



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 6609/1
File Number: 2011/006890-2
Duration of Permit: From 10 January 2016 to 10 January 2018

PERMIT HOLDER

Shire of Ravensthorpe

LAND ON WHICH CLEARING IS TO BE DONE

Lot 1035 on Deposited Plan 93629 (Reserve 28280), Hopetoun

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 4.625 hectares of native vegetation within the area cross-hatched yellow on attached Plan 6609/1.

CONDITIONS

1. Dieback and weed control

When undertaking any clearing or other activity authorised under 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.

DEFINITIONS

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

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; and

weed/s means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
- (b) published in a Department of Parks and Wildlife Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.

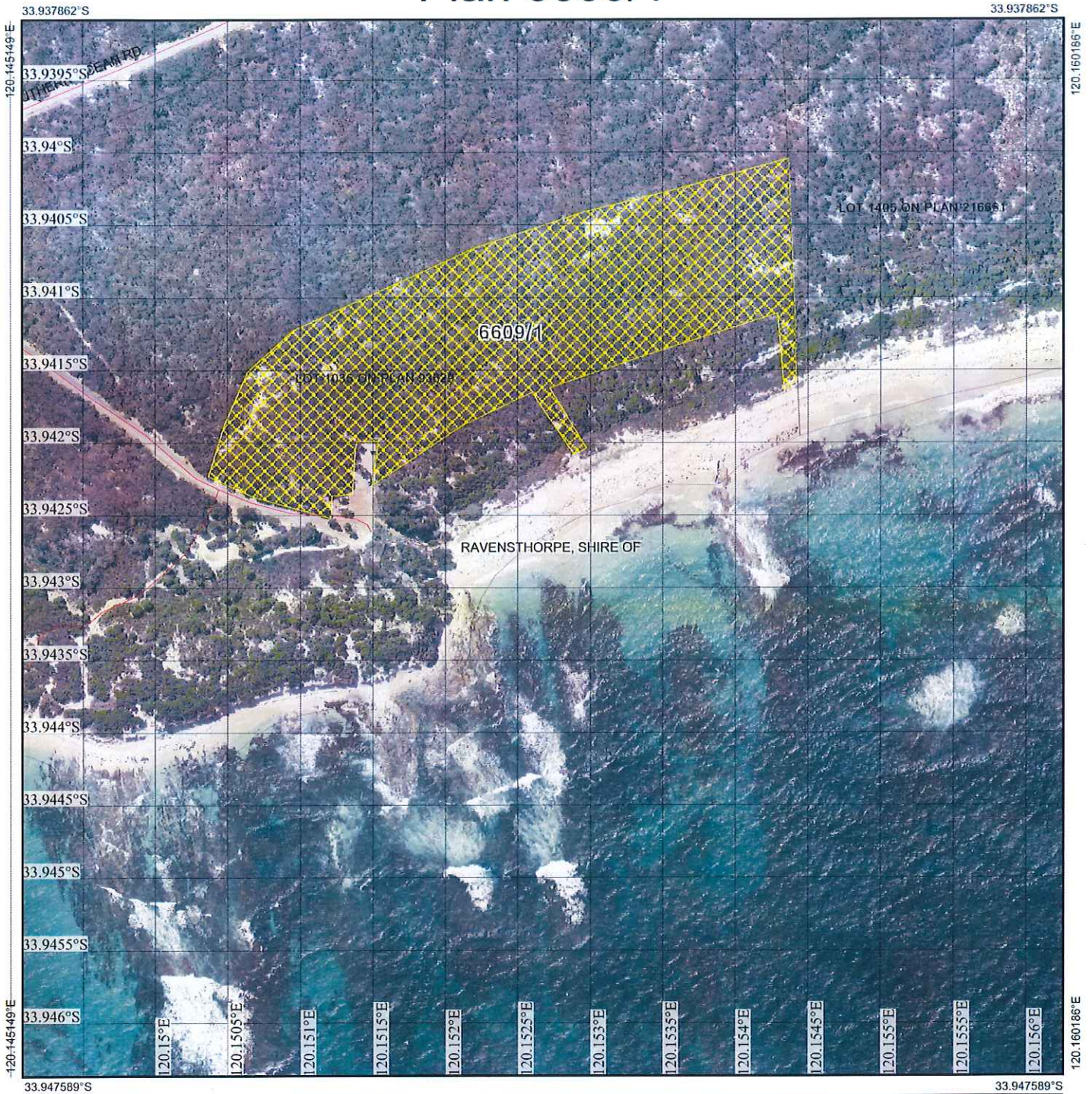
A handwritten signature in blue ink, appearing to read "Jane Clarkson".

