



1. Application details

1.1. Permit application details

Permit application No.: 3232/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Holly Ord & Ian and Daniel Shepperson

1.3. Property details

Property: LOT 402 ON PLAN 58713 (House No. 105 BODEMAN WANDI 6167)
LOT 402 ON PLAN 58713 (House No. 105 BODEMAN WANDI 6167)
LOT 402 ON PLAN 58713 (House No. 105 BODEMAN WANDI 6167)

Local Government Area:

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.75		Mechanical Removal	Building or Structure
		Mechanical Removal	Building or Structure
		Mechanical Removal	Building or Structure
		Mechanical Removal	Building or Structure
		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
Heddlie Vegetation Complex: Central and South - Vegetation ranges from woodland of <i>E. marginata</i> - <i>C. fraseriana</i> - <i>Banksia</i> spp. To low woodland of <i>Melaleuca</i> species and sedgelands which occupy the moister sites (Heddlie et al 1980).	The proposal is to clear up to 0.75 hectares of native vegetation for the purpose of the construction of a house, workshop, horse stables, water tank, paddocks and arena. A 2000 square metre building envelope was applied to the southern portion of Lot 402 as a condition of the 2007 subdivision of this property.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The vegetation clearing description is based on a site inspection by DEC officers on 17 August 2009 (DEC 2009a).
Beard Vegetation Complex: 1001 - Medium very sparse woodland; jarrah, with low woodland; banksia and casuarina (Shepherd 2007; SAC Bio datasets 17/08/2009).	The southern area under application (comprising the house and workshop) is located within the stipulated building envelope; however, all of the equine pursuits (northern applied area) are located outside of the identified southern building envelope. The vegetation under application has previously been burnt and has good regeneration occurring across the site. The vegetation comprises <i>Eucalyptus marginata</i> , <i>Banksia attenuata</i> , <i>B. menziesii</i> , <i>Adenanthos cygnorum</i> , <i>Jacksonia</i> spp, <i>Lysinema ciliatum</i> , <i>Lyginia</i>		

barbata/imberbis, Hibbertia hypericoides, H. racemosa, Daviesia spp, Conostylis spp, Drosera macrantha, Allocasuarina humilis, Hovea trisperma, Phlebotypha ciliata, Petrophile linearis, Mesomelina tetrogona, Leucopodon spp, Xanthorrhoea preissii, Acacia pulchella, Stirlingia spp, Desmodium spp, Lomandra spp and Calatasia narragana, with minimal weeds such as veldt grass and gladiolus species and limited patches of bare earth (DEC, 2009a).

The vegetation within the applied area is considered to be in excellent (Keighery, 1994) condition (Coffey Environment, 2009).

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 has previously been burnt and has good regeneration across the site, with an average height of approximately 1.5m for upper storey species such as Banksia attenuata and B. menziesii, with minimal weeds present (DEC, 2009a). The vegetation is considered to be in excellent (Keighery, 1994) condition overall (Coffey Environments, 2009).

A spring flora survey of Lot 402 (~2.2ha) conducted by Coffey Environments (2009) identified a total of 104 flora taxa (including 92 native species and 12 weed species) of which 64 species were recorded within the northern area under application and 60 within the southern applied area. In addition, Coffey Environments (2009) identified the Floristic Community Type (FCT) on site, as most likely to be representative of FCT23a - Central Banksia attenuata - B. menziesii woodlands.

According to Coffey Environments (2009) the total number (104) of flora species found within Lot 402 has a higher species richness when compared to two nearby sites located in Rowley Road (4ha) and Robertson Road (14ha) which respectively recorded a total of 64 flora species (ATA Environmental, 2006) and 70 flora species (Coffey Environments, 2007). However, Coffey Environments (2009) considered that the number of species found within Lot 402 was average for a 2.2ha site. DEC (2009e) advice whilst the vegetation within the areas under application is not exceptionally diverse within the known distribution of Floristic Community Type 23a, the vegetation under application does represent high diversity for this community type within the Wandoo area and that the vegetation on site is locally significant as a remnant within the Wandoo area.

No rare flora or priority species were recorded within the areas under application (Coffey Environments, 2009).

