



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 7188/1
Permit Holder:	Shire of Esperance
Duration of Permit:	From 12 August 2017 to 12 August 2022

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 road upgrades.

2. Land on which clearing is to be done

Fisheries Road reserve (PIN 11648537) (Condingup)

Orleans Bay Road reserve (PINs 11427892, 11648535 and 11645695) (Condingup and Cape Le Grand)

Merivale Road reserve (PIN 11647653) (Condingup)

3. Area of Clearing

The Permit Holder shall not clear more than 11.64 hectares of native vegetation within the area cross-hatched yellow on attached Plan 7188/1a.

4. Application

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

5. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for the activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out works involving clearing for those activities under the *Local Government Act 1995* or any other written law.

PART II – MANAGEMENT CONDITIONS

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. 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*:

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

8. Offset - Crown Reserve 518

By 12 February 2018, the Permit Holder shall:

- (a) Relinquish the area cross-hatched red on attached Plan 7188/1b within Crown Reserve 518 to the Department of Biodiversity, Conservation and Attractions for addition to Cape Arid National Park; and
- (b) provide to the CEO a copy of the executed land transfer.

9. Offset - Crown Reserve 26257

By 12 February 2018, the Permit Holder shall provide to the CEO a copy of the executed change in purpose of the area cross-hatched red on attached Plan 7188/1c within Crown Reserve 26257 from 'agriculture general' to 'conservation'.

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;

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.

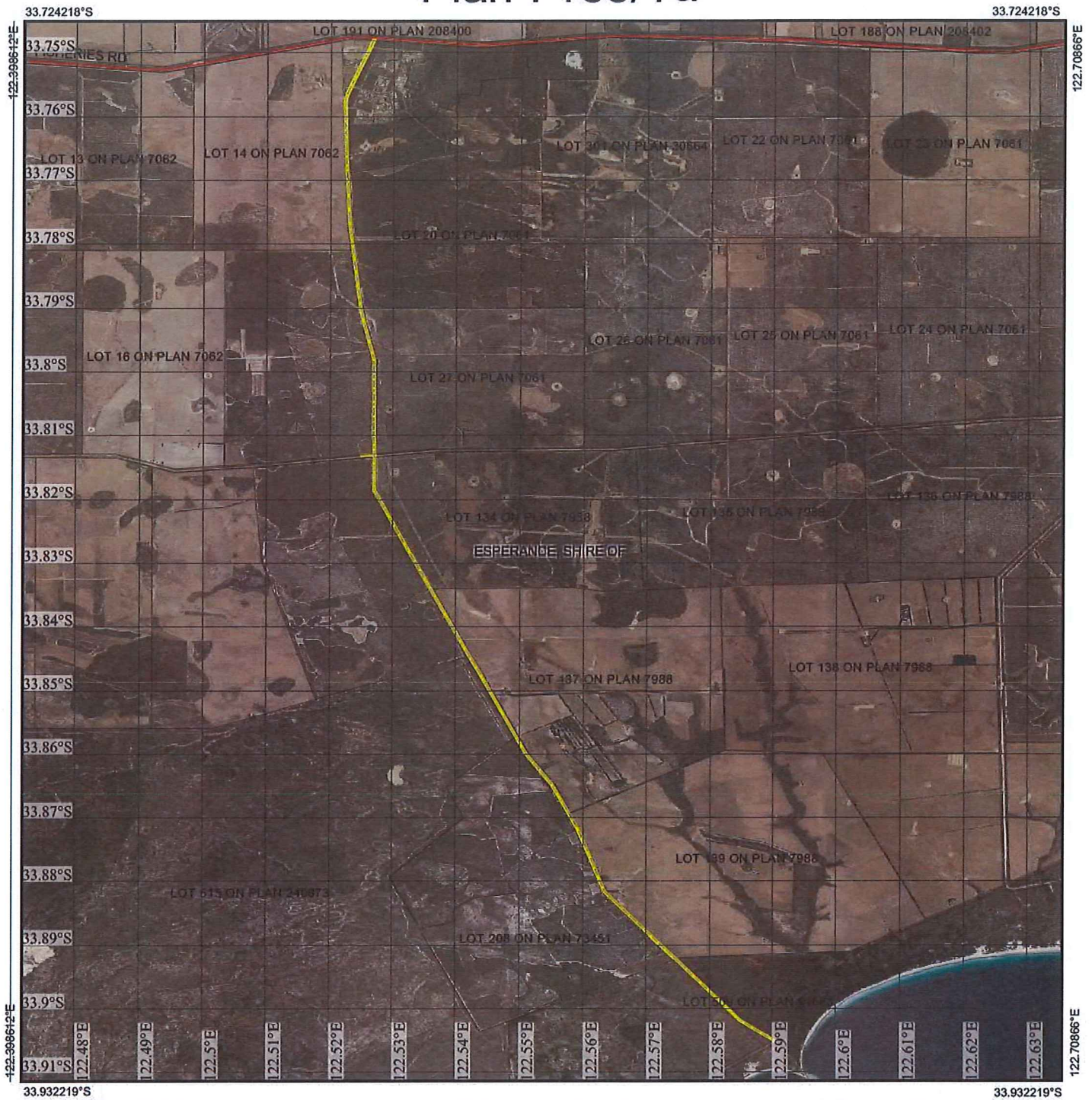


Dr Anne Mathews
SENIOR MANAGER
CLEARING REGULATION
DEPARTMENT OF ENVIRONMENT REGULATION

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

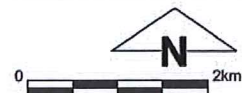
12 July 2017

Plan 7188/1a



Legend

-  Imagery
-  Clearing Instruments Activities
-  Local Government Authority



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(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

