



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

<b>Purpose Permit number:</b>	CPS 8440/1
<b>Permit Holder:</b>	Commissioner of Main Roads Western Australia
<b>Duration of Permit:</b>	18 August 2019 – 18 August 2034

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 purposes of investigating and stockpiling materials, and establishing access and water source areas.

#### **2. Land on which clearing is to be done**

Road Reserve PIN 11241736, Exmouth Gulf  
Road Reserve PIN 11743219, Exmouth Gulf  
Lot 166 on Plan 238089, Exmouth Gulf  
Lot 167 on Plan 238194, Exmouth Gulf  
Lot 190 on Plan 227904, Exmouth Gulf  
Lot 311 on Plan 38651, Exmouth Gulf  
Lot 313 on Plan 38652, Exmouth Gulf  
Lot 314 on Plan 38653, Exmouth Gulf  
Lot 252 on Plan 219248, Exmouth Gulf

#### **3. Area of Clearing**

The Permit Holder must not clear more than 252 hectares of native vegetation within the area hatched yellow on attached Plan 8440/1a, Plan 8440/1b, Plan 8440/1c and Plan 8440/1d.

#### **4. Period in which clearing is authorised**

The Permit Holder shall not clear any native vegetation after 18 August 2029.

#### **5. 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.

#### **6. Type of clearing authorised**

This Permit authorises the Permit Holder to clear native vegetation for activities to the extent that the Permit Holder has the right to access land under the *Land Administration Act 1997* or any other written law.

## **PART II – MANAGEMENT CONDITIONS**

### **7. Avoid, minimise and reduce the impacts and extent of 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:

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

### **8. Direction of clearing**

The Permit Holder shall conduct clearing in a slow progressive manner from one direction to the other (e.g. east to west) to allow fauna to move into adjacent native vegetation ahead of the clearing activity.

### **9. 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 introduction and spread of *weeds*:

- (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (ii) ensure that no *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.

### **10. Retain vegetative material and topsoil, revegetation and rehabilitation**

The Permit Holder shall:

- (a) Retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.
- (b) At an *optimal time* within 12 months following completion of material extraction, *revegetate* and *rehabilitate* the areas cleared for temporary works, by:
  - (i) ripping the ground on the contour to remove soil compaction; and
  - (ii) laying the vegetative material and topsoil retained under condition 10(a) on the cleared area(s).
- (c) Within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 10(b) of this Permit:
  - (i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
  - (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 10(c)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area and ensuring only *local provenance* seeds and propagating material are used.
- (d) Where additional *planting* or *direct seeding* of native vegetation is undertaken in accordance with condition 10(c)(ii) of this permit, the Permit Holder shall repeat condition 10(c)(i) and 10(c)(ii) within 24 months of undertaking the additional *planting* or *direct seeding* of native vegetation.
- (e) Where a determination by an *environmental specialist* that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, as determined in condition 10(c)(i) and (ii) of this permit, that determination shall be submitted for the *CEO*'s consideration. If the *CEO* does not agree with the determination made under condition 10(c)(ii), the *CEO* may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 10(c)(ii).

### **PART III - RECORD KEEPING AND REPORTING**

#### **11. Records must be kept**

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
  - (i) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  - (ii) the date that the area was cleared;
  - (iii) the size of the area cleared (in hectares); and
  - (iv) purpose for which clearing was undertaken.
  
- (b) In relation to the *revegetation* and *rehabilitation* of areas pursuant to Condition 10 of this Permit:
  - (v) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  - (vi) a description of the *revegetation* and *rehabilitation* activities undertaken;
  - (vii) the size of the area *revegetated* and *rehabilitated* (in hectares); and
  - (viii) the species composition, structure and density of *revegetation* and *rehabilitation*.

#### **12. Reporting**

- (a) The Permit Holder shall provide a report to the *CEO* by 31 July each year for the life of this permit, demonstrating adherence to all conditions of this permit, and setting out the records required under Condition 11 of this permit in relation to clearing carried out between 1 July and 30 June of the previous financial year.
  
- (b) Prior to 18 May 2034, the Permit Holder must provide to the *CEO* a written report of records required under Condition 11 of this permit where these records have not already been provided under Condition 12(a) of this permit.

### **DEFINITIONS**

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

***CEO*** means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*;

***direct seeding*** means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

***environmental specialist*** means a person who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit, or who is approved by the *CEO* as a suitable environmental specialist;

***fill*** means material used to increase the ground level, or fill a hollow;

***local provenance*** means native vegetation seeds and propagating material from natural sources within 200 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared;

***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;

***optimal time*** means the period from November to December for undertaking *direct seeding*;


**planting** means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

**rehabilitate/ed/ion** means actively managing an area containing native vegetation in order to improve the ecological function of that area;

**revegetate/ed/ion** means the re-establishment of a cover of local provenance native vegetation in an area using methods such as natural regeneration, direct seeding and/or planting, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area;

**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 Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or
- (c) not indigenous to the area concerned.