The dense vegetation under application is likely to provide suitable habitat for a range of ground dwelling fauna species such as the Quenda, Kangaroo, snakes and lizard species; with numerous Quenda diggings and local foraging bird species observed during the DEC site inspection (DEC, 2009a). However, given the proximity of conservation reserves in the local area, the vegetation on site is not considered to provide significant habitat for the Endangered Carnaby's Black Cockatoo (Calyptorhynchus latirostris) and the Forest Red-tailed Black-Cockatoo (Calyptorhynchus banksii naso, Vulnerable) (DEC, 2009d).

Given the vegetation condition and diversity within the area under application it is considered that the applied area may be an area of high biological diversity.

Methodology

References:

- Coffey Environments (2009)
- DEC (2009a)
- DEC (2009d)
- DEC (2009e)
- Government of Western Australia.
- GIS Databases:

- Perth Metropolitan Area Central 20cm Orthomosaic - Landgate 2007_
- SAC BIO datasets - accessed 16/08/2009

(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 six fauna species of conservation significance which have been recorded within the local area (5km radius) including the Endangered Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*), Forest Red-tailed Black-Cockatoo (*Calyptorhynchus banksii*, VU), Chuditch (*Dasyurus geoffroii*, VU), Western Brush Wallaby (*Macropus irma*, P4), Quenda (*Isodon obesulus fusciventer*, P5), and the Lined skink (*Lerista lineata*, P3), the closest being the Forest Red-tailed Black Cockatoo which was recorded approximately 1.2km southwest of the applied area.

The area under application is located within the range of the Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*) (EPBC Act, Endangered). These birds inhabit uncleared or remnant Eucalyptus and Banksia woodlands and coastal scrub foraging on the seeds and nectar from the flowers of Eucalyptus, Banksia, Grevillea and Hakea species (Burbidge 2004). However, the trees under application are immature and are unlikely to provide suitable nesting hollows and given the proximity of conservation reserves in the local area, the vegetation under application is not considered to provide suitable habitat for the Carnaby's Black-Cockatoo and the Forest Red-tailed Black-Cockatoo (DEC 2009d)

The vegetation under application is in excellent (Keighery, 1994) condition overall, with an intact understorey. Areas comprising a dense understorey and woody debris would provide suitable habitat for ground dwelling fauna such as the Quenda, Kangaroos, Western Brush Wallaby, Chuditch, snakes and skinks. During the DEC site inspection numerous Quenda diggings and passerine birds were observed throughout the applied area (DEC, 2009a).

The area under application has the potential to provide suitable habitat for a range of fauna species, including species of conservation significance and is considered to may be at variance to this Principle.

Methodology References:

- Burbidge (2004)
 - DEC (2009a)
 - DEC (2009d)
 - Keighery (1994)
- GIS Databases:
- SAC Bio datasets accessed 7/09/2009

(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

Within the local area (5km radius) there are 14 known occurrences of the rare flora species *Caladenia huegelii*, *Diuris purdiei* and *Drakaea elastica*, all of which occur in the same vegetation complex and soil type to that found within the area under application. Of the identified rare flora species, *Caladenia huegelii* is considered to have significant potential to occur on site (DEC, 2009b) and *Drakaea elastica* may also potentially occur on site (DEC, 2009c).

Caladenia huegelii flowers in September-October and is generally found in deep sandy soils in Banksia and Eucalyptus woodlands, favouring areas of lush undergrowth (Brown et al. 1998). Given that *C. huegelii* and *Drakaea elastica* are found within the same vegetation complex and soil type to that found on site; and have respectively been recorded within 800m and 390m of the applied area, it is considered that the vegetation under application may include, or be necessary for the maintenance of, rare flora.

In addition, there are eleven known populations of seven species of priority flora, the closest *Eremaea asterocarpa* subsp. *Brachychlada* (P1) is located approximately 415m from the applied area and is found within the same vegetation and soil type to that found on site.

A spring flora survey conducted on 22 September 2009 did not identify any rare or priority flora species with the area under application (Coffey Environments, 2009).

Given that no rare flora were identified on site, it is not considered likely that the vegetation under application includes, or is necessary for the continued existence of, rare flora.

