



GOVERNMENT OF  
WESTERN AUSTRALIA

## CLEARING PERMIT

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

<b>Purpose Permit number:</b>	CPS 6541/1
<b>Permit Holder:</b>	Chevron Australia Pty Ltd
<b>Duration of Permit:</b>	7 May 2016 to 7 May 2021

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 undertaking the Onslow Utilities Infrastructure Upgrade Project.

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

Lot 85 on Plan 215492 (Reserve 38264), Onslow  
Lot 81 on Plan 184611 (Reserve 37346), Onslow  
Lot 102 on Plan 185612 (Reserve 38337), Onslow  
Lot 127 on Plan 186673 (Reserve 39070), Onslow  
Lot 184 on Plan 219197 (Reserve 38337), Onslow  
Lot 719 on Plan 400252 (Reserve 19291), Onslow  
Lot 880 on Plan 402083 (Reserve 51992), Onslow  
Lot 881 on Plan 402083, (Reserve 47957), Onslow  
Lot 882 on Plan 402083, Onslow  
Lot 883 on Plan 402083, (Reserve 19291), Onslow  
Lot 884 on Plan 402083, (Reserve 38264), Onslow  
Lot 885 on Plan 402083, (Reserve 20632), Onslow  
Lot 886 on Plan 402083, Onslow  
Lot 887 on Plan 402083, Onslow  
Lot 888 on Plan 402083, Onslow  
Lot 889 on Plan 402083, Onslow  
Lot 890 on Plan 402083, Onslow  
Lot 891 on Plan 402083, Onslow  
Lot 893 on Plan 402083, Onslow  
Lot 203 on Plan 219198, Onslow  
Lot 207 on Plan 219197, Onslow  
Lot 282 on Plan 219235, Onslow  
Lot 283 on Plan 219235, Onslow  
Lot 301 on Plan 45790, Onslow  
Lot 152 on Plan 220265, Talandji  
Lot 186 on Plan 219155, Talandji  
Lot 280 on Plan 219235, Talandji  
Lot 509 on Plan 69198, Talandji  
Lot 519 on Plan 69198, Talandji  
Lot 530 on Plan 69198, Talandji  
Lot 535 on Plan 69198, Talandji  
Lot 555 on Plan 74894, Talandji  
Lot 556 on Plan 74894, Talandji  
Lot 557 on Plan 74894, Talandji  
Lot 558 on Plan 71346, Talandji  
Lot 561 on Plan 71346, Talandji  
Lot 149 on Plan 220384, Peedamulla  
Lot 279 on Plan 219235, Peedamulla

Lot 281 on Plan 219235, Peedamulla  
Unallocated Crown Land (PINs 12160548, 12166708, 11866150, 11953192), Onslow  
Road reserves (PINs 12185014, 11788844, 11732965, 11732966, 11730565, 11732962  
11932769), Onslow, Peedamulla and Talandji  
Water Feature (PIN 11953180), Onslow

### 3. Area of Clearing

The Permit Holder must not clear more than 389 hectares of native vegetation within the area cross hatched yellow on attached Plan 6541/1.

### 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.

## PART II – MANAGEMENT CONDITIONS

### 5. Weed control

When undertaking any clearing or other activity pursuant to 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.

### 6. Flora management

- (a) Prior to undertaking any clearing within the inland sand dune vegetation units ID1 and ID2 and claypan vegetation unit C3, as identified within the 'Wheatstone Project, Desktop Review of the Proposed Onslow Micro-Siting Survey Area' the Permit Holder shall engage a *botanist* to undertake a Level 2 survey of the ID1, ID2 and C3 areas to be cleared in accordance with *Guidance Statement No. 51* to identify possible occurrences of, and habitat suitable for *priority flora*.
- (b) Prior to undertaking any clearing, where an area has been identified in accordance with condition 6(a) as containing possible occurrences of, and habitat suitable for *priority flora*, the Permit Holder shall engage a *botanist* to inspect that area for the presence of *priority flora*.
- (c) Where *priority flora* are identified in relation to condition 6(b) of this Permit, the Permit Holder shall ensure that:
  - (i) no clearing occurs within 50 metres of identified priority 1 flora, unless approved by the CEO in writing;
  - (ii) no clearing occurs within 20 metres of identified priority 2, 3 and 4 flora, unless approved by the CEO in writing; and
  - (iii) no clearing of identified *priority flora* occurs unless approved by the CEO in writing.

### 7. Fauna management

- (a) In relation to the area cross hatched yellow on attached Plan 6541/1, the Permit Holder must engage a *fauna specialist* to be present on site for the duration of clearing to identify the presence of terrestrial fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice* and *priority fauna*.
- (b) Clearing must cease in any area where any terrestrial fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice* and *priority fauna* are identified until either:
  - (i) the individual(s) has been removed by a *fauna specialist*; or
  - (ii) the individual(s) has moved on from that area to adjoining suitable habitat.
- (c) Any terrestrial fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice* and *priority fauna* removed in accordance with condition 7(b)(i) of this Permit must be relocated by a *fauna specialist* to an area of suitable habitat.