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Ryan Mincham  
MANAGER  
NATIVE VEGETATION REGULATION

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

19 July 2019

# Plan 8440/1a

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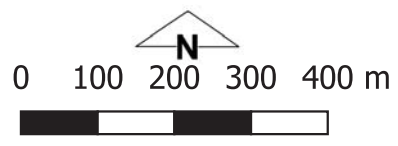
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## Legend

-  CPS areas approved to clear
-  Road Centrelines
-  Local Government Authorities  
Cadastre - LGATE 218



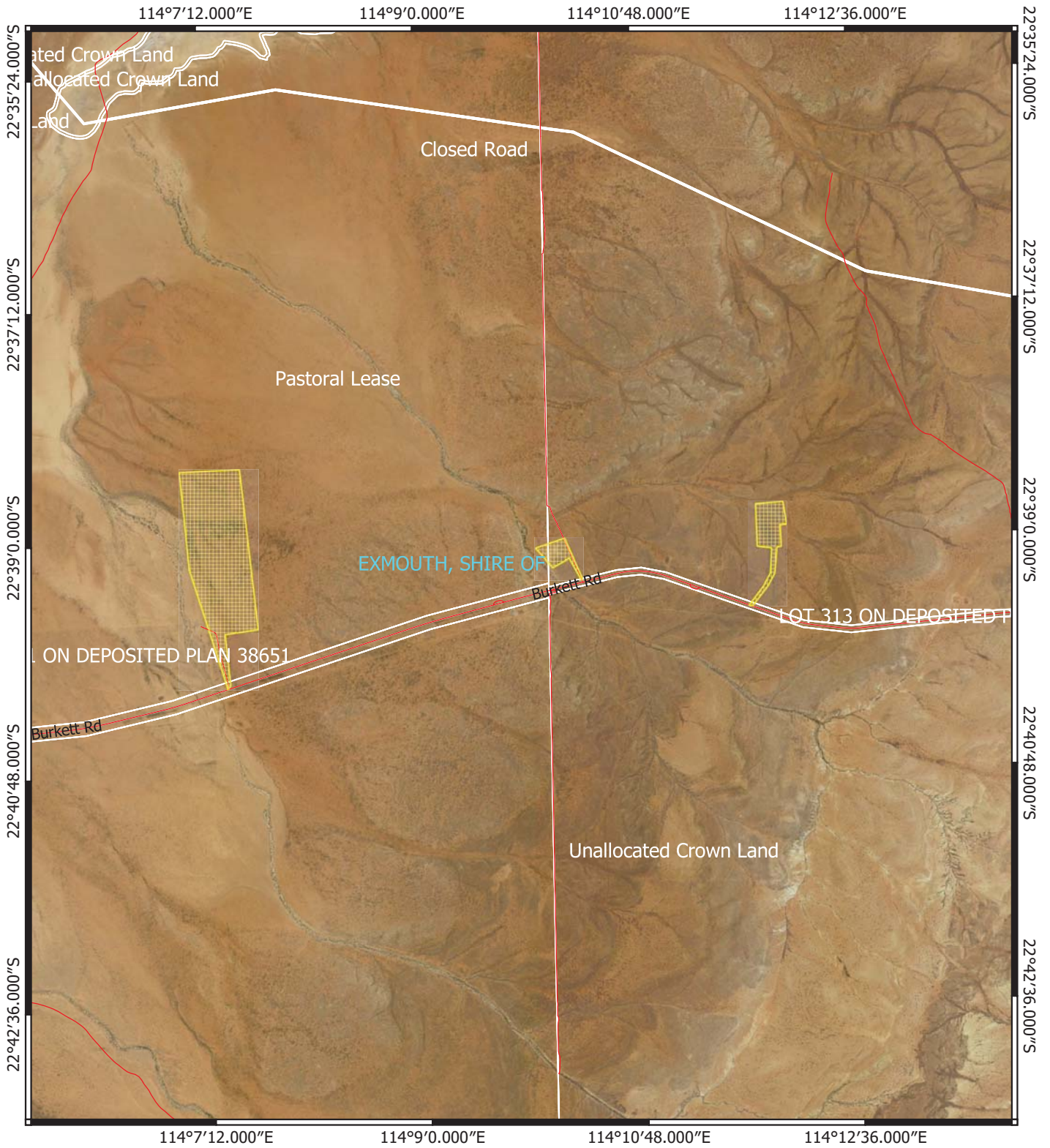
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Environmental Protection Act 1986






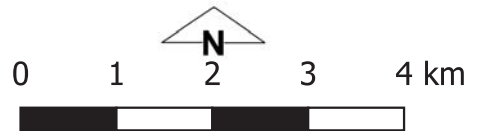
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# Plan 8440/1b



## Legend

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-  Road Centrelines
-  Local Government Authorities
- Cadastre - LGATE 218