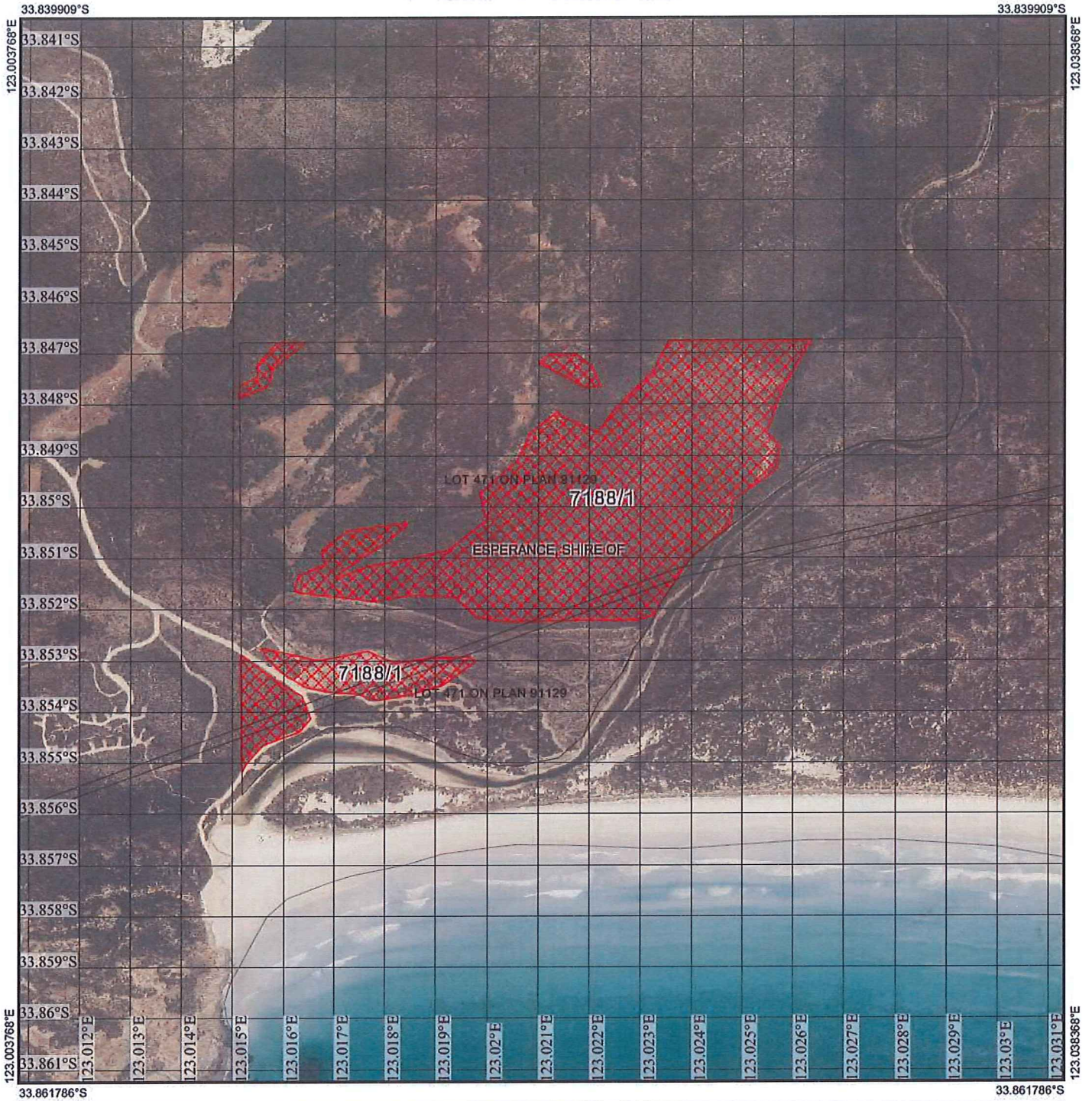
Anne Mathews Date *12/7/2017*
 ANNE MATHEWS

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



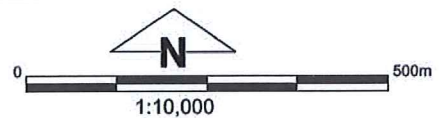
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Plan 7188/1b



Legend

-  Clearing Instruments Offets
-  Imagery
-  Local Government Authority



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GDA 94 (Lat/Long)

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Anne Mathews Date *12/7/2017*
 ANNE MATHEWS



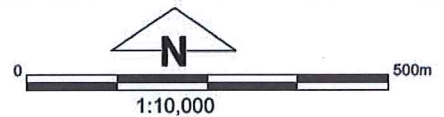
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Plan 7188/1c



Legend

-  Clearing Instruments Offets
-  Imagery
-  Local Government Authority



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1. Application details

1.1. Permit application details

Permit application No.: 7188/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Shire of Esperance

1.3. Property details

Property: Fisheries Road reserve (PIN 11648537)
Orleans Bay Road reserve (PINs 11427892, 11648535 and 11645695)
Merivale Road reserve (PIN 11647653)

Local Government Authority: Shire of Esperance
DER Region: Goldfields
DPaW District: Esperance
Localities: Condingup and Cape Le Grand

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
11.64		Mechanical Removal	Road upgrades

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 12 July 2017
Reasons for Decision: The clearing permit application is to clear 11.64 hectares of native vegetation for the purpose of road upgrades, and was received on 18 July 2016.