## 8. 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) Within 12 months following the completion of extractive activities, *revegetate* and *rehabilitate* the area(s) that are no longer required for the purpose for which they were cleared under this Permit by:
  - (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land; and
  - (ii) ripping the ground on the contour to remove soil compaction; and
  - (iii) ripping the pit floor and contour batters within the extraction site; and
  - (iv) laying the vegetative material and topsoil retained under condition 8(a) on the cleared area.
- (c) Within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 8(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 species composition structure and density determined under condition 8(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* is undertaken in accordance with condition 8(c)(ii) of this permit, the Permit Holder shall repeat condition 8(c)(i) and 8(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 8(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 8(c)(ii), the CEO may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 8(c)(ii).

## PART III – MONITORING, RECORD KEEPING AND REPORTING

### 9. Records to 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 or decimal degrees;
  - (ii) the date that the area was cleared; and
  - (iii) the size of the area cleared (in hectares).
- (b) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 8 of this Permit:
  - (i) 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 or decimal degrees;
  - (ii) a description of the *revegetation* and *rehabilitation* activities undertaken;
  - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares);
  - (iv) the species composition, structure and density of *revegetation* and *rehabilitation*, and
  - (v) a copy of the environmental specialist's report.
- (b) In relation to flora management pursuant to condition 6 of this Permit:
  - (i) the location of each *priority flora* species recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
  - (ii) the species name of each *priority flora* species identified; and
  - (iii) a copy of the *botanist's* flora survey report.

## 10. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
- (i) of records required under condition 9 of this Permit; and
  - (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.
- (b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the CEO on or before 31 December of each year.
- (c) Prior to 30 January 2021, the Permit Holder must provide to the CEO a written report of records required under condition 9 of this Permit where these records have not already been provided under condition 10(a) of this Permit.

## 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;

**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 is engaged by the Permit Holder for the purpose of providing environmental advice, 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;

**fauna specialist:** means a person who holds a tertiary qualification specializing in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Wildlife Conservation Act 1950*;

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

**Guidance Statement No. 51** means the Environmental Protection Authority Guidance Statement No 51, Guidance for the Assessment of Environmental Factors - Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia (2004);

**local provenance** means native vegetation seeds and propagating material from natural sources within 10 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;

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

**priority fauna:** means those fauna taxa describes as priority fauna, classes 1, 2, 3, 4 or 5 in the *Department of Parks and Wildlife's Threatened and Priority Fauna Rankings List for Western Australia* (as amended);

**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);

**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 Parks and Wildlife Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.

**Wildlife Conservation (Specially Protected Fauna) Notice** means those fauna taxa gazetted as rare fauna pursuant to section 14(4)(a) of the *Wildlife Conservation Act 1950* (as amended).



Reuben Gregor  
A/SENIOR MANAGER  
CLEARING REGULATION

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

7 April 2016

# Plan 6541/1



## Legend

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



1:143,848

MSA 94  
Geocentric Datum of Australia 1994

*Reuben Gregor* Date *7 Apr 2016*  
Reuben Gregor

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





## 1. Application details

### 1.1. Permit application details

Permit application No.: 6541/1  
Permit type: Purpose Permit

### 1.2. Applicant details

Applicant's name: Chevron Australia Pty Ltd

### 1.3. Property details

Property: Lot 85 on Plan 215492 (Reserve 38264), Onslow  
 Lot 81 on Plan 184611 (Reserve 37346), Onslow  
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 Water Feature (PIN 11953180), Onslow

Local Government Authority: ASHBURTON, SHIRE OF  
 DER Region: North West  
 LCDC: ASHBURTON  
 Localities: PEEDAMULLA, ONSLOW and TALANDJI

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
389		Mechanical Removal	Water/gas/cable/pipeline/power installation

### 1.5. Decision on application

Decision on Permit Application: Grant  
 Decision Date: 7 April 2016

**Reasons for Decision:**

The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and has concluded that the proposed clearing is at variance to principle (f), may be at variance to principle (a), is not at variance to principle (e) and is not likely to be at variance to the remaining clearing principles.

Through assessment it has been determined that the clearing may impact priority flora species and conservation significant terrestrial fauna species. However, imposing permit conditions for flora management measures, that restrict any clearing within 50 metres of identified priority 1 flora species and within 20 metres of priority 2, 3 and 4 flora species will minimise impacts on priority flora species. Conditioned fauna management measures that involve a pre-clearing inspection of the clearing area for conservation significant fauna, and subsequent removal and relocation of any conservation significant fauna identified, will help to minimise impacts to fauna species.

