted by RPS Bowman Bishaw Gorham (2006) and a fauna survey conducted by Bamford Consulting Ecologists (2006). A summary of the flora and fauna report was provided by RPS Bowman Bishaw Gorham (Trim ref. DOC 26590) which was used in the assessment of the application.
Beard Vegetation Association: 1026 - Mosaic, shrublands of <i>Acacia rostellifera</i> , <i>A. cyclops</i> (in the south) and <i>Melaleuca cardiophylla</i> (in the north) thicket/shrublands; <i>Acacia lasiocarpa</i> & <i>Melaleuca acerosa</i> heath.	RPS Bowman Bishaw Gorham describe the vegetation under application as "low woodland of <i>Banksia attenuata</i> and <i>Banksia menziesii</i> over shrubland comprising <i>Dryandra sessilis</i> , <i>Macrozamia riedlei</i> , <i>Rhagodia baccata</i> , <i>Hibbertia hypericoides</i> and <i>Leucopogon polymorphus</i> with a transitional change to tall closed shrubs of <i>Dryandra sessilis</i> over a low shrubland dominated by <i>Macrozamia riedlei</i> , <i>Jacksonia calcicola</i> and <i>Hibbertia hypericoides</i> . In addition, tall scrub/heath comprising <i>Melaleuca cardiophylla</i> , <i>Acacia rostellifera</i> , <i>Spyridium globulosum</i> , <i>Olearia axillaris</i> and <i>Acacia saligna</i> was confined to the swales and lower slopes in the southwest portion of the applied area."		The majority of the area to be cleared is in excellent condition, with some areas in a degraded condition which were confined to an access track transcending through the western portion of the area under application for a distance of approximately 110 metres.

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 majority of the vegetation under application is in excellent condition with degraded areas confined to an access track along the western portion of the applied area. A spring flora survey was conducted on Lot 10, with the area under application located within the southeast portion of this Lot. During the flora survey, RPS Bowman Bishaw Gorham (2006) recorded a total of 61 plant species throughout Lot 10, including the area under application.

No Declared Rare Flora (DRF) or Priority species were recorded within the applied area.

During a fauna survey Bamford Consulting Ecologists (2006) reported that the vegetation under application is likely to be utilised by a number of significant fauna species, including confirmation that Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*) (Endangered) were utilizing the site.

The area under application and surrounding area is zoned urban, with residential development to the south and east of the applied area, the vegetation is in excellent condition as part of much larger remnant (including the remainder of Lot 10) which extends north and has the potential to support a range of native species. The area under application may be considered to be an area of high biodiversity.

Methodology DEC Site visit - 12/03/07
Bamford Consulting Ecologists (2006)
RPS Bowman Bishaw Gorham (2006)
GIS Databases:
SAC BIO Datasets - 02/05/07

(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**

A desktop assessment undertaken by Bamford Consulting Ecologists (2006) identified 96 bird species, 44 reptile species, 22 mammal species and 3 amphibian species with the potential to occur in the area under application.

During the field survey a total of 35 bird species were recorded, including the Carnaby's Black-Cockatoo *Calyptorhynchus latirostris* (Endangered). These birds inhabit uncleared or remnant *Eucalyptus* and *Banksia* woodlands, foraging on the seeds and nectar from the flowers of *Banksia* and *Eucalyptus* species (DEC 2006). Whilst the vegetation under application includes these plant species that can be utilised by foraging Carnaby's Black-Cockatoo, due to the lack of hollows, the vegetation is unlikely to be suitable as nesting habitat.

Bamford (2006) advised that of the identified local bird species, the Fairy-wrens (*Malurus sp.*), White-breasted Robin (*Eopsaltria georgiana*) and Thornbills (*Acanthiza sp.*) have a limited distribution range and are particularly sensitive to habitat loss. In addition, Bamford (2006) reported that the area under application may be used as a breeding site for the EPBC Act (Migratory) listed Rainbow Bee-Eater, which nests in burrows excavated in sandy ground during the spring and summer months. Although this species was not observed during the fauna survey, clearing of vegetation during the spring and summer months is likely to destroy any burrows that are present.

The DEC Priority 5 species Quenda (*Isodon obesulus fusciventer*) has been recorded within a 2km radius of the area under application. Whilst there were no recorded observations of the Quenda during the fauna survey, the dense understorey has the potential to provide suitable habitat for this species (Bamford 2006) and other ground dwelling species such as the Moodit (*Rattus fuscipes*).

Given that the vegetation under application is likely to be utilised by a number of fauna species including species of conservation significance and the area under application is in a landscape which has been substantially cleared for urban residential development, it is considered likely that it comprises significant habitat for these species.