Jane Clarkson
A/ SENIOR MANAGER
CLEARING REGULATION

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

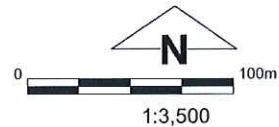
10 December 2015

Plan 6609/1



Legend

-  Imagery
-  Clearing Instruments Activities
-  Local Government Authority



(Approximate when reproduced at A4)
GDA 94 (Lat/Long)
Geocentric Datum of Australia 1994

Jane Clarkson Date *10/12/15*

Jane Clarkson

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



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1. Application details

1.1. Permit application details

Permit application No.: 6609/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Shire of Ravensthorpe

1.3. Property details

Property: Lot 1035 on Deposited Plan 93629, Hopetoun
Colloquial name: Two Mile Campsite
Local Government: Shire of Ravensthorpe
Authority:
DER Region: South Coast
DPaW District: Albany
LCDC: Ravensthorpe
Localities: Hopetoun

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
4.625		Mechanical Removal	Camping bays and toilet block construction

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 3 December 2015

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 42 is described as Shrublands; mallee & acacia scrub on south coastal dunes (Shepherd et al., 2001). Photographs of the application area provided by the Shire of Ravensthorpe (2015) show vegetation within the application area to represent an acacia-mallee shrubland with little to no understorey or midstorey.	The Shire of Ravensthorpe proposes to clear up to 4.625 hectares of native vegetation within Lot 1035 on Deposited Plan 93629, Hopetoun, for the purpose of constructing camping bays and a toilet block.	Good; Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).	Vegetation condition was determined via aerial imagery and photographs provided by the applicant (Shire of Ravensthorpe, 2015).

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

Proposed clearing is not likely to be at variance to this Principle

The application area consists of 4.625 hectares of native vegetation approximately two kilometres east of the Hopetoun town site, within the Esperance Plains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. Photographs of the application area provided by the Shire of Ravensthorpe (2015) show that the vegetation proposed to be cleared is in a good (Keighery, 1994) condition. Based on aerial imagery, the application area appears to be surrounded by mostly un-fragmented vegetation of a similar type and in similar or better condition.

Using a search radius of 10 kilometres, Naturemap (Parks and Wildlife, 2007-) returned records for 117 monocotyledon, 420 dicotyledon, seven moss, one fungus and one gymnosperm flora taxa, including two threatened taxa. Based on available databases, an additional 10 priority flora have been recorded within 10 kilometres of the application area. Based on the vegetation and soil type mapped within the application area, one rare flora species listed as Critically Endangered under the *Wildlife and Conservation Act 1950* (WC Act) may occur within the area proposed to be cleared (Parks and Wildlife, 2015b). A targeted survey for this species was conducted in September 2015 by Great Southern Bio Logic (2015). No rare or priority flora were recorded within the application area.