The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986* (EP Act), and it has been concluded that the proposed clearing is at variance to Principles (a), (d), (e) and (f), may be at variance to Principles (b), (c) and (h), and is not likely to be at variance to the remaining Principles.

An assessment has determined that the proposed clearing will lead to the loss of a significant remnant within an extensively cleared area that includes:

- 4.32 hectares of 'Proteaceae dominated kwongan shrublands of the southeast coastal floristic province of Western Australia' community, which is a threatened ecological community (TEC) listed as endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and listed as a Priority 3 ecological community by the Department of Biodiversity, Conservation and Attractions, and provides foraging habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*; rare or likely to become extinct under the *Wildlife Conservation Act 1950*);
- 2.8 hectares of Beard vegetation association 6048, which remains at 14 per cent of its pre-European extent in the Esperance Plains bioregion; and
- Six hectares of Beard vegetation association 4801, which remains at 11 per cent of its pre-European extent in the Esperance Plains bioregion.

Consistent with the WA Environmental Offset Policy (2011) and WA Environmental Offsets Guidelines (2014), and pursuant to section 51(2)(b) of the EP Act, in order to mitigate the significant environment impacts described above, the Permit Holder is required to provide an offset that comprises of the acquisition of 31 hectares of *Banksia speciosa* woodland within Thomas River Reserve (Crown Reserve 518) in the Shire of Esperance, and the change in reserve purpose from 'parkland and recreation' to 'conservation' of 15.5 hectares of 'heath with scattered *Nuytsia*' within Crown Reserve 26257, Shire of Esperance.

The additional land within Crown Reserves 518 and 26257 proposed to be included in land acquisition and change in reserve purpose exceeds that required to offset the identified impacts. The Delegated Officer approves the banking of the remainder (49.2) hectares within Crown Reserve 518 and 85.5 hectares within Crown Reserve 26257 as a pre-impact offset in accordance with the WA Environmental Offsets Guidelines (2014).

The Delegated Officer has granted the clearing permit subject to conditions requiring weed and dieback management measures and the implementation of an offset.

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

Four Beard vegetation associations have been mapped within the application area (Shepherd et al., 2001):

Beard vegetation association 47 is described as shrublands; tallerack mallee-heath;

Beard vegetation association 516 is described as shrublands; mallee scrub, black marlock;

Beard vegetation association 4801 is described as shrublands; heath with scattered *Nuytsia floribunda* on sandplain; and

Beard vegetation association 6048 is described as shrublands; *Banksia* scrub-heath on sandplain in the Esperance Plains Region.

Clearing Description

The applicant proposes to clear up to 11.64 hectares of native vegetation within a 77 hectare footprint for the purpose of road upgrades.

Vegetation Condition

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994);

To:

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

Comment

The application area consists of a 19.4 kilometre stretch of Orleans Bay Road. The application is for the purpose of increasing the road width from 20 to 26 metres, however the Shire of Esperance has applied to clear up to a 30 metre width (five metres either side of the existing road) to allow for any incidental additional clearing that may occur. The application area is 40 metres in width.

Vegetation condition was determined by a vegetation, flora, fauna and environmental considerations report conducted by the applicant (Shire of Esperance, 2016). The vegetation assessment determined that 6.9 kilometres of roadside vegetation along Orleans Bay Road is in very good (Keighery, 1994) condition, 7.6 kilometres is in good (Keighery, 1994) condition, and five kilometres is in degraded (Keighery, 1994) condition. It is noted that the survey area appears to include an additional 100 metres of Orleans Bay Road that is not within the application area.

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 at variance to this Principle

The application to clear 11.64 hectares within a 77 hectare footprint within the Orleans Bay Road reserve is for the purpose of road upgrades, in order to widen a 19.4 kilometre stretch of Orleans Bay Road from 20 to 30 metres in width.

The local area (10 kilometre radius) has been extensively cleared, with 24 per cent of pre-European vegetation remaining. The application area is part of a continuous corridor of native vegetation within Orleans Bay Road reserve, which is 60 to 80 metres in width. Orleans Bay road is currently 20 metres wide, bisecting the road reserve into two strips of native vegetation 20 to 30 metres wide.

A vegetation, flora, fauna and environmental considerations report was produced by the Shire of Esperance, including a Level 1 flora survey and fauna habitat assessment conducted on 1 July and 5 September 2016 (Shire of Esperance, 2016). The majority of the vegetated corridor within the road reserve is in very good to good (Keighery, 1994) condition, with approximately five kilometres of roadside vegetation in degraded (Keighery, 1994) condition (Shire of Esperance, 2016). The vegetation assessment conducted by the Shire of Esperance identified dieback at one site within the road reserve, and detected the weed species African lovegrass (*Eragrostis curvula*) and Victorian tea tree (*Leptospermum laevigatum*) within the application area (Shire of Esperance, 2016).

