



## CLEARING PERMIT

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

<b>Purpose Permit number:</b>	CPS 7532/1
<b>Permit Holder:</b>	Commissioner of Main Roads Western Australia
<b>Duration of Permit:</b>	11 November 2017 to 11 November 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 geotechnical investigations.

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

Lot 1586 on Plan 72986, Exmouth Gulf  
Lot 166 on Plan 238089, Exmouth Gulf  
Lot 176 on Plan 28410, Lyndon  
Lot 182 on Plan 28412, Minilya  
Lot 241 on Plan 219245, Minilya  
Lot 250 on Plan 219246, Lyndon  
Lot 252 on Plan 219248, Exmouth Gulf  
Lot 253 on Plan 219249, Exmouth  
Ningaloo Road reserve - 11737629, Exmouth Gulf  
Minilya-Exmouth Road reserve - 11915963, Lyndon  
Minilya-Exmouth Road reserve - 11728364, Lyndon  
Minilya-Exmouth Road reserve - 11709110, Minilya

#### 3. Area of Clearing

The Permit Holder must not clear more than 499 hectares of native vegetation within the combined areas cross hatched yellow on attached Plan 7532/1a, Plan 7532/1b, Plan 7532/1c, Plan 7532/1d, Plan 7532/1e and Plan 7532/1f.

#### 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 project 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 project activities under the *Main Roads Act 1930* 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:

- (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.

### 7. Flora management

- (a) Prior to undertaking any clearing within the area cross-hatched yellow on attached Plan 7532/1c, the Permit Holder shall engage a *botanist* to conduct a *targeted flora survey* of the area for the presence of the *priority flora* species *Eremophila cuneata*.
- (b) Where *priority flora* are identified under condition 7(a) of this Permit, the Permit Holder shall ensure that no clearing occurs within 50 metres of identified no clearing occurs within 50 metres of the identified *priority flora*, unless first approved by the CEO.

### 8. 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*:

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

**botanist:** means a person who holds a tertiary qualification in environmental science or equivalent, and has a minimum of 2 years work experience in identification and surveys of flora native to the bioregion being inspected or surveyed, or who is approved by the CEO as a suitable botanist for the bioregion;

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

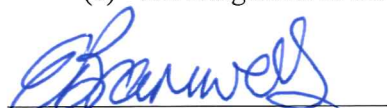
**mulch** means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

**priority flora** means those plant taxa described as priority flora classes 1, 2, 3, 4 or 5 in the *Department of Parks and Wildlife's Threatened and Priority Flora List for Western Australia* (as amended);

**targeted flora survey:** means a field-based investigation, including a review of established literature, of the biodiversity of flora and vegetation of the Permit Area, focusing on habitat suitable for flora species that are being targeted and carried out during the optimal time to identify those species. Where target flora are identified in the Permit Area, the survey should also include sufficient surrounding areas to place the Permit Area into local context.

**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.

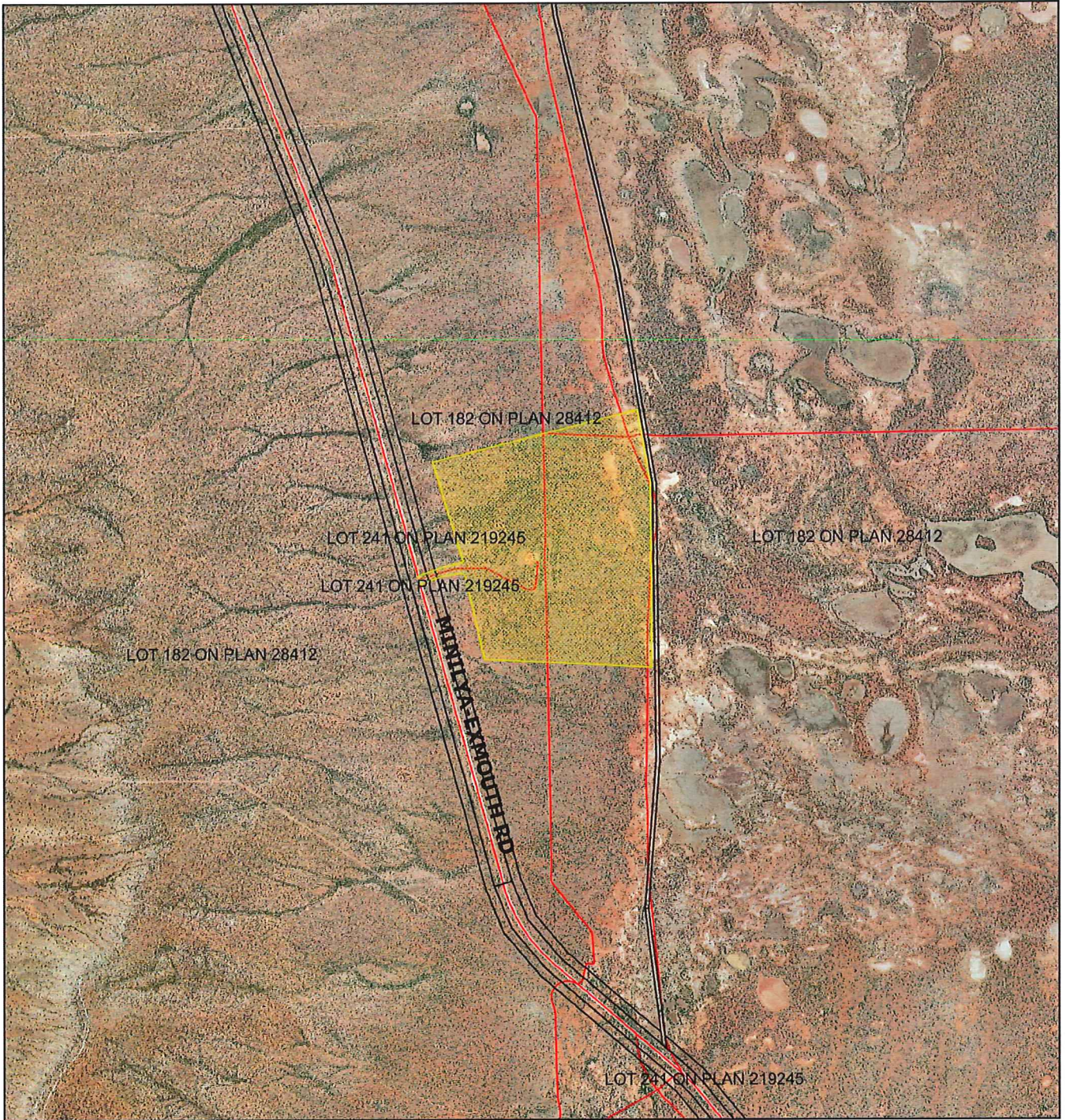


Emma Bramwell  
A/MANAGER  
CLEARING REGULATION



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

13 October 2017

# Plan 7532/1a



## Legend

-  Areas approved to clear
  -  Cadastre
  -  Roads
  -  LGA
- Virtual Mosaic (LGATE-V001)