Methodology References:

- Brown (1998)
- Coffey Environments (2009)
- DEC (2009b)
- DEC (2009c)

GIS Databases:

- Perth Metropolitan Area Central 20cm Orthomosaic - Landgate 2007
- Heddle Vegetation Complexes
- Soils Statewide - DA 11/99
- SAC Bio datasets accessed 17/08/2009
- Western Australian Herbarium (1998)

(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 no known occurrences of Threatened Ecological Communities (TEC) within the local area (5km radius). The closest TEC identified as Floristic Community Type SCP26a: *Melaleuca huegelii* - *Melaleuca acerosa* shrublands on limestone ridges is located approximately 6.6km southeast of the applied area.

A flora survey conducted by Coffey Environments (2009) did not identify any Threatened Ecological Communities within the areas under application.

Given the above, it is not considered likely that the vegetation under application comprises, or is necessary for the maintenance of a TEC.

Methodology References:

- Coffey Environments (2009)
- DEC (2009a)
- GIS Databases:
- Heddle Vegetation Complexes
- Perth Metropolitan Area Central 20cm Orthomosaic - Landgate 2007
- Soils Statewide
- SAC Bio Datasets accessed 14/08/2009

(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

Heddle et al. (1980) defines the vegetation under application as Bassendean Complex Central and South of which there is 27% of pre-European extent remaining (EPA 2006). The vegetation under application is also described as Beard vegetation association 1001 of which there is 25.34% of pre-European extent remaining (Shepherd 2007).

The area under application is located within the Town of Kwinana, within which there is 40.8% of pre-European extent remaining.

The Environmental Protection Authority (EPA) identifies a 30% threshold level as recommended in the National Objectives Targets for Biodiversity Conservation; below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000). 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. The native vegetation associations under assessment (Heddle and Beard) are both greater than 10%.

Given the current representation levels of the vegetation under application and the fact that there are a number of conservation reserves located within the local area which are comprised of the same vegetation types, it is not considered likely that the vegetation under application is significant as a remnant in an area that has been extensively cleared.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Swan Coastal Plain^	1,501,208	583,140	38.84	
Town of Kwinana**	11,998	4,821	40.8	9.32
Heddle vegetation complex**				
Bassendean Complex Central and South	87,477	23,624	27.0	0.7
Beard vegetation type*				
1001	57,410	14,545	25.34	

* (Shepherd, 2007)

** (EPA, 2006)

^ Area within Intensive Land Use Zone

- Methodology** **References:**
- EPA (2000)
 - EPA (2006)
 - Heddle et al (1980)
 - Shepherd et al (2007)
- GIS Databases:**
- Heddle Vegetation Complexes
 - Perth Metropolitan Area Central 20cm Orthomosaic - Landgate 2007
 - Pre-European Vegetation
 - SAC Bio Datasets accessed 7/09/2009

(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 numerous wetlands within a 5km radius of the area under application, including a Conservation Category Wetland and a Resource Enhancement Wetland, which are respectively located approximately 1km northwest and 475m west of the applied area. In addition, there are also numerous Environmental Policy Protection (EPP) Lakes within the local area, the closest being situated approximately 1.4km south of the applied area; and an ANCA wetland (Gibbs Road Swamp) which is located approximately 250m north of the area under application.
- The closest watercourse is the Peel Main Drain which is located approximately 2.4km southwest of the applied area.
- Given the distance to the nearest wetland and watercourse and that no wetland vegetation was observed during the DEC site inspection (DEC, 2009a), the vegetation under application is not considered likely to include vegetation growing in, or in association with, an environment associated with a watercourse or wetland.

- Methodology** **References:**
- DEC (2009a)
- GIS Databases:**
- ANCA wetlands - Environment Australia 26/3/99
 - EPP, Lakes
 - Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
 - Hydrography, linear_1
 - Hydrography, linear (hierarchy)
 - Perth Metropolitan Area Central 20cm Orthomosaic - Landgate 2007

(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**
- The area under application is associated with subdued dune-swale terrain and the chief soils are described as leached sands (Northcote et al. 1968). Generally, these soils have a high risk of wind erosion and a low risk of water erosion due to the high infiltration rates associated with sands. The applied area is associated with a low to nil risk of salinity.
- The main land degradation risk associated with the removal of vegetation on the identified soil type is considered to be nutrient export and wind erosion (Department of Agriculture, 2005). The clearing of native vegetation for the proposed horse paddocks and arena (~0.4 ha) should not artificially elevate nutrient levels, therefore minimising the risk of eutrophication. However, without appropriate vegetation cover, windbreaks or adequate dust suppression on exposed surfaces, the proposed clearing on the sandy soils may result in wind erosion.
- Given that the proposed clearing may cause wind erosion, it may be at variance to this Principle.

