



## CLEARING PERMIT

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

### PERMIT DETAILS

Area Permit Number: 7952/1  
File Number: DER2018/000098  
Duration of Permit: From 19 June 2019 to 19 June 2029

### PERMIT HOLDER

Generation Ag Pty Ltd

### LAND ON WHICH CLEARING IS TO BE DONE

Lot 1 on Deposited Plan 12564, Walebing  
Lot 476 on Deposited Plan 246374, Gabalong  
Lot M1150 on Diagram 4961, Gabalong  
Lot M1518 on Diagram 6797, Gabalong  
Lot M1707 on Diagram 7540, Walebing

### AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 10.8 hectares of native vegetation within the areas shaded yellow on attached Plan 7952/1(a).

### CONDITIONS

#### 1. Avoid, minimise and reduce the impacts and extent of clearing

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

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

#### 2. Vegetation management

The Permit Holder shall not clear native vegetation within 5 metres of the *riparian vegetation* of any *watercourse* or *wetland*.

#### 3. Retention, Revegetation, Rehabilitation and Direct planting

The Permit Holder shall:

- (a) retain existing native vegetation within the areas cross-hatched red on attached Plan 7952/1(b);
- (b) prior to clearing, prepare land devoid of native vegetation within the areas cross-hatched red on attached Plan 7952/1(b) for revegetation 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.
- (c) retain the vegetative material and topsoil removed by clearing authorised under this Permit and lay it within the revegetation areas prepared under condition 3(b) of this permit; and
- (d) undertake additional planting as required to achieve 100 stems per hectares within the areas cross-hatched red on attached Plan 7952/1 (b) ensuring:
  - (i) only local provenance seeds and propagating material are used; and
  - (ii) at least 20 stems per hectare are overstorey (tree) species.

#### 4. Records must be kept

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

(a) In relation to the clearing of native vegetation authorised under this Permit:

- (i) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
- (ii) the date that the area was cleared;
- (iii) the size of the area cleared (in hectares); and
- (iv) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 1 of this Permit.

(b) In relation to Retention, Revegetation, Rehabilitation and Direct Planting done pursuant to condition 3 of this permit;

- (i) a description of the retention, *revegetation and rehabilitation* activities undertaken under condition 3 of this permit;
- (ii) the size of the area retained, *revegetated and/or rehabilitated* (in hectares) under condition 3 of this permit; and
- (iii) photographic evidence of areas retained, *revegetated and/or rehabilitated* under condition 3 of this permit from the following monitoring points and directions taken in the month of September each calendar year that this permit is active;
  - i. 116.289367, -30.702049 – facing west;
  - ii. 116.288651, -30.702235 – facing north east;
  - iii. 116.288651, -30.702235 – facing south west;
  - iv. 116.311891, -30.73358 – facing north;
  - v. 116.311891, -30.73358 – facing south;
  - vi. 116.311607, -30.733852 – facing north west;
  - vii. 116.311607, -30.733852 – facing south west; and
  - viii. 116.311607, -30.733852 – facing west.

#### 5. Reporting

(a) The Permit Holder shall provide a report to the Department by 30 June each year for the life of this permit, demonstrating adherence to all conditions of this permit, and setting out the records required under condition 4 of this permit in relation to clearing carried out between 1 July and 30 June of the previous year.

(b) Prior to 19 March 2029, the Permit Holder must provide to the Department a written report of records required under condition 4 of this Permit where these records have not already been provided under condition 5(a) of this Permit.

#### DEFINITIONS

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

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

**local provenance** means native vegetation seeds and propagating material from natural sources within 50 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared.

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

**regenerate/ed/ion** means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) contained either within the topsoil or seed-bearing mulch;


**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* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.

**riparian vegetation** has the meaning given to it in Regulation 3 of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004;

**watercourse** has the meaning given to it in section 3 of the *Rights in Water and Irrigation Act 1914*;

**wetland/s** means an area of seasonally, intermittently or permanently waterlogged or inundated land, whether natural or otherwise, and includes a lake, swamp, marsh, spring, dampland, tidal flat or estuary.