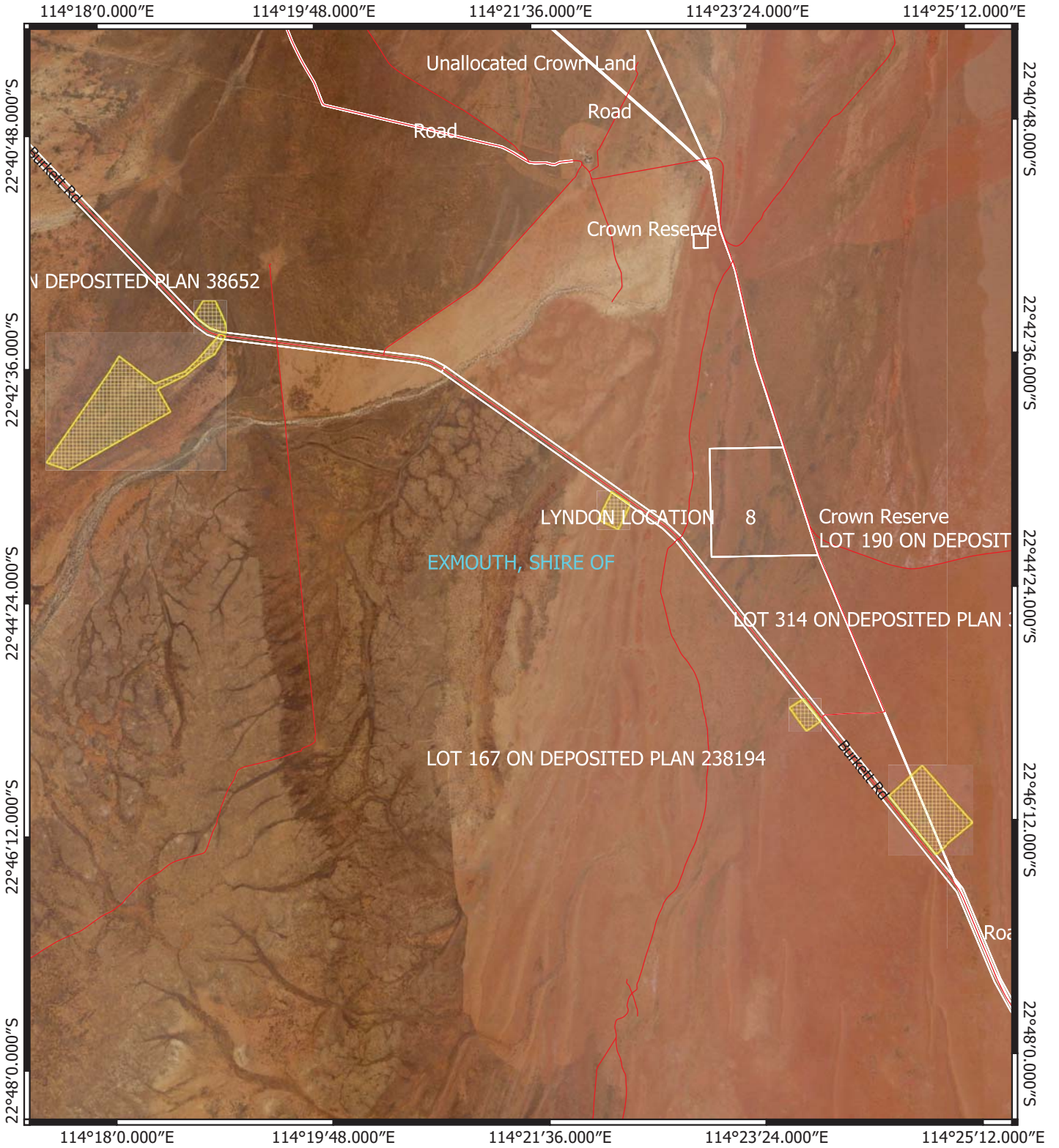
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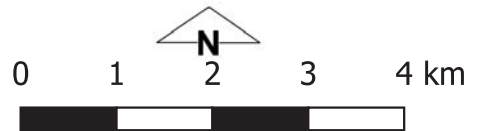
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# Plan 8440/1c



## Legend

-  CPS areas approved to clear
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  -  Local Government Authorities
- Cadastre - LGATE 218