According to available databases, three rare and 13 priority flora have been recorded in the local area (10 kilometre radius). Of these, the application area contains suitable habitat for two rare flora and one priority flora species (Western Australian Herbarium, 1998-). The Shire of Esperance identified an additional two priority flora species that have the potential to occur within the Orleans Bay Road reserve (Shire of Esperance, 2016).

The flora survey conducted by the Shire of Esperance recorded one priority flora species, *Verticordia verticordina* (priority 3), within the application area. This species was found on both sides of Orleans Bay Road over a minimum estimated area of 2.1 hectares at a density of one to four plants per square metre (Shire of Esperance, 2016). The Shire of Esperance estimates the local population to be approximately 20,000 to 80,000 plants, with approximately 1,000 plants located within the proposed clearing footprint (Shire of Esperance, 2016). Given the scale of impact (less than five per cent of the estimated population), the proposed clearing is not likely to have a significant impact on the conservation status of this species.

No rare flora were recorded during the survey (Shire of Esperance, 2016). One of the two rare flora species that may occur within the application area is difficult to survey, as available information suggests that it appears shortly after a disturbance event, flowers in the first year, and then disappears again (Department of Environment and Conservation [DEC], 2008). Given this, the survey conducted by the Shire of Esperance is inconclusive in determining the presence of this species. The recovery plan notes that there are no known extant populations of this species, however there is potential for populations to re-establish in areas where they have been recorded (DEC, 2008). Considering the difficulty in surveying for the species of rare flora that may occur within the application area, it is unlikely that further surveys will determine the presence or absence of this species. Suitable habitat for this species is likely to remain within the road reserve and areas where this species has been previously recorded nearby.

Mechanical clearing increases the risk of spreading weeds and dieback into native vegetation adjacent to the application area. Weeds 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 outside the application area as a result of the proposed clearing may be minimised by the implementation of weed and dieback management practices.

Approximately 4.32 hectares within the application area is representative of the 'Proteaceae dominated kwongan shrublands of the southeast coastal floristic province of Western Australia' community, which is a threatened ecological community (TEC) listed as endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and listed as a Priority 3 ecological community by the Department of Biodiversity, Conservation and Attractions (DBCA) (Shire of Esperance, 2016). The majority of the TEC is in good to very good (Keighery, 1994) condition (Shire of Esperance, 2016). The TEC occurs over a collective 7.2 kilometre stretch of Orleans Bay Road reserve (Shire of Esperance, 2016). The proposed clearing of five metre-width strips either side of the existing Orleans Bay Road will decrease the width of roadside vegetation from 20 to 30 to 15 to 25 metres, increasing the area of the TEC subject to edge effects. The proposed clearing will also increase the risk of weed spread and dieback throughout the TEC.

The vegetated corridor within which the application area is located provides fauna habitat in predominantly good to very good (Keighery, 1994) condition and functions as part of an ecological linkage between remnants. It is considered that the application area is unlikely to contain a high diversity of fauna compared to surrounding native vegetation.

The application area contains proteaceous flora species that provides suitable foraging habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*; rare or likely to become extinct under the *Wildlife Conservation Act 1950*) (Shire of Esperance, 2016). The majority of suitable foraging habitat occurs within the 'Proteaceae dominated kwongan shrublands of the southeast coastal floristic province of Western Australia' TEC of which 4.32 hectares is proposed to be cleared.

Given the extensively cleared local area, presence of a TEC, priority flora and Carnaby's cockatoo foraging habitat, and the potential for rare flora to occur within the application area, the proposed clearing is at variance to this Principle.

To counterbalance the significant residual impacts the proposed clearing will have on vegetation in predominantly very good to good (Keighery, 1994) condition, a TEC and foraging habitat for Carnaby's cockatoo, the applicant has proposed an offset that consists of:

- The acquisition of Thomas River Reserve (Reserve 518) into conservation estate managed by DBCA, of which 31 hectares of *Banksia speciosa* woodland will offset the proposed clearing; and
- A change in Shire reserve purpose from parkland and recreation to conservation over Reserve 26257, of which 15.5 hectares of 'heath with scattered *Nuytsia*' will offset the proposed clearing.

Methodology

References:

DEC (2008)
DEC (2011)
Keighery (1994)
Shire of Esperance (2016)
Western Australian Herbarium (1998-)

GIS Database:

- Aerial imagery
- Remnant vegetation
- SAC bio datasets (accessed September 2016)

(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 may be at variance to this Principle

The application footprint is a 77 hectare linear strip 40 metres wide along 19.4 kilometres of Orleans Bay Road. The road reserve is 60 to 80 metres in width, which currently contains a road 20 metres wide bordered by vegetation 20 to 30 metres in width. The proposed clearing will remove a vegetated strip five metres wide either side of the existing road. The local area (10 kilometre radius) has been extensively cleared, with 24 per cent pre-European vegetation remaining. While aerial imagery shows vegetated areas on either side of Orleans Bay Road, the majority of vegetation is comprised of non-native plantations.