1:25,000

MGA 94  
Geocentric Datum of Australia 1994

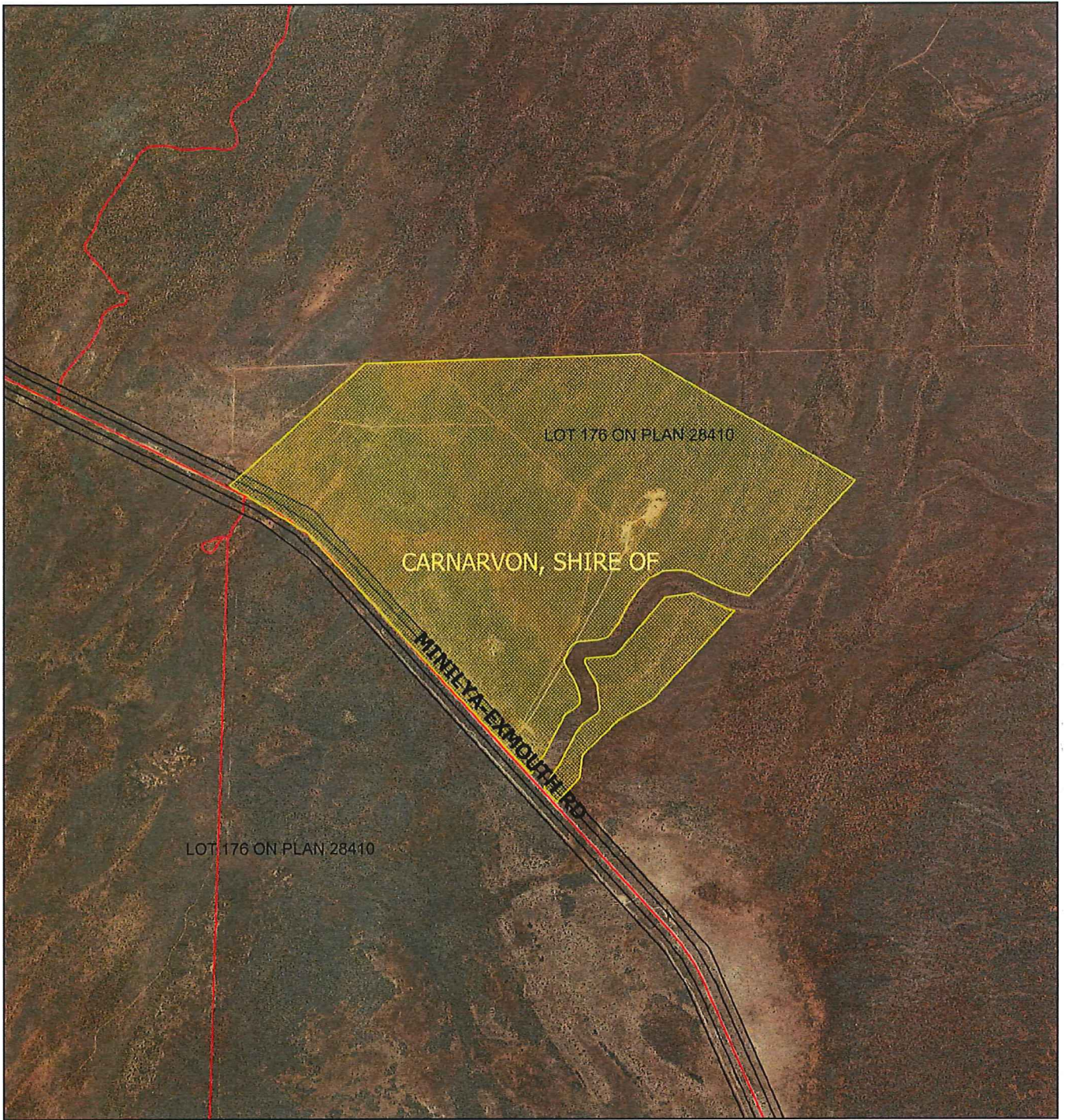
*E Bramwell*  
**EBRAMWELL** Date *13/10/17*

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



GOVERNMENT OF  
WESTERN AUSTRALIA

# Plan 7532/1b



## Legend

-  Areas approved to clear
-  Cadastre
-  Roads
-  LGA
- Virtual Mosaic (LGATE-V001)



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Geocentric Datum of Australia 1994

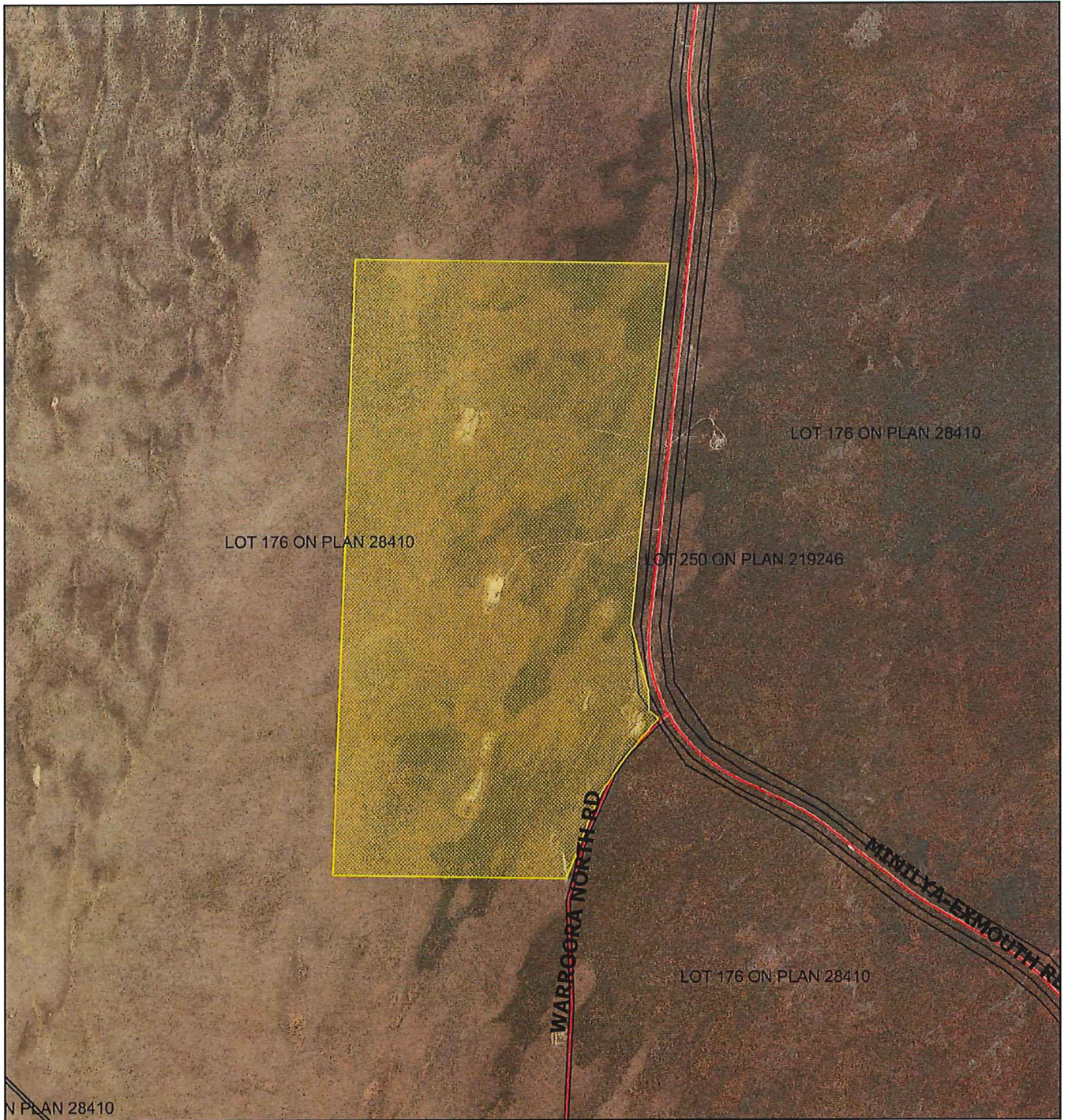
*E. Bramwell* Date 13/10/17  
**EBRAMWELL**