The assessment has determined that the clearing will impact on 24.35 hectares of tidal mudflat and tidal creek habitats. The use of horizontal directional drilling for installation of the water pipeline and long span power transmission lines that will not require supporting poles will help to ensure that normal water flow is maintained and current hydrological systems are not adversely impacted.

The applicant has received works approval from the Department of Environment Regulation (DER) for a power station associated with the project. DER has provided in principle agreement for works approval associated with a desalination plant, pending approval from the Radiological Council.

Relevant State policies and other relevant policies have been taken into consideration in the decision to grant a clearing permit.

## 2. Site Information

### 2.1. Existing environment and information

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

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard vegetation association 676 is described as succulent steppe; samphire (Shepherd et al., 2001).	Chevron Australia Pty Ltd has applied to clear 389 hectares of native vegetation within various properties, road reserves, unallocated Crown land and water feature, Onslow, Peedamulla and Talandji for the purpose of undertaking the Onslow Utilities Infrastructure Upgrade Project.	Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994)	Several flora and vegetation based studies, covering various portions of the current application area have been previously undertaken. These studies together with aerial imagery were incorporated to form a desktop study of the application area by Biota Environmental Services (2013). This desktop study identified 15 vegetation units amongst six vegetation habitat classifications within the application area.
Beard vegetation association 117 is described as hummock grasslands, grass steppe; soft spinifex (Shepherd et al., 2001).		To	<b>Tidal Mudflats and Tidal Creeks Habitat</b> Vegetation unit T1 comprises bare mudflats and areas of <i>Tecticornia</i> spp. scattered low shrubs.
Beard vegetation association 127 is described as bare areas; mud flats (Shepherd et al., 2001).		Completely Degraded: No longer intact; completely /almost completely without native species (Keighery, 1994)	<b>Coastal Sand Dunes Habitat</b> Vegetation unit CD1 comprises <i>Acacia coriacea</i> subsp. <i>Coriacea</i> , <i>Crotalaria cunninghamii</i> tall shrubland over <i>Spinifex longifolius</i> and <i>Cenchrus ciliaris</i> (exotic) open tussock grassland.
Beard vegetation association 670 is described as hummock grasslands, shrub steppe; scattered shrubs over <i>Triodia basedowii</i> (Shepherd et al., 2001).			Vegetation unit CD2 comprises <i>Acacia coriacea</i> subsp. <i>coriacea</i> tall shrubland over <i>Crotalaria cunninghamii</i> , <i>Trichodesma zeylanicum</i> var. <i>grandiflorum</i> open shrubland over <i>Triodia epactia</i> open hummock grassland and open tussock grassland.
			<b>Inland Sand Dunes Habitat</b> Vegetation unit ID1 comprises <i>Grevillea stenobotrya</i> tall open shrubland over <i>Crotalaria cunninghamii</i> , <i>Trichodesma zeylanicum</i> var. <i>grandiflorum</i> open shrubland over <i>Triodia epactia</i> open hummock grassland.



Vegetation unit ID2 comprises *Grevillea stenobotrya* tall open shrubland over *Crotalaria cunninghamii*, *Hibiscus brachychlaenus* open shrubland over *Triodia schinzii* open hummock grassland.

Vegetation unit ID3 comprises *Acacia stellaticeps* shrubland over *Triodia epactia* hummock grassland.

#### **Coastal Sand Plains Habitat**

Vegetation unit CS1 comprises *Acacia tetragonophylla* scattered shrubs over *Triodia epactia* hummock grassland in mosaic with *Sporobolus mitchellii*, *E. benthamii* and *Eulalia aurea* tussock grassland.

Vegetation unit CS2 comprises *Acacia tetragonophylla* scattered shrubs over *Triodia epactia* hummock grassland.

Vegetation unit CS3 comprises *Acacia tetragonophylla* scattered shrubs over *Scaevola pulchella*, *Indigofera monophylla* low open shrubland over *Triodia epactia* hummock grassland.

Vegetation unit CS4 comprises *Acacia tetragonophylla*, *A. synchronicia* scattered tall shrubs over *Triodia epactia* very open hummock grassland.

#### **Clay Pans Habitat**

Vegetation unit C1 comprises bare claypans.

Vegetation unit C3 comprises *Tecticornia* spp. low shrubland.

Vegetation unit C4 comprises *Prosopis pallida* (exotic), *Atriplex bunburyana* open shrubland over *Triodia epactia* open hummock grassland and *Cenchrus ciliaris* (exotic) open tussock grassland.

#### **Clayey Plains**

Vegetation unit CP1 comprises *Sporobolus mitchellii*, *E. benthamii* and *Eulalia aurea* tussock grassland.

Vegetation unit CP6 comprises *Lawrencia viridigrisea* low open shrubland over *Triodia epactia* open hummock grassland over open tussock grassland.