- Methodology** **References:**
- DEC (2009a)
 - Northcote et al (1960-1968)
 - Department of Agriculture (2005)
- GIS Databases:**
- Salinity Risk LM 25m - DOLA 00
 - Soils, Statewide - DA 11/99

(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 numerous areas reserved for conservation purposes within a 5km radius of the area under application, the closest being Bush Forever site 347 (Wandi Nature Reserve) and Bush Forever site 348 (Modong Nature Reserve) which form part of the Jandakot Regional Park; and are respectively located approximately 790m south and 2.4km southeast of the applied area.

The area under application is situated in a landscape which has been extensively cleared for rural and urban development and has been isolated from local conservation reserves, and is therefore unlikely to provide a corridor for movement of fauna 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 References:

- DEC (2009a)
- GIS Databases:
 - Bushforever
 - CALM Managed Lands and Waters
 - CALM Regional Parks

(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, an ANCA Wetland (Gibbs Road Swamp System) is located approximately 250m north of the applied area and the closest watercourse is the Peel Main Drain which is located approximately 2.4km southwest of the area under application. Given the high infiltration rates of the sandy soils identified within the applied area, and the distance to the nearest wetland and watercourse, it is not considered that the proposed clearing would cause water erosion resulting in deterioration in surface water quality.

The area under application is located within the Peel-Harvey Environmental Protection Policy (EPP) area and has a nil to low risk of salinity and given this, it is not considered likely that the proposed clearing would artificially elevate nutrient levels or cause salinity resulting in the deterioration in the quality of underground water.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology References:

- DOE (2004)
- GIS Databases:
 - ANCA wetlands - Environment Australia 26/3/99
 - EPP, Areas
 - Hydrography, linear (hierarchy)
 - Public Drinking Water Source Areas (PDWSA)
 - RIWI Act, Groundwater Areas

(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 is located approximately 2.4km northwest of the Peel Main Drain and approximately 250 metres south of the Gibbs Road Swamp, an ANCA Wetland, at an elevation of 30 - 35 metres.

Given the distance to the nearest wetland and watercourse and the high infiltration of the soils on site, it is not considered likely that the proposed removal of vegetation would impact on peak flood height or duration.

Methodology References:

- GIS Databases:
 - ANCA wetlands - Environment Australia 26/3/99
 - Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DEC
 - Hydrography, linear (hierarchy) - DOW
 - Topographic Contours, Statewide - DOLA

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

Comments

The Town of Kwinana refused an application for an Equine licence for Lot 402, at the Ordinary Council

Meetings held on 8 April 2009 (TRIM Ref: DOC96162), citing Department of Water advice and planning issues.

The matter is now before the State Administrative Tribunal.

Lot 402 Bodeman Road, Wandi is zoned Rural A under Town of Kwinana's Town Planning Scheme No. 3 (TPS3) and Rural - Water Protection under the Metropolitan Regional Scheme (MRS).

The area under application is situated within the Jandakot Groundwater Protection Area and is located within a Priority 2 Public Drinking Water Source Area (PDWSA). Priority 2 (PDWSA) areas cover land where there is low risk development, such as low intensity rural activities, or where development with conditions are allowed so risk of pollution to the water source is minimised (DOE, 2004). The keeping of horses and associated equine activities are considered a conditional land use, provided water contamination risks are managed appropriately.

The Town of Kwinana advise that it does not support the application to clear native vegetation (CPS 3232/1) and has refused an application for Equine Licence for Lot 402 as it not consistent with the Statement of Planning Policy 2.1 -Peel-Harvey Coastal Plain Catchment (clause 6.2) and Statement of Planning Policy 2.3 Jandakot Groundwater Protection Policy (clause 9) (Town of Kwinana, 2009).