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







GOVERNMENT OF  
WESTERN AUSTRALIA

# Plan 7532/1c



## Legend

-  Areas approved to clear
-  Cadastre
-  Roads
-  LGA
- Virtual Mosaic (LGATE-V001)



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Geocentric Datum of Australia 1994

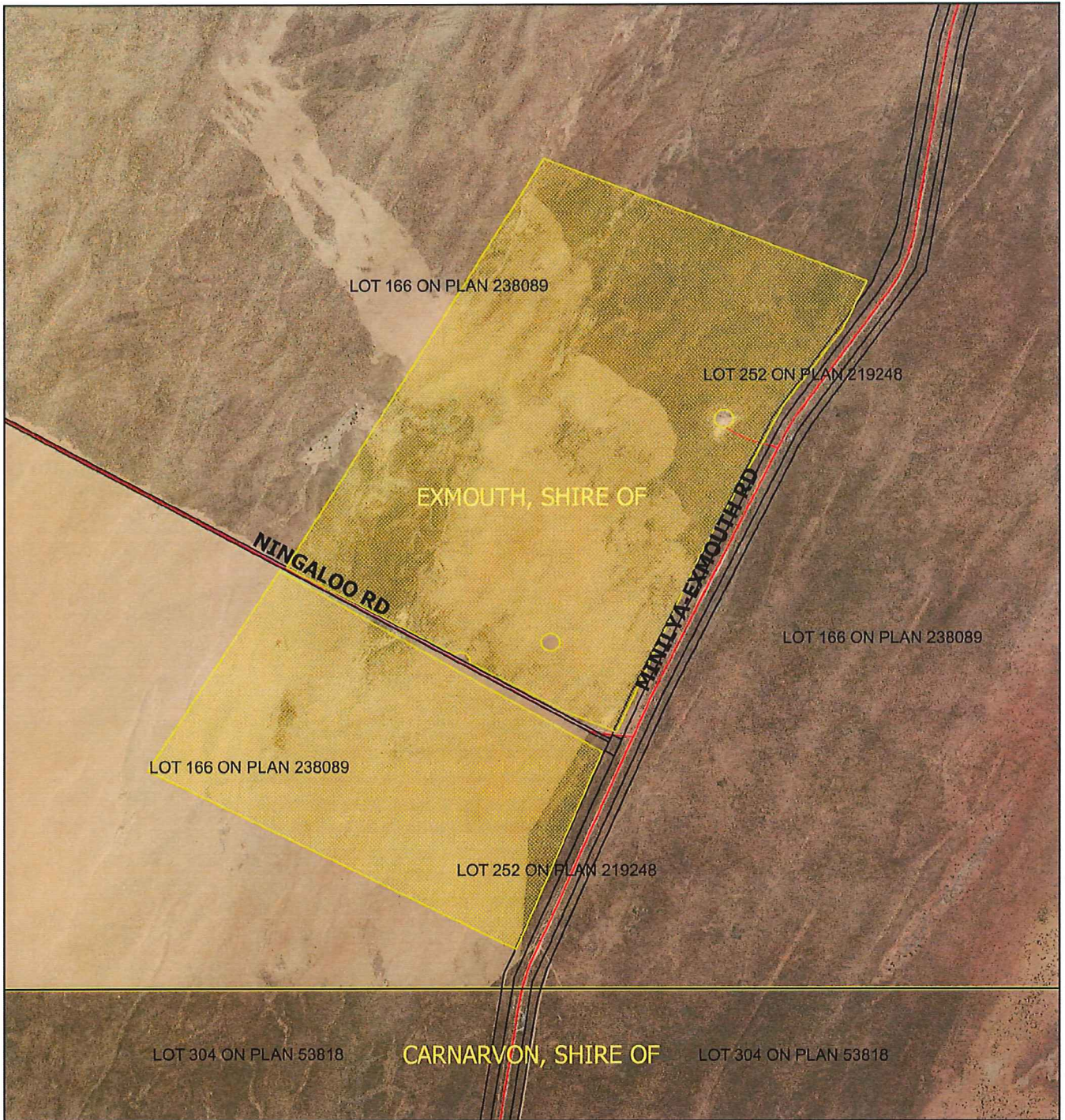
 Date 13/10/17  


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GOVERNMENT OF  
WESTERN AUSTRALIA

# Plan 7532/1d



## Legend

-  Areas approved to clear
  -  Cadastre
  -  Roads
  -  LGA
- Virtual Mosaic (LGATE-V001)



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Geocentric Datum of Australia 1994