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Ryan Mincham  
MANAGER  
NATIVE VEGETATION REGULATION

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

20 May 2019



# Plan 7952/1 (a)

116°16.800'E

116°18.000'E

116°19.200'E

116°20.400'E



116°16.800'E

116°18.000'E

116°19.200'E

116°20.400'E



MGA 94

Geocentric Datum of Australia 1994

0 600 1200 1800 2400 m



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Officer delegated under Section 20 of the Environmental Protection Act 1906



GOVERNMENT OF  
WESTERN AUSTRALIA

## Legend

CPS areas approved to clear base layers

Cadastre

Road Centrelines

Local Government Authorities

Image

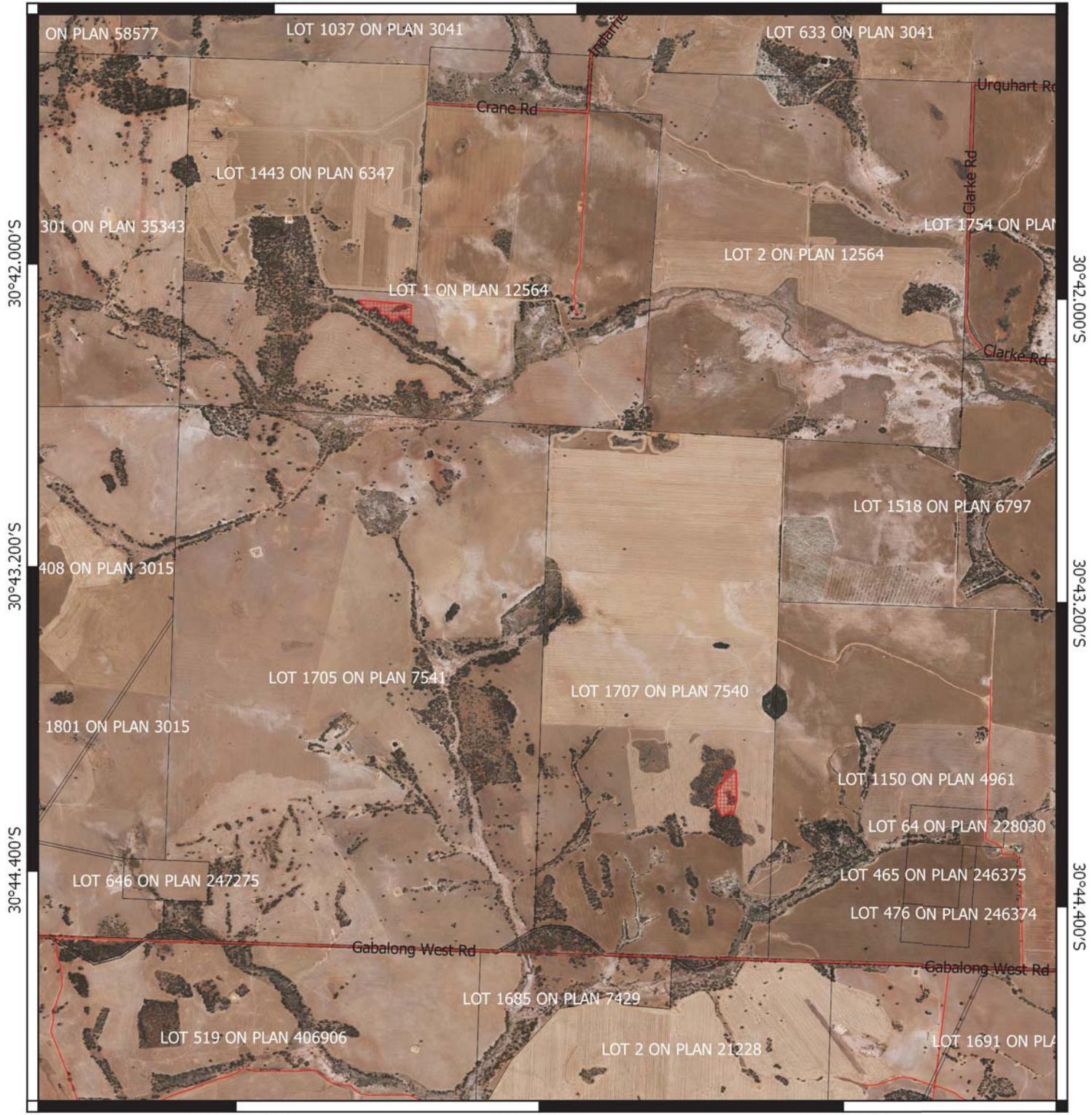


# Plan 7952/1 (b)

116°16.800'E

116°18.000'E

116°19.200'E



116°16.800'E

116°18.000'E

116°19.200'E

30°42.000'S

30°43.200'S







30°44.400'S

30°42.000'S

30°43.200'S

30°44.400'S

## Legend

-  CPS subject to conditions
-  base layers
-  Cadastre
-  Road Centrelines
-  Local Government Authorities
-  Image



MGA 94  
Geocentric Datum of Australia 1994

0 400 800 1200 1600 m



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Officer delegated under Section 20 of the Environmental Protection Act 1906



GOVERNMENT OF  
WESTERN AUSTRALIA



## 1. Application details

### 1.1. Permit application details

Permit application No.: 7952/1  
Permit type: Area

### 1.2. Applicant details

Applicant's name: Generation Ag Pty Ltd  
Application received date: 12 January 2018