Methodology DEC Site visit - 12/03/07
Bamford Consulting Ecologists (2006)
DEC - 2006
GIS Databases:
SAC BIO Datasets - 02/05/07

(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 of application) there is one known population of Declared Rare Flora (DRF) *Eucalyptus argutifolia* which is located approximately 4km southeast of the area under application. This DRF species is associated with vegetation comprising *Melaleuca huegelii*, *Acacia rostellifera* and *Spyridium globulosum* in shallow soils over limestone on the slopes or gullies of limestone ridges.

No DRF species including *Eucalyptus argutifolia*, or any Priority flora species were identified within the area under application during a spring flora survey conducted by RPS Bowman Bishaw Gorham (2006).

Given that no DRF or Priority species were identified during the flora survey, it is not considered likely that the vegetation under application includes, or is necessary for the maintenance of the continued in situ existence of rare flora.

Methodology DEC Site visit - 12/03/07
RPS Bowman Bishaw Gorham (2006)
DEC (2006)
GIS Databases:
SAC BIO Datasets 27/05/07

(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 22 known occurrences of Threatened Ecological Communities (TEC) within the local area (5km radius of application) of which 17 are associated within the same vegetation complex and soil type as the area under application.

The closest TEC is located approximately 1km southeast of the area under application and was identified as Floristic Community Type 26a (FCT 26a) which comprises *Melaleuca huegelii* and *Melaleuca acerosa* shrublands on limestone ridges.

Given that the area under application was identified during a spring flora survey as comprising a combination of *Banksia spp*, *Dryandra sessilis*, *Macrozamia riedlei*, *Rhagodia baccata* and *Xanthorrhoea preissii* swales and lower slopes (RPS Bowman Bishaw Gorham 2006), it is not considered likely that the vegetation under application would comprise, or be necessary for the maintenance of a TEC.

Methodology RPS Bowman Bishaw Gorham (2006)
GIS Datasets:
SAC BIO Datasets - 02/05/07

(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

Heddl et al (1980) defines the area under application as Cottesloe Complex Central and South, of which there is 41.1% of pre-European extent remaining and which is described as being of a 'depleted' status for biodiversity conservation (Department of Natural Resources and Environment 2002).

The vegetation under application is also described as Beard vegetation association 1026 which has 89.2% of pre-European extent remaining (Shepherd, 2006) and which is considered to be of 'least concern' for biodiversity conservation (Department of Natural Resources and Environment 2002). In addition the vegetation of the applied area is also within the City of Wanneroo of which there is 57.6% of pre-European extent remaining which is considered to be of 'least concern' for biodiversity conservation (Department of Natural Resources and Environment 2002), (Shepherd et al. 2001)

These vegetation types have representations above the recommended minimum level of 30%, as recognised by both the EPA and the State Government (EPA 2003; Department of Natural Resources and Environment 2002) and the proposal is therefore not considered likely to be at variance with this principle.

	Pre-European(ha)	Current(ha)	Remaining %	Conservation status***	% in reserves
Swan Coastal Plain	1,501,456	571,758	38.1% *	Depleted	
City of Wanneroo	78,809	45,361	57.6% *	Least Concern	
Heddl vegetation complex					
Cottesloe Complex Central and South	44,995	18,474	41.1% **	Depleted	8.8%
Beard vegetation associations					
1026	70,704	63,068	89.2%	Least Concern	52.4%

- * (Shepherd et al. 2001)
- ** (EPA, 2003)
- *** (Department of Natural Resources and Environment 2002)
- **** (Adapted from: Shepherd 2006)

Methodology Department of Natural Resources and Environment (2002)
 EPA (2000)
 Heddle et al (1980)
 Shepherd et al (2001)
 Shepherd (2006)

(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**
 There are no mapped watercourses or wetlands within the area under application. However, there are a number of wetlands found within a five kilometre radius of the applied area.

The nearest wetland is a Conservation Category Wetland, Nowergup Lake, which is located approximately 3.5km north east of the applied area and Carabooda Lake, a resource enhancement wetland, which is situated approximately 3.6km to the northeast.

Given the distance to the nearest wetland or watercourse, and that no wetland dependent vegetation was observed during the site visit, the proposed clearing is not considered likely to include vegetation growing in, or in association with, a watercourse or wetland.

Methodology DEC site visit - 12/04/07
 GIS Databases:
 Geomorphic Wetlands (Classification), Swan Coastal Plain - DEC
 Hydrography, linear (hierarchy) - DOW
 Swan Coastal Plain North 20cm Orthomosaic - DLI06_1

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

Comments **Proposal may be at variance to this Principle**
 Soils within the area under application are part of the Spearwood systems and have a low risk of land degradation from water erosion and water logging, and a nil to low risk of salinity and acid sulphate soils (State of Western Australia 2005).

