



## CLEARING PERMIT

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

<b>Purpose Permit number:</b>	CPS 5262/2
<b>Permit Holder:</b>	Western Australian Land Authority T/A LandCorp
<b>Duration of Permit:</b>	23 November 2012 – 23 November 2017

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 industrial development.

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

Lot 600 on Deposited Plan 70566 (Boodarie)

Lot 366 on Deposited Plan 42164 (Boodarie)

Lot 409 on Deposited Plan 28588 (Boodarie)

**3. Area of Clearing**

The Permit Holder must not clear more than 81.35 hectares of native vegetation within the area hatched yellow on attached Plan 5262/2.

**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 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 – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

**6. Avoid, minimise etc clearing**

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

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

**7. 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*:

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

## 8. Fauna management

The Permit Holder must implement and adhere to the document *Management of Mulgara in the Boodarie Industrial Estate at Port Headland – revised*, Ref: 2013-0057-002-gt, attached as Appendix A to this permit.

### PART III - RECORD KEEPING AND REPORTING

#### 9. Records must be kept

In relation to fauna management pursuant to condition 8 of this Permit:

- (a) the location of each Mulgara 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; and
- (b) the location and date where relocated fauna were released, 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.

#### 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 July and 30 June of the preceding year.
- (b) If no clearing authorised under this Permit was undertaken between 1 July to 30 June 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 30 June of each year.
- (c) Prior to 23 August 2017, 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:

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

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

**weed/s** means any plant -

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



Jane Clarkson  
A/MANAGER  
NATIVE VEGETATION CONSERVATION BRANCH

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

6 March 2014

# Appendix A

Management of Mulgara in the Boodarie Industrial Estate at Port Hedland - revised



## **Management of Mulgara in the Boodarie Industrial Estate at Port Hedland - revised**

### **1.1 Background**

LandCorp applied for a Native Vegetation Clearing Permit to clear Lot 600 on Deposited Plan 70566 (Boodarie), Lot 366 on Deposited Plan 42164 (Boodarie) and Lot 409 on Deposited Plan 28588 (Boodarie). It is likely that this area supports Mulgara (*Dasyercus cristicauda* or *D. blythi*) as they have been caught in similar habitat nearby.

The Vegetation Clearing Permit included a condition relating to fauna management that read as follows:

- 9(a) Prior to undertaking any clearing authorised under this Permit, the area(s) shall be inspected by a *fauna specialist* who shall identify burrow/s suitable to be utilised by Crested-tail Mulgara (*Dasyercus cristicauda*);
- (b) Prior to clearing, any burrow identified in condition 9(a) shall be inspected by a *fauna specialist* for the presence of fauna listed in condition 9(a);
- (c) Where fauna are identified in relation to condition 9(b) of this permit, the Permit Holder shall ensure that:
  - i. No clearing of the identified burrow/s occurs, unless approved by the CEO;
  - ii. No clearing occurs within 50 metres of the identified burrow/s unless approved by the CEO;
  - iii. No taking of identified fauna occurs unless approved by the CEO.

LandCorp considered these conditions unworkable because of the continual referral to the CEO of the Department of Parks and Wildlife, should burrows be found.

In response to these conditions LandCorp engaged GHD to prepare an Environmental Management Plan to further detail the management strategies. The Department of Environment and Conservation (DEC; now Department of Parks and Wildlife; DPaW) indicated that it was not reasonable to rely on Mulgara relocating out of an area on their own accord (i.e. they are known to have high site fidelity) and a trapping and translocation program was required. They also indicated that Mulgara should not be trapped during the breeding season (i.e. May to September, inclusive). Furthermore, they indicated that measures such as barriers should be erected to ensure related individuals do not return to the disturbed area and that follow-up monitoring is undertaken to determine the success of the translocations.

Below is a proposed alternative management protocol that will protect Mulgara in the project area.

### **1.2 Conservation status of Mulgara**

The Crest-tailed Mulgara (*Dasyercus cristicauda*) is currently listed as Vulnerable under the *EPBC Act 1999* and Schedule 1 under the *WA Wildlife Conservation Act 1950* and the Brush-tailed Mulgara (*Dasyercus blythi*) is listed as a Priority 4 species with the DPaW. In 2010, the Commonwealth Government indicated that for the purposes of the *EPBC Act* all Mulgara in the Pilbara would be considered to be *D. cristicauda* until the taxonomic issue has been resolved by the Australian Government Threatened Species Scientific Committee. In May 2012, Department of Sustainability, Environment, Water, Population and Communities (2012) released a discussion paper on the possibility of delisting *Dasyercus hillier* and listing *D. blythi* under the *EPBC Act*, presumably as a vulnerable species.