A total of 22 weed species have been recorded within 10 kilometres of the application area (Parks and Wildlife, 2007-). A targeted flora survey conducted within the application area recorded ten weed species, noting that a Weed of National Significance (bridal creeper, *Asparagus asparagoides*) was widespread throughout the application area. Invasive flora species can decrease the biodiversity value of an area, as they out-compete native vegetation for available resources, contribute to land degradation and increase the frequency and intensity of fires (DEC, 2011). Potential impacts to biodiversity within and nearby the application area as a result of the proposed clearing may be minimised by the implementation of weed management practices.

A total of 132 bird, 19 mammal, 21 reptile, seven amphibian and 91 invertebrates have been recorded within 10 kilometres of the application area, including seven threatened and three priority 4 fauna species listed under the *Wildlife Conservation Act 1950* (WC Act). Of these, three threatened fauna species may utilise habitat within the application area, including the chuditch (*Dasyurus geoffroii*; Vulnerable under the WC Act), Carnaby's cockatoo (*Calyptorhynchus latirostris*; Endangered under the WC Act) and Baudin's cockatoo (*Calyptorhynchus baudinii*; Endangered under the WC Act). However, these species are likely to occur sporadically, and are not likely to be dependent on habitat within the application area for foraging, roosting, denning, nesting or breeding (Parks and Wildlife, 2015a).

The proposed clearing occurs within an area mapped as 'indicative current distribution' for the 'Proteaceae Dominated Kwongan Shrublands' Threatened Ecological Community (TEC) listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Department of the Environment, 2014). Proteaceae Dominated Kwongan Shrublands are considered to be a Priority 3 Ecological Community (PEC) by Parks and Wildlife. This ecological community is described as proteaceous kwongan shrubland and heath or mallee heath, dominated by Proteaceae species (Department of the Environment, 2014).

Vegetation within the application area is mapped as 'shrublands; mallee & acacia scrub on south coastal dunes' (Shepherd et al., 2001), however photographs of the application area provided by the Shire of Ravensthorpe (2015) show vegetation that is representative of an acacia-mallee shrubland with very few proteaceous species. Therefore, the vegetation proposed to be cleared is not considered to represent this TEC.

With consideration to records from available databases, the wider region within which the application area is located may support a high level of biodiversity. However, the application area is not considered to contain a high level of biodiversity in comparison to surrounding areas, and therefore the proposed clearing is not likely to be at variance to this Principle.

Methodology DEC (2011)
Department of the Environment (2014)
Keighery (1994)
Great Southern Bio Logic (2015)
Parks and Wildlife (2007-)
Parks and Wildlife (2015a)
Parks and Wildlife (2015b)
Shire of Ravensthorpe (2015)
Shepherd et al. (2001)

GIS Databases:
- SAC bio datasets (Accessed August 2015)

(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 **Proposed clearing is not likely to be at variance to this Principle**
The proposed clearing comprises 4.625 hectares of native vegetation in good (Keighery, 1994) condition within a larger area of mostly uncleared vegetation approximately 2,213 hectares in size. Based on vegetation mapping, vegetation communities within this area are likely to be similar in structure (Shepherd et al., 2001).

The application area occurs on the coast, and comprises acacia-mallee shrubland with little to no understorey or midstorey (Shire of Ravensthorpe, 2015). A total of three threatened fauna species have been recorded within 10 kilometres of the application area and may utilise the vegetation under application, including the chuditch, Baudin's cockatoo and Carnaby's cockatoo. However, use of these areas is likely to be restricted to opportunistic foraging activity, and none of the species listed above are considered likely to be dependent on habitat within the application area (Parks and Wildlife, 2015b).

Given the location of the application area within a larger area of similar native vegetation, the proposed clearing is not likely to impact significant habitat for fauna on a local or regional scale.

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

Methodology Keighery (1994)
Parks and Wildlife (2015b)
Shepherd et al. (2001)
Shire of Ravensthorpe (2015)

GIS Databases:
- NLWRA, Current Extent of Native Vegetation

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments Proposed clearing is not likely to be at variance to this Principle

Based on available databases, one rare flora species ranked as Critically Endangered by Parks and Wildlife has the potential to occur within the area under application. This species is a herbaceous perennial geophyte from the Orchid family and known to flower in September (depending on rainfall). It has been recorded from one population comprising 12 subpopulations, located approximately one to two kilometres west of the application area in association with Mallee shrubland and woodland on consolidated dunes (Parks and Wildlife, 2015a).