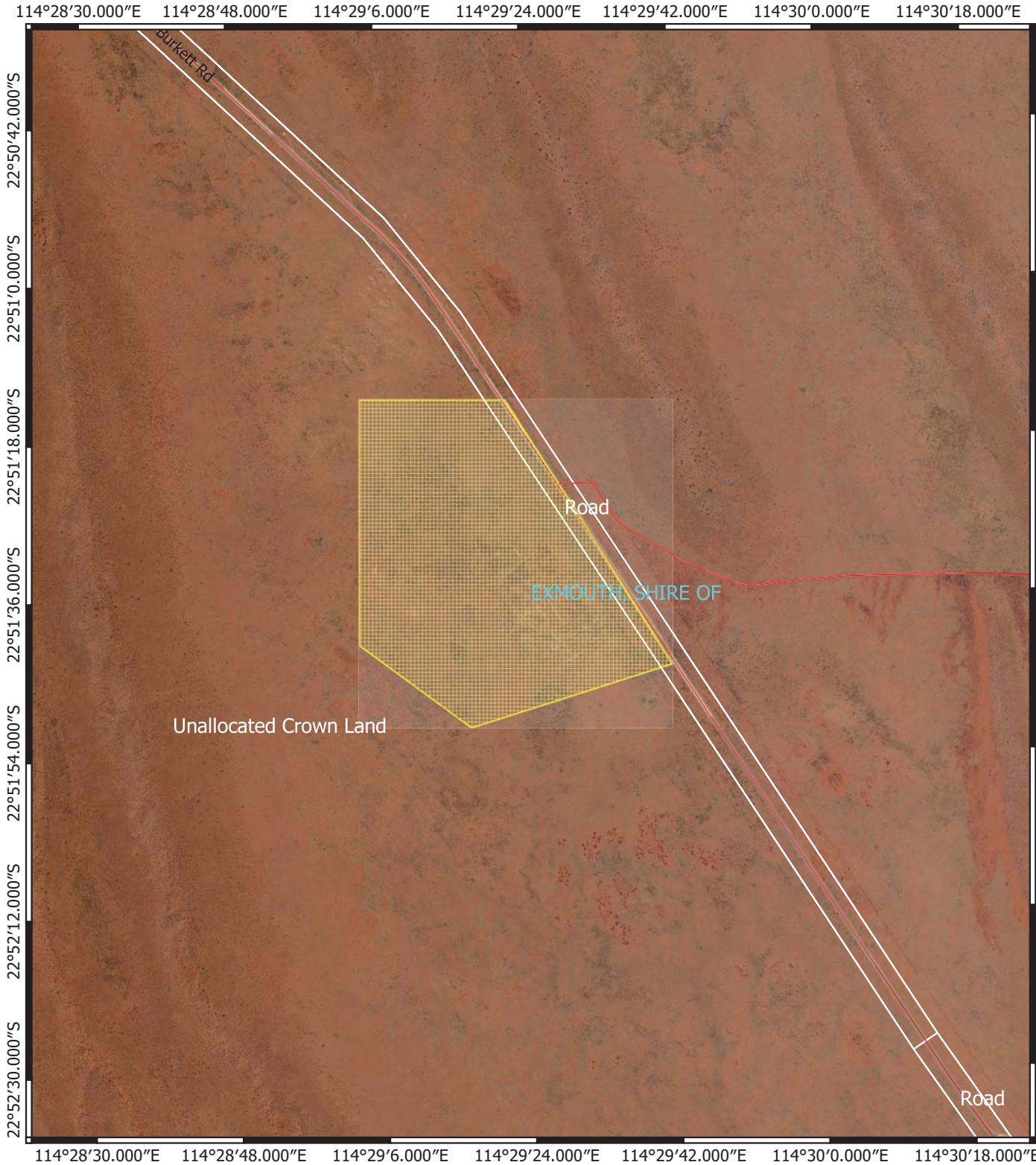
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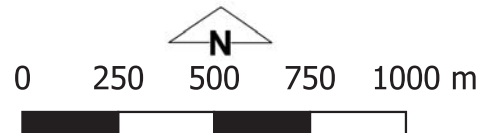
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# Plan 8440/1d



## Legend

-  CPS areas approved to clear
  -  Road Centrelines
  -  Local Government Authorities
- Cadastre - LGATE 218



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Environmental Protection Act 1986



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# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 8440/1  
Permit type: Purpose Permit

### 1.2. Applicant details

Applicant's name: Commissioner of Main Roads Western Australia  
Application received date: 2 April 2019

### 1.3. Property details

Property: Road Reserve PIN 11241736, Exmouth Gulf  
Road Reserve PIN 11743219, Exmouth Gulf  
Lot 166 on Plan 238089, Exmouth Gulf  
Lot 167 on Plan 238194, Exmouth Gulf  
Lot 190 on Plan 227904, Exmouth Gulf  
Lot 311 on Plan 38651, Exmouth Gulf  
Lot 313 on Plan 38652, Exmouth Gulf  
Lot 314 on Plan 38653, Exmouth Gulf  
Lot 252 on Plan 219248, Exmouth Gulf

Local Government Authority: Shire of Exmouth  
Localities: Exmouth Gulf

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
252		Mechanical Removal	Miscellaneous

### 1.5. Decision on application

Decision on Permit Application: Granted  
Decision Date: 19 July 2019  
Reasons for Decision:

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). It has been concluded that the proposed clearing is not at variance to principle (e) and not likely to be at variance to any of the remaining clearing principles.

The Delegated Officer also noted the avoidance and minimisation measures proposed by the applicant and the implementation of management conditions in relation to direction of clearing, revegetation and rehabilitation, and determined that the proposed clearing is not likely to result in unacceptable environmental impacts.

## 2. Site Information

### Clearing Description

The application is to clear 252 hectares of native vegetation within various properties, road reserves and Crown Reserves in the Exmouth Gulf locality, for the purpose of investigation and stockpiling of materials for future maintenance and project works along Minilya Exmouth and Burkett Road, as well as the establishment of access and water source areas (Figure 1).

### Vegetation Description

The vegetation of the application area is broadly mapped as the following Beard vegetation associations:

- Coastal Dunes 662: Hummock grassland; shrub steppe; mixed Acacia scrub and dwarf scrub with soft spinifex and *Triodia basedowii*;
- Giralia Anticline 658: Wattle, teatree and other species *Acacia* species (spp.) *Melaleuca* spp.;
- Giralia Anticline 680: Hummock grassland with scattered shrubs or mallee *Triodia* spp., *Acacia* spp., *Grevillea* spp., *Eucalyptus* spp.; and
- Cape Yannare Coastal Plain 2675: Hummock grassland with scattered eucalypts over wattle scrub or mallee *Triodia* spp., *Acacia* spp., *Corymbia dichromophloia*, *Eucalyptus leucophloia*, *E. youngiana*.