### **1.3 Conservation expectation for Mulgara**

Based on recent Native Vegetation Clearing Permits and EPBC Controlled Action approvals, both the DPaW and the Commonwealth Department of the Environment (DoE) expect that no Mulgara are killed or injured

during the vegetation clearing program or subsequent land development. Mulgara in potential impact areas should be trapped and translocated to avoid these impacts. Special provisions are required during the breeding season to ensure that translocated lactating females do not leave their young in the burrow, as they would quickly perish.

#### **1.4 Ecology**

Mulgara are generally sedentary in contrast with some other small dasyurids and have high site fidelity and a low propensity for dispersal once a home range has been established (Masters 1998, Dickman et al. 2001, Masters 2003). Masters (2003) indicated home ranges vary in size from 1.0 to 14.4ha (mean 6.5ha), with some overlap, however, Kortner et al. (2007) reported home ranges for males to average 25.5ha and for females to average 10.8ha. Burrows are mostly used by a single individual, but males and females have been found together in a single burrow during the breeding season (Masters 2003, Thompson and Thompson 2007). Kortner et al. (2007) reported that 10 of 68 burrows they monitored were used by multiple Mulgara and one individual returned to the same burrow on 32 of 52 days monitored. Masters (2003) reported an individual's burrows in her study area were concentrated in a relatively small area, as the average maximum distance across a home range was about 440m. In the Pilbara, Thompson and Thompson (2007, 2008) reported catching nine Mulgara in an area of 22ha and 50 in 210ha, and about 200 trap-nights were required to catch each Mulgara in areas with a relatively high density; Mulgara are therefore not 'trap-friendly'.

#### **1.5 Conservation actions**

As clearing of the vegetation will most likely result in the demise of Mulgara, it is necessary that all individuals within areas to be cleared be relocated prior to the disturbance and vegetation clearing. The following sequence of actions is to be implemented:

- Action 1* The project area is investigated by a fauna specialist with a good knowledge of Mulgara habitat, burrows and ecology and based on this site investigation, areas potentially supporting Mulgara shall be mapped. The investigation will also include areas immediately adjacent to the project area to determine the potential for Mulgara to move in from adjacent areas.
- Action 2* Areas mapped as potentially supporting Mulgara are to be trapped within eight weeks of vegetation clearing. The trapping program will use baited aluminium box traps placed at 25m centres (i.e. 16 traps per ha) for a minimum period of 7 consecutive nights. Should a Mulgara be caught, then the trapping will continue until three consecutive nights are achieved without a capture. As approved by the Department of Parks and Wildlife (TF006261), traps will be cleared within 4 hours of sunrise, rebaited every third day or earlier if required and remain open during the day. All trapped vertebrates will be translocated (see action 5). Traps will be monitored for the impact of ants, and if ants are at a level where they could cause harm to trapped animals they will be closed and removed or moved. All-terrain vehicles are recommended for laying out and checking the traps to ensure that a large enough number of traps are used and that they are cleared sufficiently early each morning.
- Action 3* Upon the completion of trapping the project area will be again inspected for recent signs of Mulgara, and trapping will continue if recent signs are observed.
- Action 4* Any lactating female caught without young attached during the trapping program will have a radio-transmitter attached by a collar and released at the capture site. This female will then be located the following morning hopefully in a burrow with her young. The female and her young will be dug from the burrow and relocated as a family group. The collar will be removed from the lactating female prior to release as the behavioural impacts from radio-transmitters are unknown and could put the lactating mothers or dependant young at risk.
- Action 5* All Mulgara will be relocated into suitable habitat. Mulgara are relatively sedentary animals, however, previous radio-tracking experience indicates that Mulgara are capable of moving 450m or more each night when placed in an unfamiliar area. The relocation site will be chosen so that it has a large area of intact suitable habitat and is far enough away so that Mulgara are

unlikely to return to the project area. Ideally the relocation site will have no evidence of other Mulgara.

*Action 6* All burrows recorded in the project area will be dug out and closed during the trapping program.