The majority of the vegetated corridor within the road reserve is in very good to good (Keighery, 1994) condition, with approximately five kilometres of roadside vegetation in degraded (Keighery, 1994) condition. This corridor is connected to Cape Le Grand National Park, two remnants approximately 470 and 57 hectares in size, and other corridors of native vegetation within road reserves in the surrounding area. These road reserves function as ecological linkages between remnants of native vegetation in the local area.

One threatened and one priority fauna have been recorded within the local area, being Carnaby's cockatoo and the southern brown bandicoot (*Isoodon obesulus* subsp. *fusciventer*, priority 4) (DBCA, 2007-). The southern brown bandicoot may utilise habitat within the application area to move between larger remnants.

The application area contains suitable foraging habitat for Carnaby's cockatoo, most of which is associated with the 'Proteaceae dominated kwongan shrublands of the southeast coastal floristic province of Western Australia' TEC. The TEC occurs along 7.2 kilometres of the road reserve, with 4.32 hectares of its extent proposed to be cleared (Shire of Esperance, 2016). No evidence of use of the application area by Carnaby's cockatoo was observed during the fauna habitat assessment (Shire of Esperance, 2016). According to aerial imagery, similar habitat is available within Cape Le Grand National Park adjacent to the southern portion of the application area.

The vegetated corridor within Orleans Bay Road reserve is likely to represent significant fauna habitat as it facilitates the movement of fauna species between larger remnants. The proposed clearing of 11.64 hectares along Orleans Bay Road will not cause fragmentation of the ecological linkage, but will reduce the width of native vegetation by approximately 15 to 25 per cent and is likely to increase edge effects within adjacent vegetation in the road reserve. Dieback is present at one site within the application area, and two weed species were observed during the vegetation assessment (Shire of Esperance, 2016). In addition to weed spread, mechanical clearing has a high risk of spreading dieback into other areas within the road reserve, which has the potential to significantly impact foraging habitat for Carnaby's cockatoo given the susceptibility of proteaceous species to the disease.

Given the potential impacts to an ecological linkage and suitable foraging habitat for Carnaby's cockatoo, the application area may be necessary for the maintenance of significant fauna habitat, and the proposed clearing may be at variance to this Principle. Weed and dieback spread may be minimised by the implementation of appropriate hygiene measures during clearing. The risk of increased edge effects within adjacent vegetation is likely to remain despite the implementation of weed and dieback management measures.

Methodology

References:

Keighery (1994)
DBCA (2007-)
Shire of Esperance (2016)

GIS Databases:

- Imagery
- Remnant vegetation

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

Comments

Proposed clearing may be at variance to this Principle

According to available databases, three rare flora species have been recorded within the local area (10 kilometre radius). Of these, the application area provides suitable habitat for two species of rare flora. The first rare flora species is known from sandy soils and is associated with creeklines (Western Australian Herbarium, 1998-). Suitable habitat within the application area was surveyed by the Shire of Esperance in July (Shire of Esperance, 2016). Although this is outside of the known flowering period for this species, the Shire of Esperance notes that the genus of this species can be identified when not in flower (Shire of Esperance, 2016). No individuals of this genus were recorded during the survey (Shire of Esperance, 2016).

The second rare flora species favours moist sandy soil in heath communities, but has also been recorded in shallow soils over granite (DEC, 2008). This rare flora has been recorded in native vegetation within three kilometres of the application area. Heath vegetation was observed within approximately 16.3 kilometres of the 19.4 kilometre application area during the Level 1 flora survey, and may provide suitable habitat for this species (Shire of Esperance, 2016).

The recovery plan for this species notes that no extant populations are currently known, however this species is known to re-establish from soil stored seed following summer fire or soil disturbance and there is potential for populations to re-establish in areas where they have been recorded (DEC, 2008). According to available databases, there are confirmed records for nine populations of this species. No populations have been recorded post 2007.

Monitoring of this rare flora indicates that it appears shortly after a disturbance event, flowers in the first year, and then disappears again. The species is therefore difficult to survey (DEC, 2008).

Prior to conducting a search for conservation significant flora, a desktop assessment was undertaken to assess the likelihood of rare and priority flora occurring within the application area. The vegetation assessment determined that the likelihood that this rare flora species is present within the application area is low; however this was based on the absence of shallow granite in seepage areas, and did not consider the presence of moist sandy soil in heath communities (Shire of Esperance, 2016). Searches were conducted in July and repeated in September, which is within the known flowering period for this species. No rare flora were recorded within the application area (Shire of Esperance, 2016).

Given the difficulty in surveying for this species, the presence or absence of this species within the application area cannot be determined based on available information and the proposed clearing may be at variance to this Principle.

Given that there are no known extant plants and considering the difficulty in surveying for this species, it is unlikely that further surveys will determine the presence or absence of this species. Suitable habitat for this species is likely to remain within the road reserve and areas where this species has been previously recorded nearby.

Methodology References:
DEC (2008)
Shire of Esperance (2016)

GIS Databases:
- SAC bio datasets (accessed November 2016)

(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 at variance to this Principle

According to available databases, the majority of the application area intersects the federally listed 'Proteaceae dominated kwongkan shrublands of the southeast coastal floristic province of Western Australia' threatened ecological community (TEC).