### **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 may be at variance to this Principle**

This application proposes to clear 389 hectares of native vegetation within various properties, road reserves, unallocated Crown land and a water feature, Onslow, Peedamulla and Talandji for the purpose of undertaking the Onslow Utilities Infrastructure Upgrade Project. This project includes the construction of a water treatment (desalination) plant, power station, zone substation, site offices and amenities, laydown areas, power and water supply infrastructure, borrow pits, pipelines, power transmission lines, access roads and associated infrastructure and works (Chevron Australia Pty Ltd, 2015).

Several flora and vegetation based studies, covering various portions of the current application (in total less than half) have been previously undertaken. The information derived from these studies has been used to identify vegetation descriptions for the entirety of the application area. This has been done via extrapolation from comparable adjacent habitats recorded within the previous studies in conjunction with interpretation of aerial photography and site data (Biota Environmental Services, 2013). Approximately 56 hectares of the application area has undergone previous disturbance and the condition of the vegetation ranges from completely degraded to very good (Keighery, 1994 and Biota Environmental Services, 2013). The major disturbances on site are largely a result of vehicle activity, pastoral grazing and weed invasion (Biota Environmental Services, 2013).

Using the abovementioned method of vegetation assessment across the site, it has been determined that there are six vegetation habitat classifications within the application area (Biota Environmental Services, 2013):

- The Tidal Mudflats and Tidal Creeks comprise bare mudflats, with scattered shrubs.
- The Coastal Sand Dunes comprise foredunes and near-coastal sand dunes, distinct from the red sand dunes further inland. This habitat consists of an overstorey dominated by *Acacia coriacea* subsp. *coriacea*, with beach spinifex (*Spinifex longifolius*) in the understorey. The beach spinifex is replaced by soft spinifex (*Triodia epactia*) further inland.
- The Inland Sand Dunes are distinguished broadly by the dominance of *Triodia epactia* versus *Triodia schinzii* in the hummock grassland understorey. Narrow swales between these dunes typically feature scattered tall shrubs of the dominant dune species, with a higher density of *Acacia stellaticeps* low shrubs.

A number of the plant species recorded from the Inland Sand Dunes are restricted to sandy substrates. These species include the priority 3 shrubs *Eremophila forrestii* subsp. *viridis* and *Triumfetta echinata*, and the undescribed taxon *Aenictophyton* aff. *reconditum*. All of these species were recorded from a small number of inland sand dunes within a broader study area, including both of the inland dune vegetation units.

- The Coastal Sand Plains comprise a significant portion of the habitat on site. This habitat consists of flat to gently undulating sandy inland plains broadly dominated by soft spinifex (*Triodia epactia*) hummock grasslands with a varying degree of invasion by introduced perennial grasses.
- Claypan areas are scattered throughout the survey area and range in size and degree of connectivity with tidal areas (connected and seasonally inundated; or isolated). The degree of vegetative cover on these claypans varies, but most are fringed by a narrow band of ephemeral grasses, sedges and herbs, including species such as *Calotis plumulifera*, *Centipeda minima* subsp. *macrocephala*, *Dysphania plantaginella* and *Eragrostis leptocarpa*.
- The broader areas of Clayey Plains are thought to support tussock grassland, with smaller pockets of these plains associated with drainage depressions, which are expected to support tall shrublands of native species and introduced Mesquite (*Prosopis pallida*) over tussock grassland.

The two inland sand dune vegetation units ID1 and ID2, and the claypan vegetation unit C3 are considered to have high local conservation significance (Parks and Wildlife, 2015 and Biota Environmental Services, 2013). These units cover approximately 42.91 hectares of the application area and have the potential to support priority flora species or other species of potential conservation significance (Chevron Australia Pty Ltd 2015).

One priority flora species, *Eremophila forrestii* subsp. *viridis* (priority 3), has been identified within the application area (Biota Environmental Services, 2013). This species is a much-branched shrub, growing to approximately one metre and flowers in August (Western Australian Herbarium, 1998- ). The taxon is associated with red dunes and was located within the Inland Sand Dunes habitat (Biota Environmental Services, 2013). The records near Onslow appear to be a significant western extension of the range of this species (Parks and Wildlife, 2015).

One other priority flora species has been recorded adjacent to the application area. *Triumfetta echinata* (priority 3) is a prostrate shrub that grows to 0.3 metres high. This species flowers in August and was also located within the Inland Sand Dunes habitat. The limited information available on this species suggests that it is not locally common and restricted to red dunes (Parks and Wildlife, 2015).

*Eleocharis papillosa*, a priority 3 species, and listed as vulnerable under the Environment Protection and Biodiversity Conservation Act 1999, has been recorded approximately 150 metres from the southern boundary of the project area. An assessment of likely habitat for this species was undertaken and it was concluded that suitable habitat for this species is not likely to occur within the application area (Biota Environmental Services, 2013), however cannot be precluded on the basis of known populations in close proximity, including one known location recorded within 150 metres of the southern boundary of the application area.