A targeted flora survey was conducted within the application area during September 2015 for rare and priority flora species (Great Southern Bio Logic, 2015). The timing of the survey was considered appropriate to detect conservation significant flora if they were present. No rare flora species were recorded within the application area (Great Southern Bio Logic, 2015).

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

Methodology Great Southern Bio Logic (2015)
Parks and Wildlife (2015a)

GIS Databases:
- SAC bio datasets (Accessed August 2015)

(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 Proposed clearing is not likely to be at variance to this Principle

The proposed clearing occurs within area mapped as 'indicative current distribution' for the 'Proteaceae Dominated Kwongan Shrublands' Threatened Ecological Community (TEC) (Department of the Environment, 2014). This TEC is described as proteaceous kwongan shrubland and heath or mallee heath, dominated by Proteaceae species (Department of the Environment, 2014).

Vegetation within the application area is mapped as 'shrublands; mallee & acacia scrub on south coastal dunes' (Shepherd et al., 2001), however photographs of the application area provided by the Shire of Ravensthorpe (2015) show vegetation to represent an open mallee woodland. Therefore, the vegetation proposed to be cleared is not considered to represent this TEC.

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

Methodology Department of the Environment (2014)
Shepherd et al. (2001)
Shire of Ravensthorpe (2015)

(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 Proposed clearing is not at variance to this Principle

The application area is located within the Esperance Plains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion, in which approximately 52 per cent of the pre-European vegetation remains (see table below) (Government of Western Australia, 2014).

The vegetation within the application area has been mapped as Beard vegetation association 42. Over 90 per cent of this Beard vegetation association remains at a bioregional level (Government of Western Australia, 2014). Further, the Shire of Ravensthorpe is extensively vegetated and retains approximately 62 per cent of its pre-European vegetation extent. Therefore, the area proposed to be cleared does not represent a significant remnant of native vegetation within an area that has been extensively cleared.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DPaW Managed Lands (%)
IBRA Bioregion*- Esperance Plains	2,899,941	1,495,049	52	55
Shire* - Shire of Ravensthorpe	982,194	605,475	62	32
Beard Vegetation Association in Bioregion*				
42	135,420	128,052.64	95	57

Based on the above, the proposed clearing is not at variance to this Principle.

Methodology *Government of Western Australia (2014)

GIS Databases:

- Imagery
- Pre-European Vegetation

(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 **Proposed clearing is not at variance to this Principle**

Vegetation within the application area is mapped as 'shrublands'; mallee and acacia scrub on south coastal dunes' (Shepherd et al., 2001).

There are no watercourses within or near to the application area. Therefore, vegetation proposed to be cleared is not considered to be riparian in nature.

Based on the above, the proposed clearing is not at variance to this Principle.

Methodology Shepherd et al. (2001)

GIS Databases:

- Hydrography, linear
- Pre-European vegetation

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

Comments **Proposed clearing may be at variance to this Principle**

The application area occurs over coastal dunes of calcareous sands (Northcote et al., 1960-68). While areas cleared for toilet block construction will be covered by permanent infrastructure following clearing, campsites will be exposed and therefore susceptible to wind erosion during dryer periods of the year. The proposed clearing of 4.625 hectares of native vegetation may also lead to the dispersion of topsoil into surrounding vegetation.

The application area includes two beach access tracks, approximately 10 metres in width. These tracks occur on a slope from 10 metres to 0 metres above sea level, and may experience a higher level of soil erosion. However, impacts from soil erosion are likely to be highly localised and will not cause appreciable land degradation past the immediate vicinity of the application area.