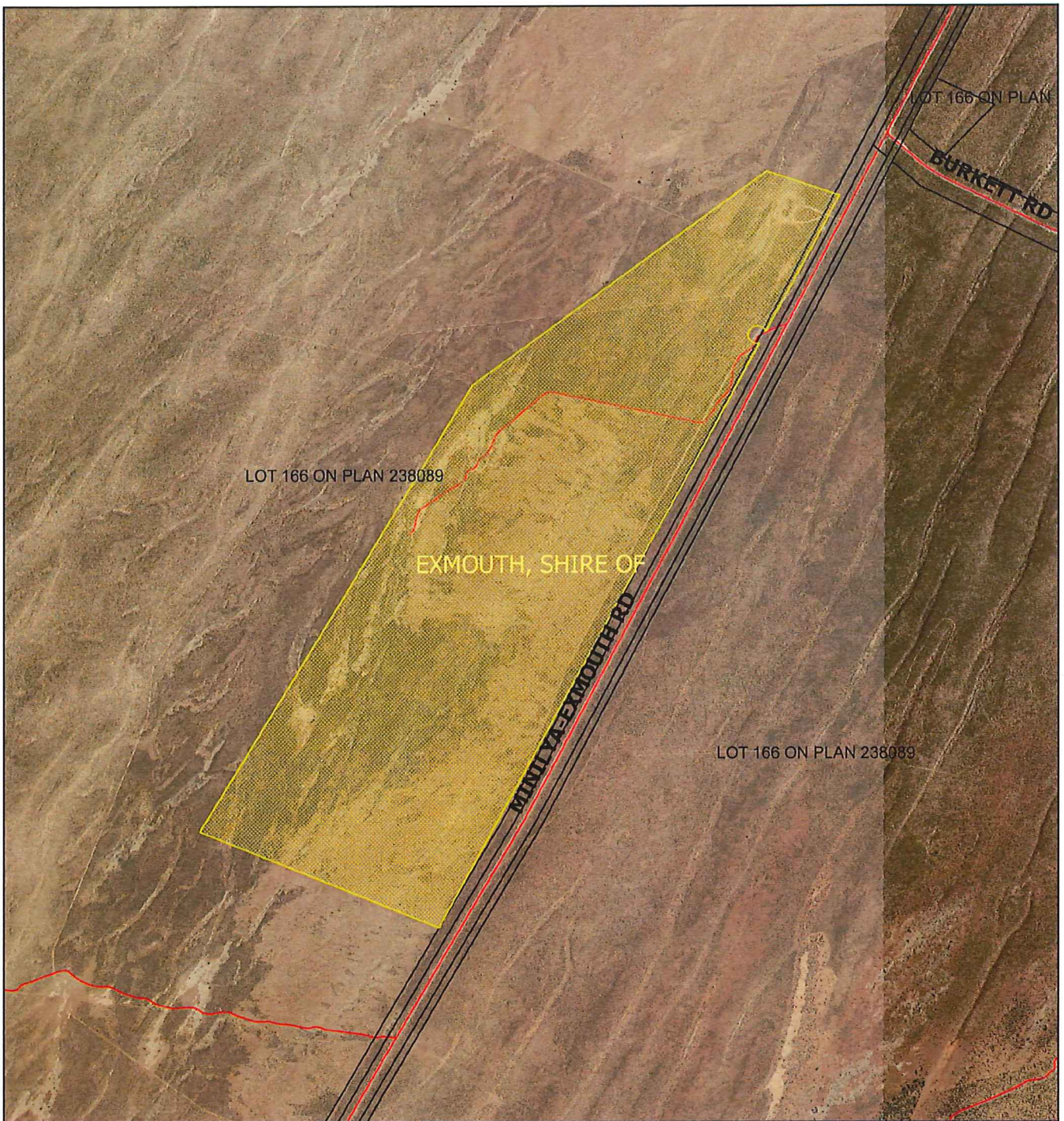
*EBRAMWELL*  
Date 13/10/17

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







GOVERNMENT OF  
WESTERN AUSTRALIA

# Plan 7532/1e



## Legend

-  Areas approved to clear
  -  Cadastre
  -  Roads
  -  LGA
- Virtual Mosaic (LGATE-V001)



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Geocentric Datum of Australia 1994

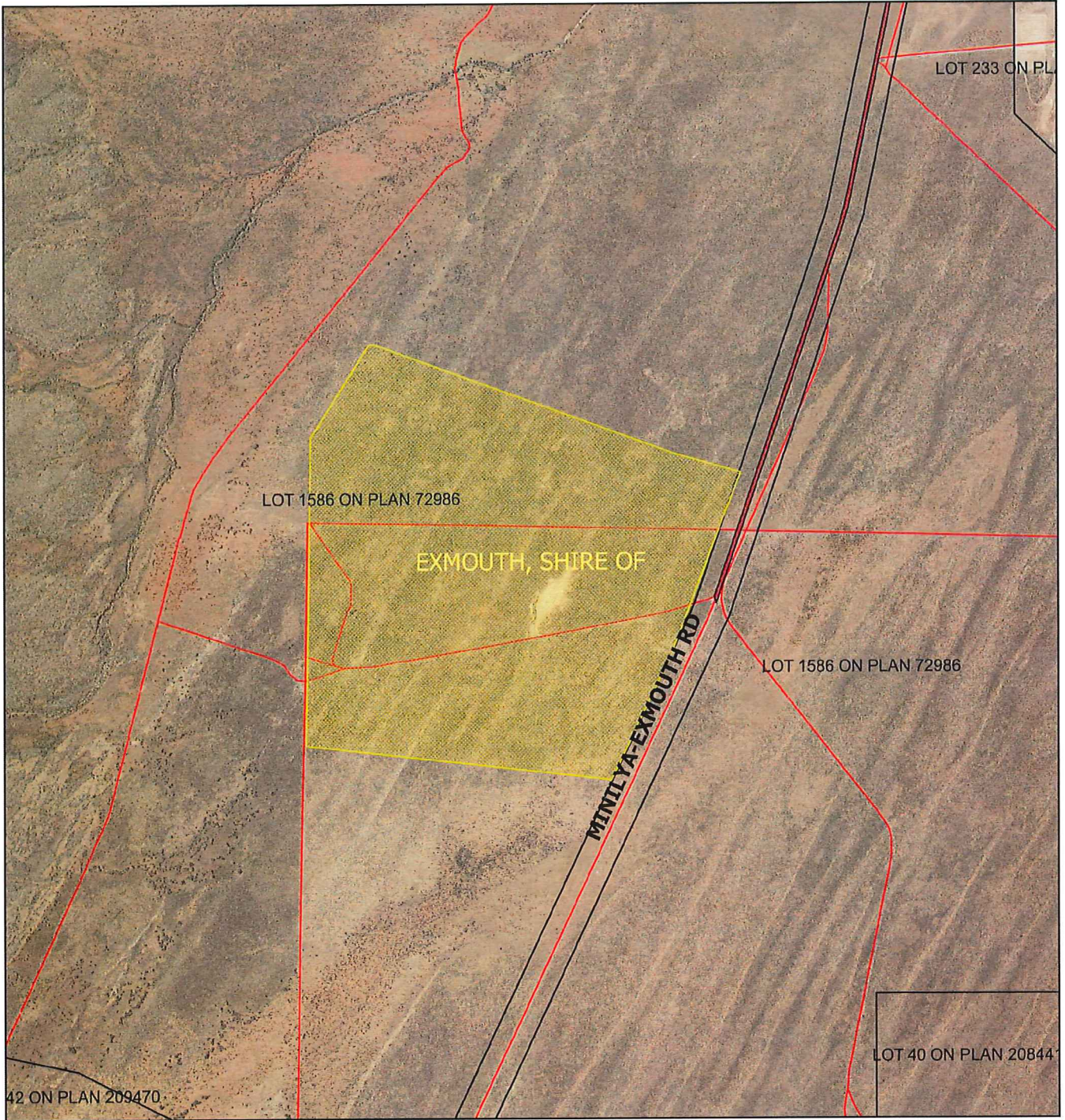
*E. Branwell*  
**E BRANWELL** ..Date **13/10/17**