Given the significance of the inland sand dune vegetation units and the claypan vegetation unit, the proponent would be required to undertake a targeted flora survey of these areas to determine the extent of priority flora within these vegetation units. The survey should be appropriately timed to detect the presence of targeted conservation significant flora taxa and be conducted by a suitably qualified botanist. If priority taxa are recorded, the extent of the local population should be recorded to enable an assessment of the proportional impact of the proposal to the local population (Parks and Wildlife, 2015).

No rare flora have been identified within the application area (Biota Environmental Services, 2013), and there are no records of rare flora within the local area (20 kilometre radius). Similarly, there are no threatened or priority ecological communities mapped within the local area and none identified within the various flora studies undertaken on site.

Several fauna species of conservation significance have been recorded within the local area (20 kilometre radius) (Parks and Wildlife, 2007- ). Of these, the application area provides suitable habitat for *Lerista planiventralis maryani* (priority 1), *Leggadina lakedownensis*, (short-tailed mouse, priority 4), *Burhinus grallarius* (bush stone-curlew, priority 4), *Numenius madagascariensis*, (eastern curlew, threatened) and several other migratory avian species (Biota Environmental Services, 2013).

These species have wide distributions and are generally found within a variety of habitats, therefore the largely linear area of vegetation under application is not likely to represent significant habitat (Parks and Wildlife, 2015a), particularly given the extensively vegetated surrounding area (95 per cent vegetative cover in the local area). However, the proposed clearing may result in fauna injuries or deaths during works. The proponent would therefore be required to identify and relocate any terrestrial fauna species of conservation significance during clearing.

The proposed clearing intersects one natural drainage area, identified as salt evaporation ponds associated with Onslow Salt Proprietary Limited (Chevron Australia Pty Ltd, 2015). The applicant has advised that this area comprises bare or sparsely vegetated supra-tidal mudflats that are exposed to tidal influences only during storm events. It is advised that disturbance to these areas during construction will be minimised by using horizontal directional drilling techniques for the water pipeline and the use of power transmission lines that will not require supporting poles in this area. It is further advised that clearing will not occur in, or surrounding drainage areas (Chevron Australia Pty Ltd, 2015).

There are seven weed species recorded in the application area and a further three that are considered likely to occur within the application area (Biota Environmental Services, 2013). Of these, two species are classified as Weeds of National Significance. These species are *Prosopis glandulosa* and *Prosopis pallida* (Biota Environmental Services, 2013). The applicant (Chevron Australia Pty Ltd, 2015a) has advised that measures to mitigate against the spread of these species include:

- Demarcation of *Prosopis glandulosa* and *Prosopis pallida* prior to clearing;
- Any areas containing *Prosopis glandulosa* and *Prosopis pallida* to be removed separately prior to other clearing taking place;
- *Prosopis glandulosa* and *Prosopis pallida* to be disposed of in a manner that will ensure seed is not viable;
- Vehicle weed inspection and wash down points will be installed; and
- Weed free certification requirements for vehicles will be recorded in a Construction Execution Permit system.

The application area contains habitat types (ID1, ID2 and C3) that are considered to have high local conservation significance, therefore the proposed clearing may be at variance to this Principle. Prior to clearing, the proponent would be required to survey these areas for conservation significant flora.

#### Methodology

##### References:

- Biota Environmental Services (2013)
- Chevron Australia Pty Ltd (2015)
- Chevron Australia Pty Ltd (2015a)
- Parks and Wildlife (2007- )
- Parks and Wildlife (2015)
- Parks and Wildlife (2015a)
- Keighery (1994)
- Western Australia Herbarium (1998-)

##### GIS Databases:

- SAC Bio Datasets (Accessed March 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 is not likely to be at variance to this Principle**

A previous fauna survey of the Wheatstone Project Area which encompassed a southern portion of the application area, identified 128 vertebrate species, comprising 51 herpetofauna species, 60 avifauna species and 17 mammals (Biota Environmental Services, 2013). This assemblage is considered representative of the likely terrestrial fauna assemblage of the current application area given the close proximity of the Wheatstone Project Area and similarity of mapped habitat types between these areas (Biota Environmental Services, 2013).

Of the species identified in the Wheatstone fauna survey, the Biota Environmental Services (2013) desktop review determined that two species of conservation significance may occur within the application area, these being, little northern freetail-bat (*Mormopterus loriae cobourgensis*; priority 1), and Australian bustard (*Ardeotis australis*; removed from the priority species list on 2 December 2014 ).