The kwongkan shrublands is predominantly located within the Esperance Sandplains and Mallee bioregions, and typically occurs on sandplains where rainfall ranges from 400 to 800 millimetres a year. According to conservation advice produced by the Threatened Species Scientific Committee (TSSC), this TEC is characterised by a 30 per cent or greater cover of Proteaceae species across all layers where they occur or, in disturbed areas, containing two or more diagnostic Proteaceae species that are likely to form a significant vegetated component when regenerated (TSSC, 2014).

A vegetation assessment conducted by the Shire of Esperance identified that 7.2 kilometres of the 19.4 kilometre stretch of Orleans Bay Road reserve contains this TEC, and approximately 4.32 hectares is proposed to be cleared (Shire of Esperance, 2016). The majority of the TEC was observed to be in good to very good (Keighery, 1994) condition (Shire of Esperance, 2016).

Conservation advice for this TEC defines several characteristics that may indicate a significant impact, including susceptibility to edge effects, the presence of good fauna habitat, threatened species and weeds or dieback, connectivity to other remnants, and whether the community has been heavily impacted in the local area (TSSC, 2014).

The application area is part of a fauna habitat linkage within Orleans Bay Road reserve connecting Cape Le Grand National Park, two remnants approximately 470 and 57 hectares in size, and other corridors of native vegetation within road reserves in the surrounding area. Given that the TEC occurs along 7.2 kilometres of the road reserve, it is considered to contribute to the fauna linkage. The TEC also provides suitable foraging habitat for Carnaby's cockatoo.

The Shire of Esperance notes that "previous disturbance has destroyed the ecological community in [the local] area" (Shire of Esperance, 2016). Where the application area adjoins Cape Le Grand National Park, it is possible that the TEC extends into vegetation within conservation estate. However, this occurrence has been affected by dieback (Shire of Esperance, 2016). Other occurrences within the road reserve are bordered by plantations or farmland.

The proposed clearing of five metre-width strips either side of the existing Orleans Bay Road will not cause fragmentation within the road reserve, but will decrease the width of roadside vegetation by approximately 15 to 25 per cent. Given that a proportion of vegetation within the road reserve has been subjected to disturbance in the form of weeds, dieback and historic clearing, this occurrence of the TEC may be more susceptible to increased edge effects as a result of the proposed clearing. The proposed clearing will further increase the area of the TEC subject to edge effects.

Given the above, the proposed clearing is at variance to this Principle. The proposed clearing is considered to represent a significant impact to the TEC, noting the community has been heavily impacted in the local area, may increase the spread of weeds and dieback into occurrences of the TEC, and will increase the susceptibility of the TEC to edge effects.

To counterbalance the significant residual impacts the proposed clearing will have on a TEC, the applicant has proposed an offset that consists of the acquisition of Thomas River Reserve (Reserve 518) into conservation estate managed by DBCA, of which 31 hectares of *Banksia speciosa* woodland will be used to offset impacts to the TEC.

Methodology References:
Keighery (1994)
Shire of Esperance (2016)
TSSC (2014)

GIS Databases:
- SAC bio datasets (accessed November 2016)

(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 at variance to this Principle

The application area is located within the Esperance Plains Interim Biogeographic Regionalisation of Australia (IBRA) bioregions, in which approximately 52 per cent of the pre-European vegetation remains (Government of Western Australia, 2015).

The local area (10 kilometre radius; 59,083 hectares) has been extensively cleared, with 14,366 hectares (24 per cent) of pre-European vegetation remaining. A stretch of continuous native vegetation extends along the south coast, intersecting the southern portion of the application area. Cape Le Grand National Park is included within this area of remnant native vegetation. Elsewhere, native vegetation has been extensively cleared for agriculture and forestry.

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). Beard vegetation associations 4801 and 6048 occur at below the 30 per cent threshold, with 11 per cent of 4801 and 14 per cent of 6048 remaining within the bioregion, respectively (Government of Western Australia, 2015). A total of 68 per cent of the application area is mapped as these Beard vegetation associations (43.8 per cent within 4801 and 24.2 per cent within 6048). Approximately six hectares of Beard vegetation association 4801 is likely to be impacted by the proposed clearing, which is 0.09 per cent of the total amount of this vegetation association remaining in the state. Approximately 2.8 hectares of Beard vegetation association 6048 is likely to be impacted by the proposed clearing, which is 0.02 per cent of this vegetation association remaining in the state.

The vegetation within the application area is in a very good to degraded (Keighery, 1994) condition, with the majority of vegetation in a good to very good (Keighery, 1994) condition (Shire of Esperance, 2016).

The road reserve is 60 to 80 metres in width, which contains a road 20 metres wide bordered by vegetation 20 to 30 metres in width. Orleans Bay Road reserve is likely to represent significant fauna habitat as it facilitates the movement of fauna species between larger remnants. The proposed clearing will reduce the width of native vegetation within the road reserve by approximately 15 to 25 per cent, which will increase the susceptibility of the vegetated corridor to edge effects and may impact the quality of the ecological linkage.

The application area also contains 4.32 hectares of the 'Proteaceae dominated kwongan shrublands of the southeast coastal floristic province of Western Australia' TEC, which is listed as endangered under the EPBC Act and ranked as a priority 3 PEC by DBCA. The Shire of Esperance notes that "previous disturbance has destroyed the [TEC] in [the local] area" (Shire of Esperance, 2016). The TEC also provides suitable foraging habitat for Carnaby's cockatoo.