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





GOVERNMENT OF  
WESTERN AUSTRALIA

# Plan 7532/1f



## Legend

-  Areas approved to clear
  -  Cadastre
  -  Roads
  -  LGA
- Virtual Mosaic (LGATE-V001)



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MGA 94  
Geocentric Datum of Australia 1994

*E Branwell*  
E BRANWELL Date 13/10/17

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



GOVERNMENT OF  
WESTERN AUSTRALIA



## 1. Application details

### 1.1. Permit application details

Permit application No.: 7532/1  
Permit type: Purpose Permit

### 1.2. Applicant details

Applicant's name: Commissioner of Main Roads Western Australia

### 1.3. Property details

Property:  
ROAD RESERVE - 11915963, LYNDON  
ROAD RESERVE - 11728364, LYNDON  
ROAD RESERVE - 11737629, EXMOUTH GULF  
ROAD RESERVE - 11709110, MINILYA  
LOT 1586 ON PLAN 72986, EXMOUTH GULF  
LOT 166 ON PLAN 238089, EXMOUTH GULF  
LOT 176 ON PLAN 28410, LYNDON  
LOT 182 ON PLAN 28412, MINILYA  
LOT 241 ON PLAN 219245, MINILYA  
LOT 250 ON PLAN 219246, LYNDON  
LOT 252 ON PLAN 219248, EXMOUTH GULF  
LOT 253 ON PLAN 219249, EXMOUTH GULF  
Local Government Authority: CARNARVON, SHIRE OF and EXMOUTH, SHIRE OF  
Localities: LYNDON and EXMOUTH GULF and LEARMONTH and MINILYA

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
499		Mechanical Removal	Geotechnical investigations

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 13 October 2017

Reasons for Decision: This clearing permit application was received on 23 June 2017 and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*, and it has been concluded that the proposed clearing is not likely to be at variance to any of the clearing principles. The Delegated Officer determined that the proposed clearing is unlikely to have any significant environmental impacts.

Measures to avoid and minimise impacts: The applicant advised that the application area was chosen on the basis of location of potential material limits, and that the smallest amount of clearing will occur. The applicant also advised that 50 metre buffers have been applied to occurrences of Priority flora and minor non-perennial watercourses.

An occurrence of Priority 1 flora *Eremophila cuneata* within Site 3 of the application area represents a significant range extension of this species. The clearing permit contains a flora management condition in relation to this species. The clearing permit also contains a weed control condition to prevent weed spread into adjacent remnant vegetation.

## 2. Existing Environment and information

### 2.1.1. Description of the native vegetation under application

**Clearing Description** The application is to clear a total of 499 hectares of native vegetation across seven separate sites, for geotechnical investigations. The investigations are proposed to take the form of excavating test pits on a 100 x 100 metre grid prior to backfilling at the completion of excavation.

**Vegetation and Soil Description** Biological surveys undertaken by GHD recorded the following vegetation and soil types within the application area (GHD, 2016a; GHD 2016b):

**Site 1** (7 SLK – 142.6 hectares being Survey Area 2 in GHD, 2016a):

- Beard vegetation association 264 'Low woodland; *Acacia victoriae* & snakewood'
- Tall Acacia Scrub – Tall Acacia Scrub of *Acacia synchronicia*, *A. tetragonopylla*, *A. sclerosperma* with *Salsola australis*, *Scaevola tomentosa* over Bunch Grassland of *\*Cenchrus ciliaris* over Scattered Herbs.
- Claypan – Scattered Shrubs of *Acacia tetragonophylla* over Low Scattered Shrubs of *Ptilotus polakii* subsp. *juxtus* and *Atriplex codonocarpa* over Scattered Tussock Grass of *Eragrostis dielsii* over Scattered Herbs on claypan.

- Trealla Land System 'Elevated Plains and marginal slopes with shallow soils over limestone, supporting moderately close tall acacia shrublands and minor areas of local shrublands of bluebush'.

**Site 2** (54 SLK – 484.5 hectares being Survey Area 1 in GHD, 2016b):

- Beard vegetation association 345 'Mosaic: Shrublands; *Acacia sclerosperma* & *A. victoriae* patchy scrub, barren/Succulent steppe; saltbush & bluebush'.
- Beard vegetation association 658 'Shrublands; *Acacia sclerosperma* & snakewood scrub (also with some waterwood'.
- Beard vegetation association 662 'Hummock grassland; shrub steppe; mixed acacia scrub & dwarf scrub with soft spinifex & *Triodia basedowii*'.
- Mosaic Plain – Mixed High to Low Open Shrubland of *Acacia bivenosa*, *A. synchronicia*, *Eremophila longifolia*, *Scaevola acacioides*, *S. tomentosa* sometimes over Closed Hummock Grassland of *Triodia basedowii* with Scattered Bunch Grass/ Closed Bunch Grass of \**Cenchrus ciliaris*, *Iseilema membranaceum* with Very Open Herbs of *Goodenia forrestii*, *Lobelia heterophylla*.
- Open Shrubland on Sand dune – Open Shrubland of *Grevillea gordoniana*, *Acacia ramulosa* var. *linophylla*, *Melaleuca eleuterostachya* over Low Shrubland of *Crotalaria cunninghamii*, *Quoya loxocarpa*, *Ptilotus polystachyus* over Tussock Grass of \**Cenchrus ciliaris*, *Aristida contorta*, *Eragrostis lanipes* over Herbs of *Goodenia cusackiana*, *Tribulus macrocarpus* on Sand dune.
- Drainage Line – Scattered Shrubs of *Acacia tetragonophylla*, *A. synchronicia*, *A. coricea* over Low Scattered Shrubs of *Solanum lasiophyllum*, *Scaevola spinescens*, *Melaleuca cardiophylla* over Scattered Hummock Grass of *Triodia basedowii* and Bunch Grassland of \**Cenchrus ciliaris* over Scattered Herbs of *Brachyscome onocarpa*, *Streptoglossa decurrens*, *Swainsona elegantoides*, *Ptilotus clementii*, *Phyllanthus erwinii*, *Erodium cygnorum* in Drainage Lines.
- Cardabia Land System 'Undulating sandy plains with linear dunes, minor limestone plains and low rises, supporting mainly soft spinifex hummock grasslands with scattered acacias and other shrubs'.