The little northern freetail-bat has a preference for mangrove forests and adjacent areas. This species was recorded via echolocation calls in the Wheatstone survey area. The proposed clearing site falls within the known distribution of this species, however the preferred habitat for this species is mangrove stands, particularly ones that contain *Avicennia marina* (Parks and Wildlife, 2015a). This habitat type hasn't been identified within the application area (Biota Environmental Services, 2013), and it is unlikely to represent significant habitat for this species.

The Australian bustard was removed from the priority species list on 2 December 2014. This species has a large distribution and is known from a variety of known vegetation communities, therefore the vegetation under application is not likely to represent significant habitat for this species (Parks and Wildlife, 2015a).

Whilst not recorded within the Wheatstone fauna survey, it is considered that *Lerista planiventralis maryani* (priority 1, no common name) may potentially occur in the northern part of the application area, as it has been previously recorded at Onslow and the application area is within the known distribution of this species (Biota Environmental Services, 2013). This species has a preference for sparsely vegetated areas on sandy soils, which is consistent with the Inland Sand Dune habitat type (Parks and Wildlife, 2015a). The vegetation under application is not likely to represent significant habitat for this species given its wide distribution (Parks and Wildlife, 2015a), however the proposed clearing may result in fatalities of individuals during construction works.

The priority 4 short-tailed mouse (*Leggadina lakedownensis*) may also occur within the application area, as there is suitable (preferred) habitat (cracking clay) for this species on site, and it has been recorded previously nearby the application area (Biota Environmental Services, 2013). This species is found sporadically across northern Western Australia, with population numbers fluctuating dramatically in response to climate and seed availability (Parks and Wildlife, 2015a). This species is known from a diverse array of habitats, it has a wide known distribution and population numbers naturally fluctuate in response to climate and resources, therefore the application area is not likely to represent significant habitat for this species (Parks and Wildlife, 2015a).

However there is a possible direct impact to fauna during clearing if they are present on site at the time of disturbance.

The bush stone-curlew (*Burhinus grallarius*, priority 4) and eastern curlew (*Numenius madagascariensis*, Threatened) may also be found in coastal sections of the study area near Onslow.

The vegetation under application includes sand plains and spinifex grasslands which is the preferred habitat for bush stone-curlew (Parks and Wildlife, 2015a). This species has a large distribution (found throughout Western Australia), and given the variety of vegetation types this species is known from, and the continuity of vegetation around the site, the vegetation under application is unlikely to represent significant habitat (Parks and Wildlife, 2015a).

The eastern curlew is a summer migrant to Western Australia's coastal areas between August and May. The proposed clearing site contains areas of tidal mudflats, known habitat for this species (Parks and Wildlife, 2015a). Given that this species does not breed in Australia, the continuity of mudflats adjacent to the application area and the wide distribution of this species, the vegetation on site is unlikely to represent significant habitat (Parks and Wildlife, 2015a). The mobile nature of the bush stone-curlew and eastern curlew means there is unlikely to be direct losses associated with clearing.

The application area may provide suitable habitat for other migratory bird species, however, given the surrounding extensively vegetated landscape, and that migratory species are highly mobile, the proposed clearing is not likely to significantly impact these species.

To mitigate impacts to fauna, the proponent has advised that areas required temporarily will be revegetated post clearing (Chevron Australia Pty Ltd, 2015).

Based on the information provided, the proposed clearing area is not likely to provide significant habitat for conservation significant fauna. However, to minimise fauna deaths, the proponent would be required to remove and relocate conservation significant terrestrial fauna from the site prior to clearing to similar habitat adjacent to the proposed clearing.

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

**Methodology**    References:  
-Parks and Wildlife (2015a)  
-Biota Environmental Services (2013)  
-Chevron Australia Pty Ltd (2015)

**(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**  
Several historical flora and vegetation studies covering various portions of the application area, did not identify any rare flora (Chevron Australia Pty Ltd, 2015), and there are no records of rare flora within the local area (20 kilometre radius). Furthermore, a desktop study of the application area determined that based on the habitat types on site, the proposed clearing is unlikely to impact on any species of rare flora (Biota Environmental Services, 2013).

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

**Methodology**    References:  
-Biota Environmental Services (2013)  
-Chevron Australia Pty Ltd (2015)  
  
GIS Databases:  
-SAC Bio Datasets (Accessed March 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 not likely to be at variance to this Principle**  
 The closest threatened ecological community (TEC) to the application area is the critically endangered Camerons Cave Troglobitic Community, mapped 110 kilometres south west of the application area. Given the distance to this community, it is not likely that the proposed clearing will impact on this TEC.

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

**Methodology**    GIS Databases:  
 -SAC Bio Datasets (Accessed March 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 not at variance to this Principle**  
 The vegetation surrounding the application area (20 kilometre radius) retains approximately 95 per cent vegetation cover.

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).

The Carnarvon Bioregion and Shire of Ashburton retain approximately 99 per cent of their pre-European extents (Government of Western Australia 2014).