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology Northcote et al. (1960-68)

GIS Databases:

- Topographic Contours, 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 **Proposed clearing is not likely to be at variance to this Principle**

The nearest conservation area to the application area is the Jerdacuttup Lakes Nature Reserve, which occurs approximately 8.8 kilometres north east of the application area. From this distance, it is unlikely that the proposed clearing will impact the environmental values of this conservation area.

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

Methodology GIS Databases:

- Parks and Wildlife tenure

(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 **Proposed clearing is not likely to be at variance to this Principle**
There are no watercourses within or surrounding the application area. The proposed clearing is therefore highly unlikely to cause deterioration in the quality of surface water.

Groundwater salinity within the area under application is estimated to be between 500 - 1,000 milligrams/Litre Total Dissolved Solids. The proposed clearing activity is not likely to significantly alter salinity levels within or outside the application area.

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

Methodology GIS Databases:
- Groundwater Salinity, Statewide
- Hydrography, linear

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments **Proposed clearing is not likely to be at variance to this Principle**
The application area comprises 4.625 hectares of native vegetation over sandy soils. Hopetoun experiences approximately 495 millimetres of annual rainfall (BoM, 2015), and has an annual evapotranspiration rate of 500 millimetres. As a result, there is likely to be little surface water during periods of normal seasonal rain. The proposed clearing is not likely to lead to an increase in the incidence or intensity of flooding.

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

Methodology BoM (2015)

GIS Databases:
- Evapotranspiration, Area Actual

Planning instruments and other relevant matters.

Comments The eastern boundary of the application area abuts the South Coast EPA Red Book Area, which has been part implemented. This Red Book Area is noted for the presence of the Esperance sandplains and its associated ecosystems, which is one of the most extensive sandplains in south Western Australia (EPA, 1976). The proposed clearing is for the purpose of camping bays, toilet block and information bay construction, which may facilitate an increased recreational use of this area. However, impacts to adjacent vegetation as a result of the proposed clearing are likely to be minimal and will not impact the environmental values of this Red Book Area.

No Aboriginal Sites of Significance have been recorded within the area under application.

The clearing permit application was advertised on 22 June 2015 by the Department of Environment Regulation inviting submissions from the public. There were no submissions received.

Methodology EPA (1976)

GIS Databases:
- Aboriginal Sites Register System

4. References

- BoM (2015) Climate statistics for Hopetoun North. Australian Bureau of Meteorology. URL: http://www.bom.gov.au/climate/averages/tables/cw_009961.shtml. Accessed June 2015.
- DEC (2011) Invasive Plant Prioritisation, Department of Environment and Conversation, Perth.
- Department of the Environment (2014) Proteaceae Dominated Kwongan Shrubland: a nationally-protected ecological community. Department of the Environment, Canberra.
- EPA (1976) Conservation Reserves for Western Australia as Recommended by the Environmental Protection Authority 1976: Systems 1,2,3,5. Environmental Protection Authority, Perth.
- Great Southern Bio Logic (2015) A flora and vegetation survey within the 2 Mile Beach recreation area - Shire of Ravensthorpe. Unpublished report prepared by Great Southern Bio Logic environmental solutions for the Shire of Ravensthorpe. DER REF: A1000177.
- Government of Western Australia (2014) 2014 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2014. WA Department of Parks and Wildlife, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- 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.
- Parks and Wildlife (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed June, 2015.

Parks and Wildlife (2015a) Fauna advice received from Parks and Wildlife on 16 July 2015, Department of Parks and Wildlife. (DER REF: A938119).

Parks and Wildlife (2015b) Flora advice received from Parks and Wildlife on 13 July 2015, Department of Parks and Wildlife. (DER REF: A938118).

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.

Shire of Ravensthorpe (2015) Further information provided to the assessing officer on 25 June 2015. (DER Ref: A930141).