**Site 3** (62 SLK – 599.7 hectares being Survey Area 2 in GHD, 2016b):

- Beard vegetation association 662 (refer to description under Site 2).
- Mosaic Plain (refer to description under Site 2).
- Triodia Hummock Grassland – *Triodia* Hummock Grassland of *Triodia basedowii*, *T. angusta* with Scattered Shrubs of *Solanum lasiophyllum*, *Pimelea ammocharis*, *Stylobasium spathulatum* over Scattered herbs of *Goodenia cusackiana*.
- Open Low Mixed Shrubland on Sand dune – Open Mixed Shrubland of *Crotalaria cunninghamii*, *Pileanthus septentrionalis*, *Stylobasium spathulatum*, *Dampiera incana*, *Corchorus crozophorifolius* over Tussock Grass of \**Cenchrus ciliaris*, *Eriachne obtusa* and *Triodia* steppe of *T. angusta*, *T. basedowii* on Sand dune.
- Cardabia Land System (refer to description under Site 2).

**Site 4** (116.3 SLK – 278.5 hectares being Survey Area 5 in GHD, 2016a);

**Site 5** (118.2 SLK – 547.4 hectares being Survey Area 6 in GHD, 2016a); and

**Site 6** (128.5 SLK – 549.7 hectares being Survey Area 7 in GHD, 2016a):

- Beard vegetation association 662 (refer to description under Site 2).
- Dune – Scattered Shrubs to Low Scattered Shrubs of *A. tetragonophylla*, *A. coriacea*, *Senna artemisioides* subsp. *oligophylla* with Low Open Shrubland of *Pileanthus septentrionalis* over Hummock Grassland of *Triodia schinzii*, *Triodia basedowii* over Scattered Herbs on dune.
- Interdune – Scattered Shrubs of *Acacia coriacea*, *A. spathulifolia*, *A. bivenosa*, *Hakea stenophylla*, *Eremophila miniata* sometime with Low Open Shrubland of *Dampiera incana*, *A. georgii*, *Thryptomene dampieri*, *Diplopeltis eriocarpa* over Hummock Grassland of *Triodia angusta* over Open Herbs of *Goodenia cusackiana*, *Ptilotus axillaris* between dunes on generally on flats / gentle slopes.
- Calcareous Shield - Scattered Low Trees of *Ficus brachypoda* over Low Open Shrubland of \**Aerva javanica*, *Solanum lasiophyllum*, *Ptilotus obovatus* over Open Bunch Grassland of \**Cenchrus ciliaris* with Very Open Tussock Grassland of *Enneapogon caeruleus* and Very Open Hummock Grassland of *Triodia pungens* over Scattered Herbs over a calcareous shield.
- Cardabia Land System (refer to description under Site 2).

**Site 7** (175 SLK – 454.1 hectares being Survey Area 3 in GHD, 2016b):

- Beard vegetation association 662 (refer to description under Site 2).
- Mosaic Plain (refer to description under Site 2).
- Triodia Hummock Grassland (refer description under Site 3).
- Open Low Mixed Shrubland on Sand dune (refer description under Site 3).
- Low Scattered Shrubland and Herbs on Outcrop – Low Scattered Shrubland of *Calytrix truncatifolia* over Herbs of *Dysphania kalpari*, *Ipomoea yardiensis* on calcareous outcrops.
- Learmonth Land System 'Sandy outwash plains marginal to the Cape Range, supporting mainly soft spinifex hummock grasslands with scattered acacia shrubs'.

**Vegetation Condition**

'Excellent': Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive to  
'Degraded': Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

The vegetation condition was determined from biological surveys undertaken by GHD (GHD, 2016a; GHD, 2016b).

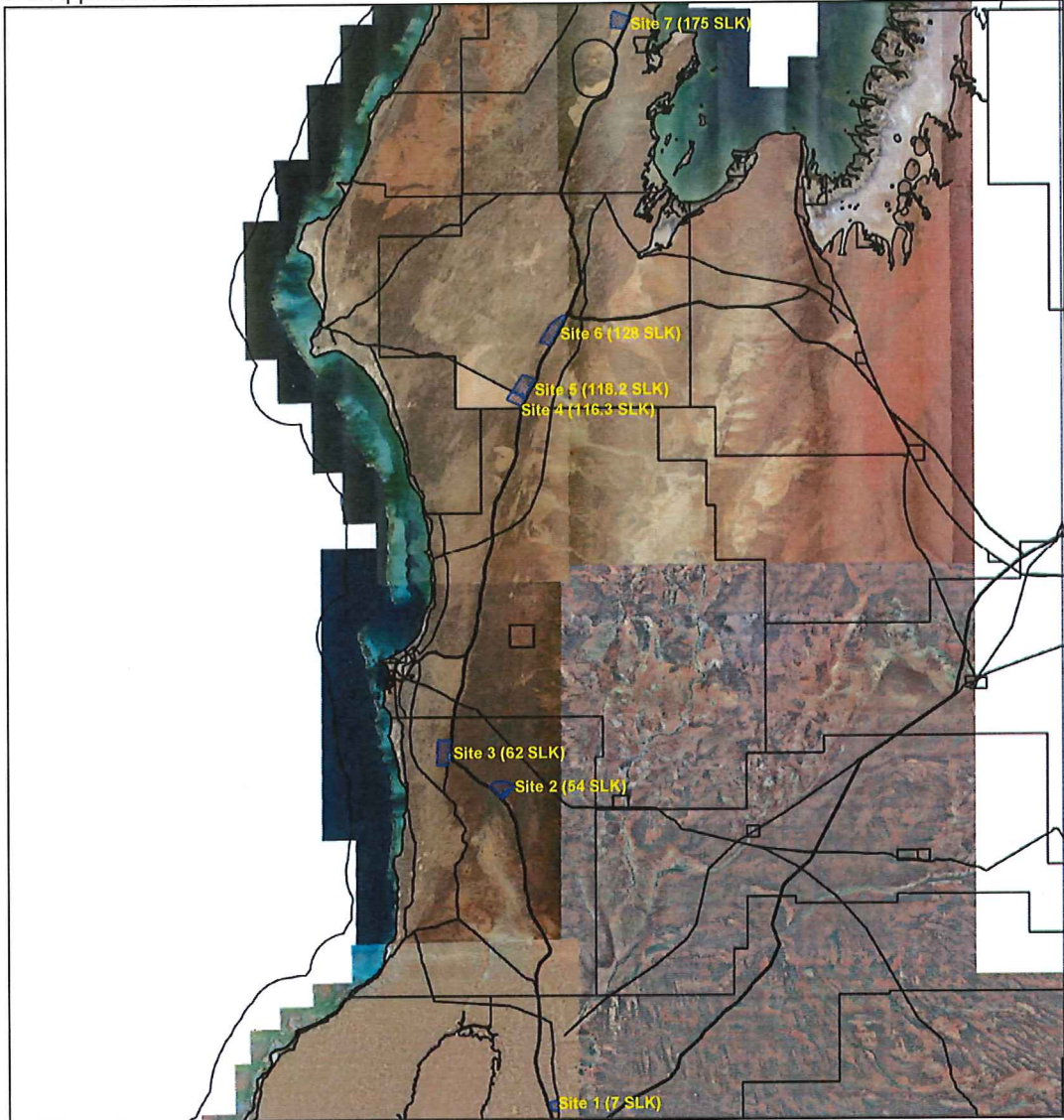
### 3. Assessment of application against Clearing Principles