The vegetation under application is mapped as Beard vegetation associations 670, 127, 676, and 117, which all retain between approximately 97 and 99 per cent of their pre-European vegetation extents within the Carnarvon IBRA Bioregion (Government of Western Australia 2014). These figures are all considerably greater than the abovementioned 30 per cent threshold, therefore the application area is not considered to be within an extensively cleared landscape.

The application area includes one species of priority flora and contains vegetation units that are considered to have local conservation significance, however as the application area is not within an extensively cleared landscape, the proposed clearing is not at variance to this Principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
<b>IBRA Bioregion*</b>				
Carnarvon	8 382 890	8 360 803	99	12
<b>Shire*</b>				
Shire of Ashburton	10 086 658	10 059 963	99	16
<b>Beard Vegetation Association in Bioregion*</b>				
670	147 809	147 792	99	12
127	102 781	101 490	99	2
676	51 984	51 233	99	29
117	64 408	62 141	97	29

**Methodology**    References:  
 Commonwealth of Australia (2001)  
 \*Government of Western Australia (2013)

**(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**  
 A portion of the application area is within an estuarine tidal flat, with numerous areas subject to inundation intersecting the application area. There is a non-perennial lake mapped within the southern section of the application area and a number of other non-perennial lakes are mapped within close proximity. Two of the Beard vegetation associations (127 and 676) mapped within the application area contain vegetation associated with watercourses (Shepherd et al., 2001).

A desktop review of the application area undertaken by Biota Environmental Services (2013) determined that approximately 24.35 hectares of the tidal mudflat and tidal creek habitats identified on site will be impacted by the proposed clearing. Riparian zones and the edges to watercourses provide an important habitat to migratory avian species.

The proponent has advised that disturbance to the natural drainage area intersected by the application area will be minimised by using horizontal directional drilling for installation of the water pipeline and through the use of long span power transmission lines that will not require supporting poles. It is further advised that no significant disturbance is expected to drainage lines from the proposed construction, therefore the current hydrological systems will not be affected (Chevron Australia Pty Ltd, 2015).

The proposed clearing is at variance to this Principle.

**Methodology** References:  
-Chevron Australia Pty Ltd (2015)  
-Biota Environmental Services (2013)  
-Shepherd et al. (2001)

GIS Databases:  
Hydrography, linear  
Hydrography, hierachy

**(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 comprises three landform types with the differing soil types mapped for each. The Dune Land System consists of :

- self-mulching cracking clays and red/brown non-cracking clays in swamps and depressions
- deep sands within linear and reticulated dunes swales and sandplains; and
- deep red/brown non-cracking clay on claypans

The Littoral Land System consists of:

- red shallow sands on limestone ridges
- tidal soils on tidal flats
- red/brown non cracking clays mixed with tidal soils on samphire flats; and
- red deep sandy duplex soils on alluvial plains

The Onslow Land System consists of:

- red deep sands and red sandy earths on sandplains
- deep red/brown non cracking clays on the clay plains; and
- red deep loamy duplex soils and deep red/brown non cracking clays on the saline flats and claypans (Biota Environmental Services, 2013)

The 389 hectares of proposed clearing is spread along a linear distance of approximately 14.5 kilometres, therefore whilst some wind erosion of the lighter sandplain soils may occur immediately post clearing, it is not expected that this will result in appreciable land degradation, particularly given the highly vegetated bordering areas.

Water erosion has the potential to occur during heavy rainfall periods on the disturbed tidal mudflat and tidal creek areas. The extent of clearing estimated within these habitats is 24.35 hectares, and these habitat types occur intermittently over the length of the application area. Therefore it is not likely that any water erosion caused by clearing will lead to appreciable land degradation.

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

**Methodology** References:  
Biota Environmental Services (2013)

**(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**  
There are several Parks and Wildlife managed lands within the local area (20 kilometre radius). The closest of these is Mount Minnie, former leasehold land, which is located approximately 7.5 kilometres from the application area. The remaining Parks and Wildlife managed lands within the local area comprise nature reserves on the surrounding islands.

Given the distance to the closest conservation area, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** GIS Databases:  
-Parks and Wildlife Tenure

**(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.**

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

A portion of application area is within an estuarine tidal flat, with numerous areas subject to inundation intersecting the application area. There is a non-perennial lake mapped within the southern section of the application area, and a number of other non-perennial lakes are mapped within close proximity.

A desktop review of the application area undertaken by Biota Environmental Services (2013) determined that approximately 24.35 hectares of the tidal mudflat and tidal creek habitats identified on site will be impacted by the proposed clearing. The proposed clearing within these areas has the potential to cause deterioration in the quality of surface water, however the mudflat habitats are bare or sparsely vegetated and occur intermittently along the application area. Therefore, given that large scale clearing of this habitat at any one location is not proposed, it is not likely for the proposed clearing to significantly impact on surface water quality.