The flora survey conducted by the Shire of Esperance recorded one priority flora species, *Verticordia verticordina* (priority 3), within the application area. The total population size of *V. verticordina* in the application area and surrounds is estimated to total 20,000 to 80,000 plants, with approximately 1,000 plants proposed to be cleared.

The presence or absence of one species of rare flora could not be determined based on the information provided. This rare flora is difficult to survey as it is thought to appear shortly after a disturbance event, flower in the first year, and then disappear again. The recovery plan notes that no extant populations are currently known (DEC, 2008). Given that there are no known extant plants and considering the difficulty in surveying for this species, it is unlikely that further surveys will determine the presence or absence of this species. Suitable habitat for this species is likely to remain within the road reserve and areas where this species has been previously recorded nearby.

Given the extensively cleared local area, limited extent of the majority of mapped vegetation types remaining in the bioregion, presence of foraging habitat for Carnaby's cockatoo, a TEC and potential habitat for rare flora and potential impacts to an ecological linkage, it is considered that the application area is significant as a remnant of native vegetation in an area that has been extensively cleared.

Given the above, the proposed clearing is at variance to this Principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DBCA Managed Lands (%)
IBRA Bioregion*: Esperance Plains	2,899,941	1,495,046	52	55
Shire*: Shire of Esperance	4,459,671	3,210,979	72	30
Beard Vegetation Association in Bioregion*				
47	959,936	336,784	35	52
516	318,747	219,799	69	42
4801	58,196	6,499	11	30
6048	113,689	16,152	14	25

To counterbalance the significant residual impacts the proposed clearing will have on a significant remnant of native vegetation in an area that has been extensively cleared, the applicant has proposed an offset that consists of:

- The acquisition of Thomas River Reserve (Reserve 518) into conservation estate managed by DBCA, of which 31 hectares of *Banksia speciosa* woodland will be used to offset the proposed clearing; and
- A change in Shire reserve purpose from parkland and recreation to conservation over Reserve 26257, of which 15.5 hectares of 'heath with scattered *Nuytsia*' will be used to offset the proposed clearing.

Methodology References:
Commonwealth of Australia (2001)
*Government of Western Australia (2015)

GIS Databases:
- Remnant 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 at variance to this Principle

One non-perennial swamp is mapped within the application area, and the vegetation, flora, fauna and environmental considerations report provided by the Shire of Esperance noted that several small creeklines intersect the application area (Shire of Esperance, 2016). The non-perennial swamp has been impacted by historic clearing and the original construction of Orleans Bay Road, and it is likely that creeklines have been similarly impacted by previous clearing.

Given the known presence of watercourses and wetlands, a small portion of the native vegetation proposed to be cleared is considered to be growing in association with watercourses and a wetland, and the proposed clearing is at variance to this Principle.

It is likely that the existing road contains drainage infrastructure to maintain water flow within watercourses and wetlands.

Given the previous disturbances in the local area, the proposed clearing for road widening is not likely to further impact the condition of the non-perennial swamp or creeklines.

Methodology References:
Shire of Esperance (2016)

GIS Databases:
- Hydrography, linear

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

Comments **Proposed clearing is not likely to be at variance to this Principle**
The application area consists of a linear strip 19.4 kilometres in length and 40 metres in width, of which five metres either side of the existing road is proposed to be cleared. One wetland, a non-perennial swamp, partially occurs within the application area. The vegetation, flora, fauna and environmental considerations report provided by the Shire of Esperance notes that a small number of minor creeklines also intersect the application area (Shire of Esperance, 2016). It is likely that the existing road contains drainage infrastructure to maintain water flow across the application area.

There are 11 soil subsystems mapped within the application area (Department of Primary Industries [DPI], 2017). Of these, one soil type (Merrivale 1 subsystem) is poorly drained, and may contain areas at risk of waterlogging or salinity within the application area (DPI, 2017). One 4.8 and one 1.3 kilometre section of the application area occurs within this soil type.

Given the long, linear shape of the application area comprising two five-metre wide strips on either side of the existing road, the risk of land degradation via waterlogging, salinity, and erosion is low.

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

Methodology **References:**
DPI (2017)
Shire of Esperance (2016)

GIS Databases:
- Aerial imagery
- Hydrography, linear

(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 may be at variance to this Principle**
The application footprint is a 77 hectare linear strip 40 metres wide along Orleans Bay Road. A 1.5 kilometre stretch of Orleans Bay Road reserve abuts Cape Le Grand National Park. Native vegetation within Orleans Bay Road reserve provides a linkage between remnant vegetation along the south coast, including Cape Le Grand National Park, and remnants connected to the northern end of the application area. The proposed clearing will increase the edge effects within the vegetated corridor, which may impact species dispersal between Cape Le Grand National Park and other vegetated remnants.

The weed species African lovegrass and Victorian tea tree was recorded within the application area during the vegetation assessment (Shire of Esperance, 2016). Dieback was observed at one location within the Orleans Bay Road reserve (Shire of Esperance, 2016). Given the connectivity between the application area and a National Park, the proposed clearing has the potential to increase the spread of weeds and introduce dieback into this conservation area. Potential impacts to the environmental values of Cape Le Grand National Park via weed invasion and dieback may be minimised by the implementation of weed and dieback management practices.