#### (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**

As outlined in section 2.1.1, the proposed clearing is to allow for test pits over a 100 x 100 metre grid, and cleared areas are proposed to be backfilled once investigations are complete and left to regenerate. Assessment of the application has been undertaken for the extents of the seven surveyed footprints outlined in section 2.1.1, being 3,155.5 hectares in total (refer to Figure 1).

Figure 1: Application area



The applicant advised that the breakdown of the proposed clearing is as follows:

- Site 1: eight hectares within a 36 hectare investigation area;
- Site 2: 96 hectares within a 480 hectare investigation area;
- Site 3: 115 hectares within a 584 hectare investigation area;
- Site 4: 56 hectares within a 280 hectare investigation area;
- Site 5: 112 hectares within a 582 hectare investigation area;
- Site 6: 26 hectares within a 129 hectare investigation area; and
- Site 7: 86 hectares within a 430 hectare investigation area.

The vegetation and soil types recorded within the application area are outlined in section 2.1.1. The local area for the purpose of this assessment is defined as a 10 kilometre radius surrounding the application area, is highly vegetated retaining approximately 99 per cent native vegetation.

According to available databases, six species of Priority flora have been recorded from the local area. Biological surveys undertaken by GHD recorded the following conservation significant flora species within the application area (GHD, 2016a; GHD, 2016b):

- *Eremophila cuneata* (Priority 1) – one individual recorded within Site 3; and
- *Acacia startii* (Priority 3) – 2802 individuals recorded within Site 2 and one within Site 3.

The biological surveys also found that suitable habitat for additional flora of conservation significance may occur within the application area, although these species were not recorded within the application area by GHD (GHD, 2016a; GHD, 2016b):

- two flora listed under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) and four Priority flora within Site 1; and
- four Priority flora within Sites 4, 5 and 6.

The applicant advised that 50 metre buffers have been applied to occurrences of Priority flora within Sites 2, 3, 4, 5 and 6.

The Department of Biodiversity, Conservation and Attractions (DBCA) advised (DBCA, 2017):

- the biological surveys adequately determine the potential floristic diversity of the application area and further flora surveys to determine the presence of species that may be present are not justified;
- impacts to *Acacia startii* are not considered to be significant however, test pits should be aligned to minimise the impact to this species;
- the record of *Eremophila cuneata* represents a range extension of approximately 225 kilometres and is therefore highly significant; the specimen should be submitted to the Western Australian Herbarium for confirmation and if correct, additional targeted surveys of the material pit should be undertaken; as the clearing is to allow for test pits over a 100 x 100 metre grid, the clearing could be designed so that the specimen is avoided with an approximately 50 metre buffer retained; and
- there is potential that suitable habitat for *Swainsona ecallosa* (Priority 1), *Phyllanthus fuemrohrii* (Priority 3) and *Ptilotus alexandri* (Priority 2) may occur within the application area.

As assessed under Principle (d), no threatened ecological communities (TEC) have been recorded within the local area.

According to available databases, one priority ecological community (PEC) has been recorded within the local area. This PEC is associated with Lake McLeod, and is not likely to be impacted by the proposed clearing. The biological surveys did not record any PECs within the application area (GHD, 2016a; GHD 2016b).

As assessed under Principle (b), fauna habitat is well represented within the local area, and the vegetation within the application area is not likely to comprise significant habitat for indigenous fauna.

Noting the presence of Priority flora and suitable habitat for Priority flora within the application area, the application area may comprise a high level of biological diversity. However, noting that the proposed clearing is dispersed over a wide area, the extent of vegetation cover in the local area comprising similar vegetation types, the number of Priority flora recorded within the local area, and that the proposed clearing is temporary and cleared areas will be left to regenerate following works, impacts to biodiversity are unlikely to be significant.

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

Noting DBCA's advice that an occurrence of Priority 1 flora *Eremophila cuneata* within Site 3 of the application area represents a significant range extension of this species, the clearing permit will contain a flora management condition requiring a targeted flora survey for this species within Site 3 and, consistent with the applicant's avoidance measure in relation to other occurrences of Priority flora, the retention of a 50 metre buffer around any individuals identified.

Methodology    References  
- DBCA (2017)  
- GHD (2016a)  
- GHD (2016b)

GIS Databases  
- SAC Bio Datasets - accessed August 2017

**(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**

Biological surveys undertaken by GHD determined that suitable habitat for the Hermite Island worm-lizard (*Aprasia rostrata* subsp. *rostrata*, listed as vulnerable under the EPBC Act and as specially protected under the *Wildlife Conservation Act 1950* (WC Act)) is present within the application area (GHD, 2016a; GHD, 2016b), associated with the Open Shrubland on Sand dune vegetation type within Site 2, Open Low Mixed Shrubland on Sand dune vegetation type within Sites 3 and 7, and Dune vegetation type within Sites 4, 5 and 6.

According to available databases, the Hermite Island worm-lizard has been recorded adjacent to Site 6, approximately five kilometres north of Sites 4 and 5, and approximately 20 kilometres south of Site 3. This species generally occupies red dunes covered by *Triodia* grassland (GHD, 2016a). While suitable habitat for this species was identified within six of the seven Sites of the application area, no individuals were recorded within the application area (GHD, 2016a; GHD, 2016b). This species is highly cryptic and is unlikely to be recorded without a targeted assessment (GHD, 2016b).

The extent of the proposed clearing within Sites 2, 3, 4, 5, 6 and 7 is a total of 491 hectares within a surveyed footprint of 3,012.9 hectares. Vegetation maps contained in the biological surveys (GHD, 2016a; GHD, 2016b) indicate that the extent of suitable habitat within this combined surveyed footprint is estimated to be up to 5 per cent of Sites 4 and 5 (a total of approximately 41.3 hectares), up to 10 per cent of Site 6 (approximately 55 hectares), up to 15 per cent of Site 2 (approximately 72.7 hectares) and up to 20 per cent of Sites 3 and 7 (a total of approximately 210.7 hectares). The applicant advised that suitable habitat within Site 4 will be avoided.