A biological survey conducted by 360 Environmental (2019) over the application area recorded the following vegetation associations:

- AaSaTg: *Acacia ancistrocarpa*, *A. bivenosa* tall open shrubland over *Senna artemisioides* subsp. *oligophylla*, *Eremophila cuneifolia* mid sparse shrubland over *Triodia epactia* and *Triodia glabra* tall open tussock grassland;
- AiHiTg: *Acacia inaequilatera* tall sparse shrubland over *A. ancistrocarpa*, *Hakea lorea* and *A. bivenosa* mid open shrubland over *Triodia glabra* tall grassland;
- AbAtTg: *Acacia bivenosa*, *A. synchronicia*, *A. sclerosperma* tall open shrubland over *A. tetragonophylla*, *Senna artemisioides* subsp. *oligophylla*, *Solanum lasiophyllum* low isolated clumps of shrubs over *\*Cenchrus ciliaris*, *Triodia epactia* grassland;
- AxAcCc: *Acacia xiphophylla*, *A. synchronicia*, *A. tetragonophylla* tall open shrubland over *A. coriacea* subsp. *coriacea*, *A. sclerosperma*, *Alectryon oleifolius* subsp. *oleifolius* mid isolated clumps of shrubs over *\*Cenchrus ciliaris* open grassland;
- AcVfCc: *Acacia coriacea* subsp. *coriacea*, *A. sclerosperma*, *A. xiphophylla* tall shrubland over *\*Vachellia farnesiana*, *A. tetragonophylla*, *Abutilon geranioides* mid sparse shrubland over *\*Cenchrus ciliaris* tall closed grassland; and
- McTdTe: *Melaleuca cardiophylla*, *Acacia coriacea* subsp. *coriacea* mid isolated clumps of shrubs over *A. sclerosperma*, *Thryptomene dampieri*, *A. gregorii* low isolated shrubs over *Triodia epactia* tall closed grassland.

### Vegetation Condition

Very Good: Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks;

to

Degraded: Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species (EPA, 2016).

The vegetation condition was derived from a biological survey conducted by 360 Environmental (2019).

### Soil type

The application area is mapped across the following land systems:

- Cardabia: Undulating sandy plains with linear dunes, minor limestone plains and low rises, supporting mainly soft spinifex hummock grasslands with scattered acacias and other shrubs;
- Donovan: Gently sloping outwash plains and minor stony plains with alkaline loamy and clayey soils supporting tall shrublands of snakewood and other acacias and low shrublands of bluebush;
- Jubilee2: Limestone hills and stony plains supporting hard and soft spinifex hummock grasslands with scattered acacia shrubs; and
- Giralialia: Sandy plains with linear dunes and broad sandy swales supporting hummock grasslands of hard and soft spinifex with scattered acacia shrubs.