*Action 7* Follow up monitoring using radio-transmitters of all released non-lactating females and male Mulgara will be conducted weekly for up to 6 weeks to determine whether relocations were successful. Juvenile Mulgara and lactating females will not be radio-collared.

## 1.6 Licensing

A Regulation 15 Licence has been issued to Terrestrial Ecosystems (TF006261) by the DPaW under the *Wildlife Conservation Act (1950)* to conduct the Mulgara trapping and relocation within the Boodarie Industrial Estate.

## 1.7 Reporting

A map of the entire area showing those areas that contain suitable habitat for Mulgara should be prepared prior to any trapping and translocation program.

A brief written report outlining the methodology, results and outcomes is necessary at the conclusion of Action 1.

It is a requirement of the Regulation 15 licence that all animals caught and translocated are reported to DPaW, which will be done near the expiration of the license.

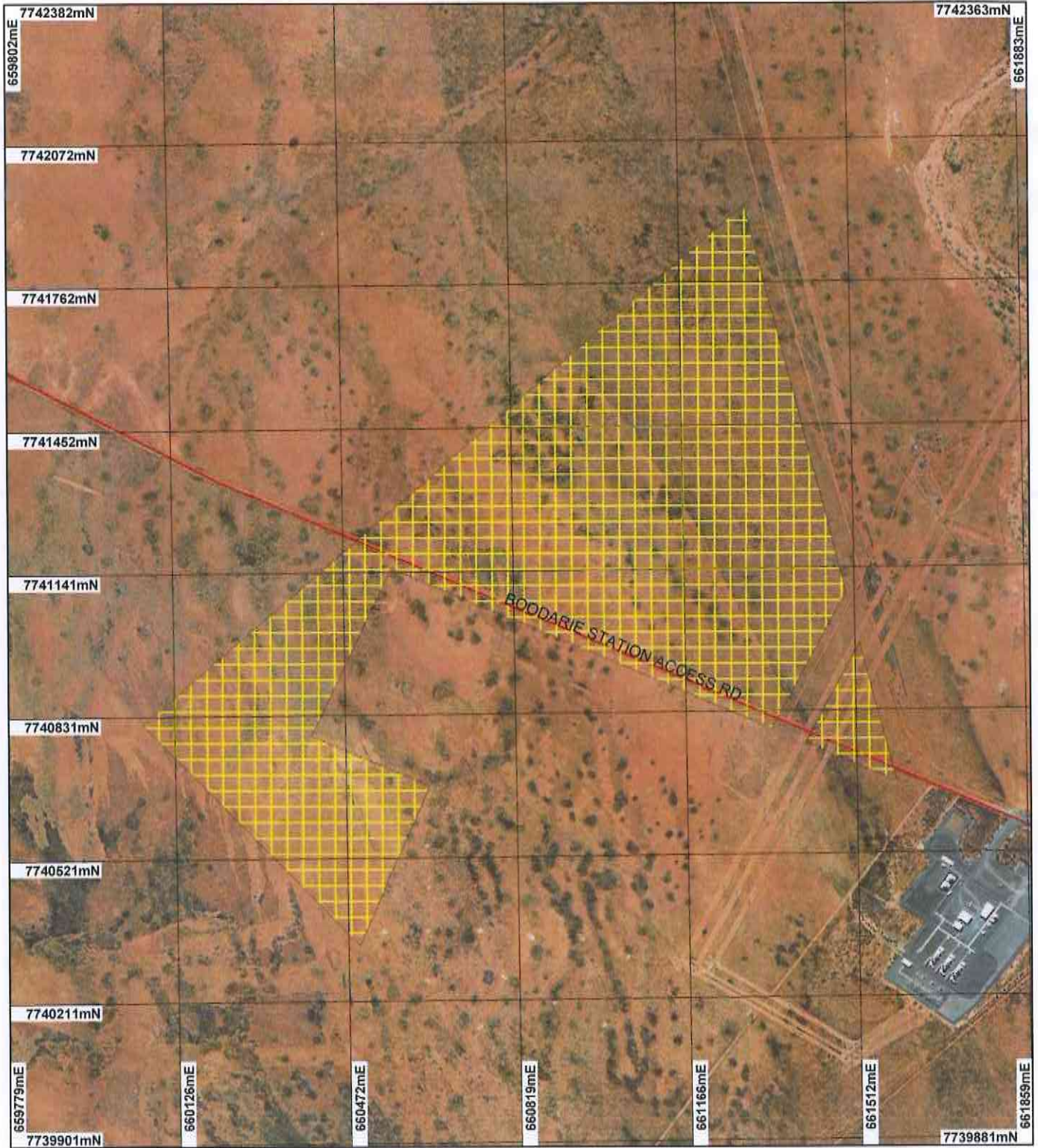
A brief written report on the trapping and monitoring program, its outcome and the relocation program is required at the conclusion of each trapping, translocation and monitoring program. Maps showing the location of all traps, location of fauna captured, release sites and burrows should be produced. Supporting photos of the habitat, burrows and captures should be included in the report.