Lot 402 was created as part of the 2007 subdivision of Lot 4 Bodeman Road and a 2000 square metre building envelope was a condition of the subdivision of this lot. Town Planning Scheme No.2 stipulates that all development must be within the confines of the building envelope. The southern area under application (comprising the house and workshop) is located within the stipulated building envelope, however, all of the equine pursuits in the northern applied area (development of the horse stables, horse paddocks, arena and a water tank) are located outside the stipulated southern building envelope (TRIM ref: DOC102164).

The Town of Kwinana advice that building envelopes have been applied to properties within the Wandi area to limit and reduce the amount of clearing to be undertaken on these properties (TRIM ref: DOC98065).

Stables are an "AA" use within the "Rural Water Resource Zone" under the Statement of Planning Policy 2.3 Jandakot Groundwater Protection Policy and the Town of Kwinana's Town Planning Scheme No.2 limits approvals for equestrian activity within the "Rural Water Resource Zone" to extensions of existing operations (Western Australian Planning Commission, 2003a). Lot 402 has not had any prior approvals for equestrian activities on this property.

The Department of Water (DoW) advice that there is no current water licence associated with Lot 402 and that the owners would be required to submit an application to construct a bore and take water, detailing their water needs. However, as part of the assessment process, DoW is required to consider that all relevant agency approvals have been obtained; and if not, this will impact on DoW's assessment outcome (Department of Water, 2009a).

The Department of Water advice that an application has been received for a water licence and that there are 5 other applications waiting to be assessed before it; and given that the Town of Kwinana have rejected planning approvals and that DEC have refused a clearing permit, it is highly unlikely that a water licence will be issued. (TRIM ref: DOC102048).

The Department of Agriculture recommend a stocking rate of 1 horse per 1 hectare of irrigated paddock (Department of Agriculture, 2000).

The applicant intends to keep 2 horses at Lot 402 and proposes to clear up to 0.75 hectares of native vegetation for the purpose of constructing a house, horse stables, an arena and irrigated horse paddocks (~0.3ha) which are to be sown with kikuyu grass (ENV Australia, 2009).

Perennial grasses, such as kikuyu, are very invasive to remnant bushland (Department of Agriculture, 2000) and can result in deterioration in the condition of the native vegetation through increased edge effects. In addition, whilst it is noted that the applicant intends to rotate the horses between the paddocks and stables, given the soils on site have a high risk of wind erosion, overgrazing may result in appreciable land degradation.

The area under application is located within the Peel-Harvey Environmental Protection Policy area, where land uses that result in nutrients, especially phosphorous, can leach into the waterways in the policy area causing environmental harm. Initially the Department of Water (DoW) did not support the proposal for 2 horses based on table 4 of DoW's "Environmental Guidelines for Horse Facilities and Activities 2009." However, after reviewing a Nutrient and Irrigation Management Plan (NIMP) and subsequent modelling of the information provided, DoW now supports the application for keeping 2 horses on the property with strict manure management requirements as specified in the Department of Water's letter dated 9 July 2009 (Department of Water, 2009b).

A submission and a draft copy of the flora and vegetation survey conducted by Coffey Environments (2009) was received from TPG Town Planning and Urban Design on behalf of the applicant in response to correspondence from DEC dated 24 September 2009. The flora and vegetation survey has been addressed in principle (a) and (c). (TRIM ref: DOC101928).

Methodology There are no Aboriginal Sites of significance within the area under application.
References:

- Department of Water (2009c)
 - Coffey Environments (2009)
 - ENV Australia (2009)
 - Department of Water (2009a)
 - Department of Water (2009b)
 - Department of Water (2009c)
 - Murray (2009)
 - Town of Kwinana (2009)
 - Water and Rivers Commission (2002)
 - Western Australian Planning Commission (2003a)
 - Western Australian Planning Commission (2003b)
- GIS Databases:
- Aboriginal Sites of Significance
 - Metropolitan Regional Scheme
 - Town Planning Scheme Zones

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing may be at variance to Principle (a), (b) and (g); and is not likely to be at variance to the remaining clearing Principles.