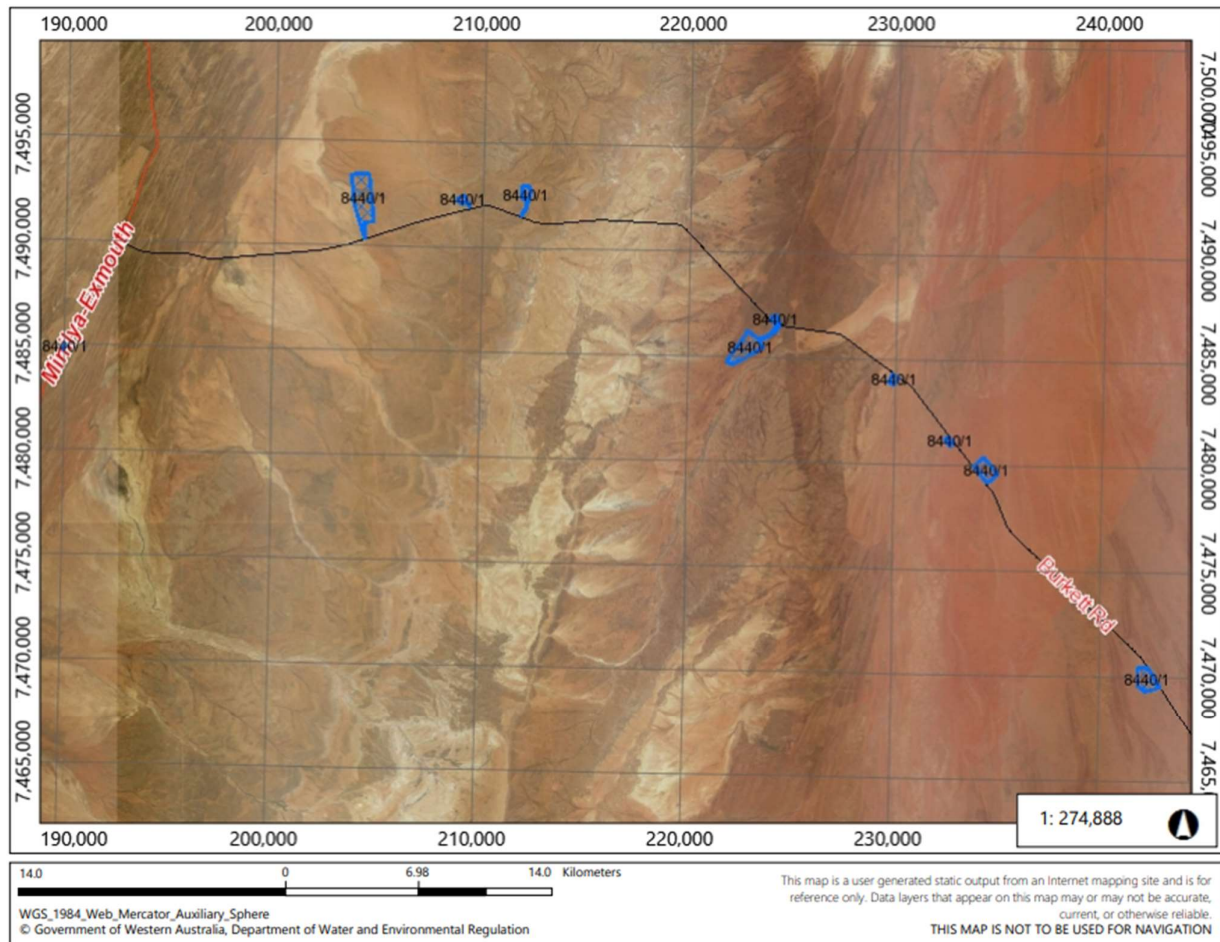


Figure 1: Application area outlined in blue

### 3. Minimisation and mitigation measures

The applicant has applied to clear 252 hectares within a boundary of 563 hectares. Design and management measures implemented by the applicant to avoid and minimise impacts from the proposed clearing include using the smallest possible area for the proposed activities and rehabilitating the proposed borrow pits once they are exhausted of materials (MRWA, 2019). A revegetation and rehabilitation condition will be imposed on the permit for the temporary works, to return and improve the ecological function of those areas. Additionally, a condition will be imposed on the permit for the clearing to be undertaken in a slow progressive manner to allow fauna to move into adjacent native vegetation ahead of the clearing activity.

### 4. Assessment of application against clearing principles

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

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

The application area is located within the Cape Range subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Carnarvon bioregion. The Cape Range subregion is described as rugged tertiary limestone ranges and extensive areas of red aeolian dunefield, quaternary coastal beach dunes and mud flats (CALM, 2002).

The application area does not intersect any Threatened Ecological Communities (TECs), Priority Ecological Communities (PECs) or known locations of Threatened flora.

The vegetation within the application area was assessed according to EPA's vegetation condition scale (EPA, 2016) and is considered to be in 'Very Good' to 'Degraded' condition (360 Environmental, 2019). The survey conducted by 360 Environmental was over a much broader area that covered approximately 1,937 hectares, referred to as the 'survey area' hereafter. A total of 175 flora species from 42 families and 102 genera were recorded within the survey area. Six vegetation associations were recorded within the application area, which were considered typical of the Carnarvon bioregion (360 Environmental, 2019).

Two priority flora species were recorded within the survey area: *Sclerolaena stylosa* (Priority 1) and *Acacia startii* (Priority 3). There are four records of *S. stylosa*, from the Carnarvon region (Western Australian Herbarium, 1998-), with two records providing information on the site description. This species was recorded in light orange sandy clay of limestone origin, on low undulating hills in the Firecracker Land System, and another within the Hamelin Homestead, on a flat red soil plain, dissected slopes and swales of the Foscal Land System. The survey recorded *S. stylosa* within vegetation type AcMpSs, which consisted of light brown loam, sand to medium clay with limestone (360 Environmental, 2019). This priority flora species is

unlikely to be impacted by the proposed clearing as none were recorded within the application area and the known vegetation associations and land systems in which it occurs are not found within the application area.

The Priority 3 flora species *A. startii* is known from 32 collections from the Carnarvon region (Western Australian Herbarium, 1998-). There are sufficient records of *A. startii* beyond the application area locally. The risk of significant impacts from the proposed clearing to the conservation of the species at the local scale has been deemed to be low by the Department of Biodiversity, Conservation and Attractions (DBCA) and is unlikely to result in significant impacts with respect to the conservation of the species at the regional scale (DBCA, 2019).

The biological survey recorded a total 74 fauna species from 38 families were recorded within the survey area, including 18 reptile species from four families, 47 bird species from 27 families and nine mammal species from seven families, none of which were conservation significant species (360 Environmental, 2019). As assessed under principle (b), the fauna habitats within the application area are considered to be typical of the Carnarvon bioregion and are widespread. Considering this, it is unlikely that the application area comprises a high level of fauna diversity in comparison to other areas in the region.

Eight weed species were recorded during the survey, none of which represent weeds of National Significance (WONS) or Declared Plants under the *Biodiversity and Agriculture Management Act 2007*. While weed diversity was considered to be low across the survey area, weed abundance was considered to be high. Vegetation type AxAcCc which occurs in the application area, was one of the vegetation types with high densities of weed species *Cenchrus ciliaris* and *Vachellia farnesiana* (360 Environmental, 2019). Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

The proposed clearing of 252 hectares of native vegetation within a boundary of 563 hectares, is unlikely to result in significant impacts to the biological diversity of the local area or region.

Given the above, the application area is not considered to comprise a high level of biological diversity.

The proposed clearing is not likely to be at variance to this principle.