The main land degradation risk associated with this sandy soil type is considered to be nutrient export and wind erosion (State of Western Australia 2005). The clearing of native vegetation is not considered likely to impact on the export of nutrients.

The high wind erosion potential is due to the sandy nature of the soil and without appropriate vegetation cover, windbreaks or adequate dust suppression on exposed surfaces, the proposal may result in appreciable land degradation and may be at variance to this Principle. The risk of wind erosion can be adequately managed and minimised by stabilising the soil through the application of dust suppressants and the redistribution of mulched vegetation over the site and by maintaining a vegetated buffer zone to reduce wind velocity.

Methodology DEC site visit - 12/04/07
 State of Western Australia (2005)
 GIS Databases:
 Acid Sulfate Soil Risk Map, Swan Coastal Plain - DEC
 Salinity Risk LM 25m - DOLA 00

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments **Proposal is not likely to be at variance to this Principle**
 There are five areas reserved for conservation purposes within a 5km radius of the applied area, the closest being Bush Forever site 397 which is located approximately 800m west of the applied area.

The area under application has urban development to the south and east and is located in the southwest portion of 112ha parcel of land which is zoned Urban. In considering the surrounding land uses and the fragmentation of the area under application from local conservation reserves, it is unlikely to provide a corridor to these reserves.

Given the distance to these reserves, it is not considered likely that the proposed clearing would have a direct or indirect impact on the environmental values of any adjacent or nearby conservation reserves.

Methodology GIS Databases:
Bushforever - MFP 07/01
CALM Managed Lands and Waters - CALM 1/07/05
Geomorphic Wetlands (Classification), Swan Coastal Plain - DEC

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments Proposal is not likely to be at variance to this Principle

The area under application has a nil to low risk of salinity and acid sulphate soils and is not located within a Public Drinking Water Source Area (PDWSA). The nearest watercourse is Lake Nowergup which is located approximately 3.5km to the northeast of the area under application. Due to the porous nature and the high infiltration rates of sand and the distance to receiving waterbodies, it is not considered likely that the proposed clearing would result in the deterioration in surface or underground water quality.

Given that there is a low to nil risk of salinity and Acid Sulphate Soils, and given the distance to the watercourse and the high infiltration rates of the sand, it is not considered likely that the proposed clearing would cause deterioration in the quality of surface or underground water.

Methodology DEC site visit - 12/04/07
GIS Databases:
Bushforever - MFP 07/01
Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DEC
Public Drinking Water Source Areas (PDWSAs) - DOW
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 soils identified within the applied area are described as Spearwood sands which are associated with a low to nil risk of water logging due to their high infiltration rates (State of Western Australia 2005).

Given the high infiltration rates and porous nature of the sandy soils on site, the proposed clearing of vegetation is not likely to cause or exacerbate the incidence or intensity of flooding.

Methodology DEC site visit - 12/04/07
State of Western Australia (2005)
GIS Databases:
Geomorphic Wetlands (Classification), Swan Coastal Plain - DEC
Public Drinking Water Source Areas (PDWSAs) - DOW
Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The area under application is not part of a Native Title Claim.

Located within Lot 10 on Plan 12465 is an Aboriginal site of significance which is situated approximately 380m to the east of the area under application. This Aboriginal site (20772) has been listed on the Interim Register. Given the proximity of this site to the applied area, it is considered that consultation should be considered for the area under application.

Lot 10 is currently zoned Urban under the Metropolitan Region Scheme (MRS) and Urban Development under the City of Wanneroo District Planning Scheme 2.

The vegetation in the area under application is to be mechanically removed and fill (sand) from adjoining Lot 12, is to be used to level the site. Due to the coastal location of the applied site and associated coastal winds, the exposed sandy soils have a high risk of wind erosion which may result in appreciable land degradation.

Applicant has received DA Bulk Earthworks approval from the City of Wanneroo.

Methodology GIS Databases:
Aboriginal Sites of Significance - DIA
Native Title Claims - DLI_1

4. Assessor's recommendations

Purpose	Method Applied	Decision	Comment / recommendation
Building or Structure	Mechanical 3.5 Removal		The assessable criteria have been addressed and the proposed clearing may be at variance to principles (a), (b) and (g)

5. References

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 form Vegetation Extent dataset ANZWA 1050000124.

Barnford Consulting Ecologists (2006) Jindalee Fauna Assessment. Unpublished report prepared for RPS Bowman Bishaw Gorham

DEC (2006) Naturebase Fauna Species Profile, Carnaby's Black-Cockatoo
http://www.naturebase.net/plants_animals/birds_cockatoo.html.accessed on 13/04/2007

Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.

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.

RPS Bowman Bishaw Gorham (2007) Proposed Primary School for Lot 10 Marmion Avenue, Jindalee, Additional Information on Flora and Fauna. DEC TRIM Ref. DOC 26590

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.

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)