5. References

- 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.
- Brown A., Thomson-Dans C. and Marchant N. (1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.
- Burbidge, A. (2004) Threatened Animals of Western Australia, Department of Conservation and Land Management, Perth, Western Australia.
- Coffey Environments (2009) Draft Flora and Vegetation Survey for Lot 402 Bodeman Road, Wandii.
- DEC (2009a) Site Inspection Report for Clearing Permit Application CPS 32321, Construction of house, workshop, horse stables, horse paddocks and arena). Site inspection undertaken 17/08/2009. Department of Environment and Conservation, Western Australia (TRIM Ref: DOC96929).
- DEC (2009b) Flora advice for land clearing application. Advice to Assessing Officer, Native Vegetation Assessment Branch, received 07/09/2009. Department of Environment and Conservation, Western Australia (TRIM DOC96910).
- DEC (2009c) Flora advice for land clearing application. Advice to Assessing Officer, Native Vegetation Assessment Branch, received 15/09/2009. Department of Environment and Conservation, Western Australia (TRIM DOC97779).
- DEC (2009d) Fauna advice for land clearing application. Advice to Assessing Officer, Native Vegetation Assessment Branch, received 21/09/2009. Department of Environment and Conservation, Western Australia (TRIM 98606).
- DEC (2009e) Flora advice for land clearing application. Advice to Assessing Officer, Native Vegetation Assessment Branch, received 23/10/2009. Department of Environment and Conservation, Western Australia (TRIM DOC102464).
- Department of Agriculture (2000) Stocking Rate Guidelines For Rural Small Holdings Swan Coastal Plain and Darling Scarp, Western Australia.
- Department of Environment (2004) Water Quality Protection Note: Land use compatibility in Public Drinking Water Source Areas www.environment.wa.gov.au
- Department of Water (2009a) Advice on Jandakot land use compatibility and water licence requirements for Lot 402; Department of Water. TRIM Ref: DOC96382.
- Department of Water (2009b) Advice on Nutrient and Irrigation Management Plan for Lot 402; Department of Water. TRIM Ref: DOC96740.
- Department of Water (2009c) Advice on water licence application for Lot 402; Department of Water. TRIM Ref: DOC102048.
- DOE (2004) Water Quality Protection Note, Land use compatibility in Public Drinking Water Source Areas, Department of Environment, Western Australia.
- ENV Australia (2009) Management Plan and Nutrient and Irrigation Management Plan for Lot 402 Bodeman Road, Wandii. Prepared for Mark Shepperson, Ian Shepperson, Daniel Shepperson and Holly Ord (Unpublished Report).
- EPA (2006) Guidance for the Assessment of Environmental Factors - Level of Assessment for Proposals Affecting Natural Areas Within the System 6 Region and Swan Coastal Plain Portion of the System 1 Region. Guidance Statement No 10. Environmental Protection Authority, Western Australia.
- Gibson N., Keighery B., Keighery G., Burbidge A. and Lyons M. (1994). A Floristic Survey of the Southern Swan Coastal Plain. Western Australian Department of Conservation and Land Management and the Western Australian Conservation Council.
- Government of Western Australia (2000) Bush Forever Volumes 1 and 2. Western Australian Planning Commission, Perth WA.
- 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.
- Murray, C (TPG Town Planning and Urban Design) (2009) Letter of response to Department of Environment and Conservation (DEC) 30 day letter dated 24 September 2009. TRIM DOC101928.
- 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.
- Submission, Town of Kwinana, 22 October 2009, TRIM DOC102164.
- Town of Kwinana (2009) Submission, Direct Interest Submission, Town of Kwinana (TRIM DOC96162).
- Waters and Rivers Commission, Western Australian Horse Council (Inc), Department of Environmental Protection, Department of Health (2002) Environmental Management Guidelines for Horse Facilities and Activities. WQP Guideline 13.
- Western Australian Herbarium (1998). Florabase ? The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au> (Accessed 14/08/2009).
- Western Australian Planning Commission (2003a) Statement of Planning Policy No.2.3 Jandakot Groundwater Protection Policy. State Law Publishers, Western Australia.
- Western Australian Planning Commission (2003b) Statement of Planning Policy No.2.1 The Peel-Harvey Coastal Plain. State Law Publishers, Western Australia.

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)