The proponent has advised that disturbance to the natural tidal area intersected by the application area (associated with salt evaporation ponds) will be minimised by using horizontal directional drilling for installation of the water pipeline and through the use of long span power transmission lines that will not require supporting poles. It is further advised that no significant disturbance is expected to drainage lines from the proposed construction, therefore the hydrological regime associated with the drainage area will not be compromised. Given the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology References:**

-Biota Environmental Services (2013)

**GIS Databases:**

-SAC Bio Datasets (Accessed March 2016)

**(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**

Natural flood events occur in the Pilbara region following cyclonic activity, however the proposed clearing is not expected to increase the incidence or intensity of such events, particularly given the linearity of the application area and presence of extensively vegetated surrounding areas.

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

**Planning instruments and other relevant matters.**

**Comments** Chevron Australia Pty Ltd (Chevron) and the Department of State Development have an agreement that requires Chevron to design and implement a project (now known as the Onslow Utilities Infrastructure Upgrade Project) that increases potable water supply to the town of Onslow.

The Onslow Utilities Infrastructure Upgrade Project was referred to the Environmental Protection Authority (EPA, 2014). The EPA's decision on 21 July 2014 was 'Not Assessed – Public Advice Given'. The EPA advised that the most significant issues relate to the saline stream by-product (containing a range of contaminants) produced by the proposed desalination plant that would be discharged into Quick Mud Creek. This creek attracts large numbers of waterbirds and concerns were raised over the potential for contaminants to impact on fauna utilising this habitat. Under Part V of the Environmental Protection Act 1986, the proponent is required to submit a Works Approval application to construct and operate the desalination plant which will manage emissions and discharges into the creek.

The proponent has submitted two Works Approval applications for the project, one application is for the desalination plant and the other for a power station within the southern portion of the application area. The works approval for the power station was granted by DER on 12 November 2015, and DER's Industry Regulation has advised that the works approval for the desalination plant would be issued pending the applicant obtaining approvals from the Radiological Council under the Radiation Safety Act 1975.

The application area is located within a Native Title claim area determined by the Federal Court. The claimants (Thalanyji People) were given the opportunity to make comment on the application under the Native Title Act 1993 (NT Act). No response was received from the claimants.

There are several Aboriginal Sites of Significance which intersect the application area. It is the proponent's responsibility to comply with the Aboriginal Heritage Act 1972 and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

There have been no submissions from the public received in relation to the proposed clearing.

The application area is within the Pilbara Surface Water and Groundwater Areas covered by the Rights in Water and Irrigation Act 1914 (RIWI Act). The Department of Water (DoW, 2015) has advised that any taking or diversion of surface water for purposes other than domestic or stock watering is subject to licensing by the DoW. It is advised that any groundwater abstraction is also subject to licensing by the DoW. It is recommended that the proponent adhere to the Water Quality Protection Guidelines to ensure that best management practices are adhered to.

A permit to clear a similar footprint area to the current application (smaller total clearing area of 30 hectares) was granted to Chevron in 2013 (CPS 5736/2). The clearing was for the purpose of undertaking geotechnical and contaminated site investigations for the current Onslow Utilities Infrastructure Upgrade Project.

**Methodology**    References:

-DoW (2015)  
-EPA (2014)

GIS Databases:

-Aboriginal Sites of Significance

#### 4. References

- Biota Environmental Services (2013) Desktop Review of the Proposed Onslow Micro-Siting Survey Area. Additional Information for Clearing Permit Application CPS 6541/1. DER Ref A925328
- Chevron Australia Pty Ltd (2015) Clearing Permit Application - Various properties within the Shire of Ashburton. Received 6/08/2013. Chevron Pty Ltd, Australia. DER Ref: A9894409
- Chevron Australia Pty Ltd (2015a) Additional Information for Clearing Permit Application CPS 6541/1. Received 26/06/2015. Chevron Pty Ltd, Australia. DER Ref: A956063
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra, Australia.
- DoW (2013) Rights in Water and Irrigation Advice for Clearing Permit Application CPS 6541/1. Department of Water, Western Australia. DER Ref: A910320
- EPA (2014) Decision for Project Referral. Additional Information for Clearing Permit Application CPS 6541/1, Public Advice Given. DER Ref A925330
- Government of Western Australia (2014) 2013 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2013. 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.
- Parks and Wildlife (2007- ) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dec.wa.gov.au/>. Accessed March 2016.
- Parks and Wildlife (2015) Species and Communities flora advice. Additional Information for Clearing Permit Application CPS 6541/1. DER Ref A925323
- Parks and Wildlife (2015a) Species and Communities fauna advice. Additional Information for Clearing Permit Application CPS 6541/1. DER Ref A925320
- 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.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/>