## References

- Department of Sustainability Environment Water Population and Communities. 2012. Invitation to comment on the proposed delisting of *Dasyercus hillieri* and listing *Dasyercus blythi* under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Canberra.
- Dickman, C. R., A. S. Haythornthwaite, G. H. McNaught, P. S. Mahon, B. Tamayo, and M. Letnic. 2001. Population dynamics of three species of dasyurid marsupials in arid central Australia: a 10 year study. *Wildlife Research* **28**:493-506.
- Kortner, G., C. R. Pavey, and F. Geiser. 2007. Spatial ecology of the mulgara in arid Australia: impact of fire history on home range size and burrow use. *Journal of Zoology* **273**:350-357.
- Masters, P. 1998. The Mulgara *Dasyercus cristicauda* (Marsupialia: Dasyuridae) at Uluru National Park, Northern Territory. *Australian Mammalogy* **20**:403-404.
- Masters, P. 2003. Movement patterns and spatial organisation of the mulgara, *Dasyercus cristicauda* (Marsupialia: Dasyuridae), in central Australia. *Wildlife Research* **30**:339-344.
- Thompson, G. G. and S. A. Thompson. 2007. Shape and spatial distribution of Mulgara (*Dasyercus cristicauda*) burrows, with comments on their presence in a burnt habitat and a translocation protocol. *Journal of the Royal Society of Western Australia* **90**:195-202.
- Thompson, G. G. and S. A. Thompson. 2008. Abundance and spatial distribution of five small mammals at a local scale. *Australian Mammalogy* **30**:65-70.



# Plan 5262/2



## LEGEND

-  Road Centrelines
-  Clearing Instruments
-  Areas Approved to Clear
-  Port Hedland 50cm Orthomosaic - Landgate 2004



Scale 1:11445  
 (Approximate when reproduced at A4)  
 Geocentric Datum Australia 1994  
 Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

 Date 6/3/14  
 Jane Clarkson

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



\* Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.





## 1. Application details

### 1.1. Permit application details

Permit application No.: 5262/2  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Western Australian Land Authority t/a LandCorp

### 1.3. Property details

Property: LOT 366 ON PLAN 42164 (BOODARIE 6722)  
LOT 409 ON PLAN 28588 (BOODARIE 6722)  
LOT 600 ON PLAN 70566 (BOODARIE 6722)  
Local Government Area: Town of Port Hedland  
Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
81.35		Mechanical Removal	Industrial

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 6 March 2014

## 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
Mapped Beard vegetation association 589: Mosaic, short bunch grassland - savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex soft spinifex (Shepherd et al, 2001).	The application is to clear 81.35 hectares for the purpose of industrial development.  A flora and fauna assessment was undertaken by GHD of the proposed Boodarie Industrial Estate which includes the application area. The assessment covered and area of approximately 5000 hectares.  The vegetation within the study area is dominated by low open heath over tussock grasslands (GHD, 2010). The majority of the vegetation within the study area is considered to be in an excellent (Keighery, 1994) condition (GHD, 2010).  The Study area is subject to previous disturbances from fire, tracks, cattle grazing and infrastructure activities.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The condition of the vegetation under application was obtained from a flora and fauna assessment undertaken by GHD in June 2009 (GHD, 2010).

## 3. Assessment of application against clearing principles

### Comments

This amendment has been made to amend condition 9 covered by Clearing Permit CPS 5262/1.

The assessment against the clearing principles has not changed and can be found in Decision Report CPS 5262/1.

### Methodology

### Planning instrument, Native Title, Previous EPA decision or other matter.

### Comments

The assessment against Planning and Other Matters has not changed and can be found in Decision Report CPS 5262/1.



#### 4. References

- GHD (2010) Report for the Proposed Boodarie Industrial Area. Flora and Fauna Assessment. LandCorp (DEC Ref:A544376)
- 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.