**(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.**

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

The following three fauna habitats have been recorded within the application area (360 Environmental, 2019):

- Acacia shrubland;
- Minor drainage; and
- Grassland.

These habitat types are considered to be typical of, and widespread across the Carnarvon bioregion. The application area includes areas that are highly disturbed, which provide little to no value to native fauna species and are not considered to be fauna habitat.

A fauna desktop assessment conducted by 360 Environmental resulted in a total of 258 vertebrate fauna species recorded in the local area. Three species of conservation significance were identified to have a high likelihood of occurrence within the application area: Brush-tailed Mulgara (*Dasyurus blythi*) – Priority 4, Short-tailed Mouse (*Leggadina lakedownensis*) – Priority 4 and Ningaloo Worm Lizard (*Aprasia rostrata*) – Priority 3.

A total of 74 fauna species from 38 families were recorded within the survey area, including 18 reptile species from four families, 47 bird species from 27 families and nine mammal species from seven families. The biological survey did not record or find any evidence of conservation significant fauna species within the application area (360 Environmental, 2019).

The Brush-tailed Mulgara is distributed widely across inland Australia and is associated with hummock spinifex grasslands, including sandplains, grasslands and woodlands mixed with or adjacent to hummock grasslands (360 Environmental, 2019). Potential impacts to this species as a result of the proposed clearing may be minimised by the implementation of a fauna management condition. However, the preferred habitat types are common and well represented within the region therefore the proposed clearing is not likely to result in significant impacts to the habitat of this species.

The Short-tailed Mouse occurs in a range of habitats including spinifex grasslands, samphire shrublands, Acacia shrublands and *Eucalyptus* and *Melaleuca* woodlands (Van Dyck and Strahan, 2008). The application area includes Acacia shrublands and grassland, therefore this species may occur in or utilise the application area. However, the habitats that the species utilise are wide ranging, common and well represented in the surroundings, making it unlikely for the application area to be a significant habitat for this species.

The Ningaloo Worm Lizard occupies a variety of sandy habitats including white coastal dunes and red dunes vegetated with spinifex (360 Environmental, 2019). While the application area includes spinifex grassland which may provide habitat for this species, this habitat is well represented within the surrounding area and the proposed clearing is not likely to have a significant impact to the habitat of this species.

Extensive amounts of vegetation remains in the local area and region, and the fauna habitats recorded within the application area are common and widespread. Potential impacts to fauna as a result of the proposed clearing may be minimised by the

implementation of a condition requiring the applicant to undertake the proposed clearing in a slow progressive manner, to allow fauna to move into adjacent native vegetation ahead of the clearing activity.

The native vegetation within the application area is not likely to be a part of, or necessary for the maintenance of a significant habitat for fauna. The proposed clearing is not likely to be at variance to this principle.

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

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

There are no known records of Threatened flora within the application area or within a 20 km radius of the survey area. The biological survey conducted by 360 Environmental did not record any Threatened flora species pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* or the *Biodiversity Conservation Act 2016* (360 Environmental, 2019). Given that the vegetation associations within the application area are widespread within the region, the native vegetation proposed to be cleared is unlikely to be necessary for the continued existence of Threatened flora.

The proposed clearing is not likely to be at variance to this principle.

**(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.**

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

There are no records of any threatened ecological communities within the application area or within a 50 km radius of the survey area. None of the vegetation associations recorded during the survey were considered to represent any TECs within the Carnarvon bioregion (360 Environmental, 2019).

Given the above, the application area is not considered to be a part of, or necessary for the maintenance of a TEC. The proposed clearing is not likely to be at variance to this principle.

**(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.**

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

The application area falls within the Carnarvon IBRA Bioregion. Approximately 99% of the pre-European vegetation still exists in the Carnarvon IBRA Bioregion. The application area is broadly mapped as Beard vegetation associations Coastal Dunes 662: Hummock grassland; shrub steppe; mixed Acacia scrub and dwarf scrub with soft spinifex and *Triodia basedowii*, Giralia Anticline 658: Wattle, teatree and other species *Acacia* species (spp.) *Melaleuca* spp., Giralia Anticline 680: Hummock grassland with scattered shrubs or mallee *Triodia* spp., *Acacia* spp., *Grevillea* spp., *Eucalyptus* spp. and Cape Yannare Coastal Plain 2675: Hummock grassland with scattered eucalypts over wattle scrub or mallee *Triodia* spp., *Acacia* spp., *Corymbia dichromophloia*, *Eucalyptus leucophloia*, *E. youngiana*.

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). Approximately 99% of the pre-European extent of each of these vegetation associations remains uncleared at both the state and bioregional level (Government of Western Australia, 2018, Table 1). Therefore, the application area does not represent a significant remnant of native vegetation in an area that has been extensively cleared.