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

Methodology **References:**
Shire of Esperance (2016)

GIS Databases:
- DBCA tenure
- Remnant vegetation

(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**
One non-perennial swamp is mapped within the application area. This swamp has been impacted by surrounding plantation development and the existing road infrastructure. The Shire of Esperance noted that several small creeklines intersect the application area (Shire of Esperance, 2016).

It is likely that the existing road contains drainage infrastructure to maintain water flow within watercourses and wetlands.

Given the presence of an existing road, the proposed clearing for the purpose of road widening is not likely to cause further deterioration in the quality of surface water within the wetland or creeklines that intersect the application area.

Groundwater salinity within the application area is mapped as 3,000 to 7,000 milligrams per litre total dissolved solids, which is considered to be saline. The local area has been extensively cleared for agriculture and plantations, with 14,366 hectares (24 per cent) of pre-European native vegetation remaining within a 10 kilometre radius of the application area. It is considered that the proposed clearing of 11.64 hectares within a 77 hectare footprint is not likely to cause further deterioration in the quality of groundwater.

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

Methodology References:
Shire of Esperance (2016)

GIS Databases:
- Groundwater salinity, statewide
- Hydrography, linear
- Remnant vegetation

(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**
There are 11 soil subsystems mapped within the application area, 10 of which are well-drained and not likely to be susceptible to flooding as a result of the proposed clearing (DPI, 2017). The soil subsystem that is poorly-drained occurs over one 4.8 and one 1.3 kilometre section of the application area. While large-scale clearing within this soil type may lead to localised flooding, the clearing of two five metre strips along the existing road is not likely to cause or exacerbate the incidence or intensity of flooding in the local area.

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

Methodology References:
DPI (2017)

Planning instruments and other relevant matters.

Comments The applicant proposes to clear up to 11.64 hectares of native vegetation within Orleans Bay Road, Fisheries Road and Merivale Road reserves, Condingup and Cape Le Grand, for the purpose of road upgrades.

The original clearing permit application for eight hectares was advertised in *The West Australian* on 15 August 2016 for a 21 day public submission period, and was readvertised on 4 October 2016 for a seven day public submission period to reflect an increase in the application area from eight hectares to 11.64 hectares. No submissions were received.

The application area is located within a Priority 1 area of the Condingup Water Reserve Public Drinking Water Source Area (PDWSA). The former Department of Water (DoW) advised that the proposed clearing is considered minimal in relation to potential impacts to the PDWSA, and risks to water quality can be managed by adhering to the following measures:

- No refuelling or maintenance of vehicles or other machinery to be undertaken within the application area;
- The applicant should have a contingency plan for spills or leaks;
- The applicant should have a management plan for preventing spills or leaked contaminants into drains, drainage or waterways; and
- The applicant should have equipment for the recovery of spills prior to infiltration into the soil (DoW, 2016).

There are no Aboriginal Sites of Significance mapped within the application area.

On 9 December 2016, a DER Delegated Officer wrote to the applicant, advising that an assessment of the clearing permit application identified impacts to a significant remnant within an extensively cleared area that forms part of an ecological linkage, provides suitable foraging habitat for Carnaby's cockatoo and contains a TEC. The letter invited the applicant to provide advice addressing the issues identified, and advise how the applicant intended to avoid or minimise the impacts identified and offset unavoidable impacts.

On 23 January 2017, the applicant provided an offset proposal that included the acquisition of Shire Reserve 518 (Thomas River) into the Cape Arid National Park, to be managed by the Department of Biodiversity, Conservation and Attractions.

On 24 January 2017, the Shire requested to increase the application footprint from 77 hectares to 77.8 hectares. The amount proposed to clear within the application footprint was not amended.

On 24 February 2017, a DER Delegated Officer wrote to the applicant, advising that the portion of Reserve 518 that contains 31 hectares of *Banksia speciosa* woodland may be adequate to offset the significant residual environmental impacts from clearing Beard vegetation association 6048, a TEC and Carnaby's cockatoo foraging habitat. The applicant was also advised that the offset proposal was not sufficient to offset the remaining proposed clearing of 4.65 hectares of Beard vegetation association 4801, as this vegetation community was not represented in the proposed offset area. The applicant was invited to provide a revised offset proposal.

On 18 March 2017, the applicant provided a revised offset proposal that included Reserve 26257, pending advice on the proposed measure for conserving the offset area in perpetuity.

On 24 April 2017, the applicant advised they proposed to change the purpose of Reserve 26257 from 'parkland and recreation' to 'conservation', keeping the vesting of the reserve with the Shire of Esperance.

Methodology DoW (2016)

GIS Databases:
- Aboriginal Sites of Significance

4. References

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- Department of Primary Industries (DPI) (2017) NRInfo (Natural Resource) Portal. Department of Primary Industries. URL: <https://maps.agric.wa.gov.au/nrm-info/>. Accessed July 2017.
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- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
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- Threatened Species Scientific Committee (TSSC) (2014). Approved Conservation Advice for Proteaceae Dominated Kwongan Shrublands of the southeast coastal floristic province of Western Australia. Canberra: Department of the Environment. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/126-conservation-advice.pdf>.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <http://florabase.dpaw.wa.gov.au/>. Accessed September 2016.