On this basis, taking into account the applicant's advice, and noting the extents of proposed clearing within each of Sites 2, 3, 5, 6 and 7, that the proposed clearing is for test pits over a 100 x 100 metre grid, and that cleared areas are proposed to be backfilled and allowed to regenerate following investigations, the proposed clearing is not likely to significantly impact on habitat for the Hermite Island worm-lizard.

The biological surveys also found that suitable habitat for additional fauna of conservation significance may occur within the application area, although the habitat is not likely to be significant for these species (GHD, 2016a; GHD, 2016b):

- osprey (*Pandion haliaetus*, listed as migratory under the EPBC Act) – within Sites 4, 5 and 6;
- rainbow bee-eater (*Merops ornatus*, listed as migratory under the EPBC Act) – within Sites 1, 4, 5 and 6; and
- peregrine falcon (*Falco peregrinus*, specially protected under the WC Act) – within Sites 1, 2, 4, 5 and 6.

Noting that the proposed clearing is dispersed over a wide area, the extent of vegetation cover in the local area comprising similar vegetation types and fauna habitats, and that the proposed clearing is temporary and cleared areas will be left to regenerate following works, the application area is not likely to comprise the whole or a part of, or be necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

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

**Methodology**    References  
- GHD (2016a)  
- GHD (2016b)

GIS Databases  
- SAC Bio Datasets - accessed August 2017

**(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**

Biological surveys undertaken by GHD did not record any rare flora within the application area (GHD, 2016a; GHD 2016b). GHD noted that suitable habitat for two flora listed under the EPBC Act occurs in Site 1, however these species were not recorded within the application area (GHD, 2016a; GHD, 2016b):

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

**Methodology**    References  
- GHD (2016a)  
- GHD (2016b)

GIS Databases  
SAC Bio Datasets - accessed August 2017

**(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**

According to available databases, no TECs have been recorded within the local area. Biological surveys undertaken by GHD did not record any TECs within the application area (GHD, 2016a; GHD 2016b).

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

**Methodology**    References:  
- GHD (2016a)  
- GHD (2016b)

GIS Databases:  
SAC Biodatasets - accessed August 2017

**(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 likely to be at variance to this Principle**

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).

As indicated in Table 1, the remaining extents of native vegetation within the Carnarvon bioregion, local government authorities, and for each of the vegetation associations are significantly above the minimum 30 per cent representation threshold. The local area (10 kilometre radius) retains approximately 99 per cent native vegetation cover.

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

**Table 1: Vegetation statistics**

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DBCA-managed Lands (%)
<b>IBRA Bioregion*</b>				
Carnarvon	8,382,890	8,360,801	99.7	12.2
<b>Local Government Area*</b>				
Shire of Carnarvon	4,637,448	4,613,555	99.4	7.7
Shire of Exmouth	649,311	635,561	97.8	49.7
<b>Beard Vegetation Association in Bioregion*</b>				
264:	503,682	503,677	99.9	3
345	57,166	57,166	100	0
658	200,282	200,282	100	22
662	282,710	281,679	99.6	7.4

**Methodology**

**References**

- Commonwealth of Australia (2001)
- \*Government of Western Australia (2016)

**GIS Databases**

- Pre-European vegetation
- NWLRA, Vegetation Extent

**(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 likely to be at variance to this Principle**

The applicant advised that 50 metre buffers have been applied to minor non-perennial watercourses within Site 2. According to available databases, no other watercourses or wetlands are mapped within the application area. Biological surveys undertaken by GHD did not record vegetation growing in association with a watercourse or wetland within the application area (GHD, 2016a; GHD 2016b).

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

**Methodology**

**References**

- GHD (2016a)
- GHD (2016b)

**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**

As outlined in section 2.1.1, the proposed clearing is to allow for test pits over a 100 x 100 metre grid, and cleared areas are proposed to be backfilled once investigations are complete and left to regenerate. The soils within the application area are of the Trealla, Cardabia and Learmonth Land Systems comprising shallow soils over limestone, undulating sandy plains, and sandy outwash plains, respectively.

As assessed under Principle (e), the local area is highly vegetated retaining approximately 99 per cent native vegetation.

Noting that the proposed clearing is dispersed over a wide area and is temporary, and that cleared areas will be left to regenerate following works, the proposed clearing is not likely to cause appreciable land degradation.

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

**Methodology** GIS Databases  
- Groundwater Salinity, statewide  
- Rainfall, Mean Annual  
- 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 closest conservation area is the Ningaloo Reef Marine Park, which is approximately six kilometres from the application area. No terrestrial conservation areas occur within the local area.

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

As the application area adjoins remnant vegetation there is a risk of weeds spreading into adjacent remnant vegetation. Weed management practices are likely to mitigate this risk.

**Methodology** GIS Databases  
- Legislated lands and water

**(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**

As outlined in section 2.1.1, the proposed clearing is to allow for test pits over a 100 x 100 metre grid, cleared areas are proposed to be backfilled once investigations are complete and left to regenerate.

As assessed under Principle (f), no watercourses or wetlands are mapped within the application area.

Noting that the proposed clearing is dispersed over a wide area and is temporary, and that cleared areas will be left to regenerate following works, the proposed clearing is not likely to cause deterioration in the quality of surface or underground water.

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

**Methodology** GIS Databases  
- 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**

Noting that the proposed clearing is dispersed over a wide area, and is temporary, and that cleared areas will be left to regenerate following works, the proposed clearing is not likely to cause, or exacerbate, the incidence or intensity of flooding.

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

**Methodology** GIS Databases  
- Rainfall, Mean Annual

**Planning instrument or other matters**

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

The application was advertised in *The West Australian* newspaper on 24 April 2017 with a 21 day submission period. No public submissions have been received in relation to this application.

**Methodology** GIS Databases  
- Aboriginal Sites of Significance  
- Town Planning Scheme Zones

#### 4. References

- GHD (2016a) Main Roads Western Australia Minilya-Exmouth Road Biological Survey, July 2016 (DWER ref. A1398866).
- GHD (2016b) Main Roads Western Australia Strategic Material Areas Minilya-Exmouth Road SLK 54, 62-65, 175.1, and 205.1 Biological Survey, September 2016 (DWER ref. A1398866).
- Department of Biodiversity, Conservation and Attractions (2017) Advice received from the Species and Communities Branch of DBCA in relation to clearing permit application CPS 7532/1. Received 8 June 2017 (DWER ref: A1503356).
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Government of Western Australia (2016) 2016 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2016. 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.
- Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.