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

Table 1: Vegetation extents (Government of Western Australia, 2018)

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Current Extent in DBCA Managed Lands	
				(ha)	(%)
<b>IBRA Bioregion</b>					
Carnarvon	8,382,890.35	8,360,801.46	99.74	1,020,434.08	12.17
<b>Beard vegetation associations - WA</b>					
658	200,281.99	200,281.99	100	44,165.26	22.05
662	284,795.92	282,125.59	99.06	21,394.59	7.51
680	90,328.08	90,328.08	100	27,431.67	30.37
2675	351,230.61	351,230.61	100	134,501.35	38.29
<b>Beard vegetation associations – Carnarvon Bioregion</b>					
658	200,281.99	200,281.99	100	44,165.26	22.05
662	282,709.68	281,679.33	99.64	20,960.36	7.41
680	90,328.08	90,328.08	100	27,431.67	30.37
2675	351,166.04	351,166.04	100	134,501.35	38.30

**(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**

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

Digital imagery shows that parts of the application area are in close proximity to non-perennial watercourses, however, the application area does not intersect any watercourses or wetlands. The vegetation associations within the application area mapped during the survey did not include riparian vegetation (360 Environmental, 2019).

Given the above, it is unlikely that the native vegetation proposed to be cleared is growing in, or in association with, an environment associated with a watercourse or wetland. The proposed clearing is not likely to be at variance to this principle.

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

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

The proposed clearing is to allow for the investigation and stockpiling of materials for future maintenance and project works along Minilya Exmouth and Burkett Road, as well as the establishment of access and water source areas. The proposed clearing will be progressively rehabilitated once the material pit is exhausted (MRWA, 2019). The soils within the application area are of the Cardabia, Donovan, Jubilee2 and Giralalia land systems. The Cardabia and Giralalia land systems may be susceptible to wind erosion, and the Donovan land system may be mildly susceptible to water erosion. The Jubilee2 land system is not prone to erosion (Payne et al, 1987).

Extensive amounts of vegetation remains in the local area and region, which reduces the likelihood of wind erosion. The application area is in an area of low rainfall, therefore it is unlikely that significant water erosion or waterlogging will result from the proposed clearing. Given that the proposed clearing will be staged and that rehabilitation will progressively occur over areas cleared for temporary works, it is not likely that the proposed clearing will cause appreciable land degradation.

A rehabilitation condition will ensure the minimisation of potential impacts to the land as a result of the proposed clearing.

The proposed clearing is not likely to be at variance to this principle.

**(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.**

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

According to available databases, the nearest conservation area is the Whitmore, Roberts, Doole Islands and Sandalwood Landing Nature Reserve, located approximately 17 kilometres north of the application area. Ningaloo Marine Park is approximately 25 kilometres west of the application area. Given the distance between these conservation areas and the application area, it is unlikely that the proposed clearing will have an impact on the environmental values of these conservation areas.

Majority of the proposed borrow pits occur within the ex-Giralalia Pastoral Lease which is managed for conservation by the Department of Biodiversity, Conservation and Attractions (DBCA). This lease is proposed to be reserved as a conservation park vested in the Conservation and Parks Commission. Management conditions such as weed and rehabilitation conditions may assist in managing potential impacts to the environmental values to this lease.

The proposed clearing is not likely to be at variance to this principle.

**(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.**

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

As assessed under Principle (f), the application area does not intersect any watercourses or wetlands. Noting this, it is unlikely that the proposed clearing will impact on the quality of surface water in the local area.

According to available databases, the groundwater within the application area ranges from 500 – 7,000 milligrams per litre of Total Dissolved Solids (TDS). It would not be expected that the proposed clearing would cause salinity levels within the application area or surroundings to alter. Noting that the proposed clearing of 252 hectares is dispersed over a wide area where extensive amounts of vegetation remains, it is unlikely to deteriorate the quality of groundwater.

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

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

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

As assessed under Principle (f), the application area does not intersect any watercourses or wetlands. Noting this and the extensive amount of native vegetation remaining in the local area, the proposed clearing is unlikely to cause, or exacerbate, the incidence or intensity of flooding events due to the limited disturbance to the natural drainage of water in the landscape from the proposed clearing.

The proposed clearing is not likely to be at variance to this principle.

## Planning instruments and other relevant matters.

The clearing permit application was advertised on the DWER website on 17 April 2019 with a 21 day submission period. No public submissions have been received in relation to this application.

The Shire of Exmouth (2019) raised no objection to the clearing permit application.

The application area occurs within the Pilbara Groundwater area, an area covered by the *Rights in Water and Irrigation Act 1914* (RIWI Act). It is the applicant's responsibility to obtain a Water Licence or any other licences or approvals required for the proposed works.

No Aboriginal sites of significance have been mapped within the application area.

## 5. References

- 360 Environmental (2019) Biological Survey Minilya Exmouth Road and Burkett Road, Exmouth. Report prepared for Main Roads Western Australia, by 360 Environmental Pty Ltd, March 2019.
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- Department of Biodiversity, Conservation and Attractions (2019) Advice received from DBCA in relation to clearing permit application CPS 8440/1. Received 21 May 2019 (DWER ref: A1790343).
- Environmental Protection Authority (EPA) (2016) Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment, EPA, Western Australia.
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- Payne, A.L., Spencer, G.F., and Curry, P.J. (1987) An Inventory and Condition Survey of Rangelands in the Carnarvon Basin, Western Australia. Department of Agriculture and Food, Western Australia, Perth.
- Shire of Exmouth (2019) Comments on clearing permit application CPS 8440/1. Received 17 April 2019 (DWER ref: A1782585).
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- Western Australian Herbarium (1998-). FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <https://florabase.dpaw.wa.gov.au/> Accessed July 2019.