### 1.3. Property details

Property: Lot 1 on Deposited Plan 12564, Walebing  
Lot 476 on Deposited Plan 246374, Gabalong  
Lot M1150 on Diagram 4961, Gabalong  
Lot M1518 on Diagram 6797, Gabalong  
Lot M1707 on Diagram 7540, Walebing  
Local Government Authority: Shire of Moora  
Localities: Walebing and Gabalong

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
11.9	0	Mechanical	Improving farm efficiency (cropping)

### 1.5. Decision on application

Decision on Permit Application: Granted  
Decision Date: 20 May 2019  
Reasons for Decision:

The clearing permit application was received on 12 January 2018 and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*. It has been concluded that clearing of the application areas is at variance to clearing principles (b) and (e), may be at variance to clearing principle (a) and is not or not likely to be at variance to the remaining clearing principles.

In determining to partially grant a clearing permit subject to conditions, the Delegated Officer considered that the environmental impacts of the proposed clearing can be managed through onsite avoidance and mitigation measures and retention and revegetation of strategic areas.

## 2. Site Information

**Clearing Description:** The application is to clear 11.9 hectares of native vegetation within several land parcels as listed in Section 1.3 above, for the purpose of improving farm efficiency (cropping) (see Figures 1-5 below).

Assessment of the potential environmental impacts of clearing 11.9 hectares associated with this proposal is considered to have unacceptable risk to the environment. DWER proposed, and the applicant has agreed to a partial grant of the areas applied to be cleared. The decision relates to approval of an area of 10.8 hectares within the 11.9 hectare area applied for and includes the retention, revegetation and rehabilitation of approximately 4.9 hectares of native vegetation (see Figure 6 below). This reduction in area also excluded two potential habitat trees noted within the application area during a site inspection.

**Vegetation Description** The vegetation within the application area is mapped as Beard vegetation associations Victoria Plains 142, described as a medium woodland of York gum (*Eucalyptus loxophleba*) and Salmon gum (*Eucalyptus salmonopholia*) and Walebing 7, described as a medium woodland of York gum and wandoo (*E. wandoo*) (Shepherd et al, 2001).

A site inspection conducted by Department of Water and Environmental Regulation (DWER) officers in February 2018 noted two vegetation types: (a) scattered *Eucalyptus* sp. paddock trees with no understorey in a completely degraded (Keighery, 1994) condition due to historical grazing, and (b) open heath in a degraded to good (Keighery, 1994) condition (DWER, 2018).

From photographs (Figures 6-14 below) and information obtained during the DWER and Office of the Commissioner of Soil and Land Conservation (CSLC) (DPIRD, 2018) site inspections, the vegetation within the application area is comprised predominately of either



isolated trees, small clumps of trees and/or small sized remnants with groundcover of native shrubs and weeds. The remainder of the land parcels are under cultivation.

### Vegetation Condition

The vegetation within the application area is considered to be in the following condition:

- Good: Vegetation structure significantly altered by very obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate to it; to
- Degraded: Basic vegetation structure severely impacted by disturbance; scope for regeneration but not to a state approaching 'Good' condition without intensive management; to
- Completely Degraded: The structure of the vegetation is no longer intact and the area is completely or almost completely without native species (Keighery, 1994).

Vegetation condition was determined from photographs (Figures 6-14 below) and information obtained during the DWER and CSLC site inspections (DWER, 2018; DPIRD, 2018). The application area has been impacted and degraded by historical agricultural practices including livestock grazing.

### Soil Type

Two soil type and landforms are mapped within the application area: (a) Ewerts 3 Phase (256Mb\_ES3) are noted as gradual rises with numerous shallow drainage lines comprised of shallow gravel, loamy gravel, pale and yellow deep sand, yellow to brown sandy earth, sandy duplex, loamy duplex, pale to yellow shallow sand soils; and (b) Glentrome 1 Subsystem where the landform is described as older colluvial slopes, very gently to gently inclined hillslopes and rarely hillcrests. Soils are loamy gravel, some loamy earths, sandy and loamy duplexes and sands (DPIRD, 2018; DPIRD, 2017).

The local area referred to in this assessment is defined as the area within a 20 kilometre radius of the application area. The local area retains approximately 7.6 per cent vegetation cover.

### Comments

The application is to clear 11.9 hectares of native vegetation within several land parcels as listed in Section 1.3 above, for the purpose of improving farm efficiency (cropping) (see Figures 1-5 below).



Figure 1: Proposed clearing area (blue-hatched areas); clearing is proposed over several land parcels



Figure 2: Proposed clearing area (blue-hatched areas); clearing is proposed over several land parcels

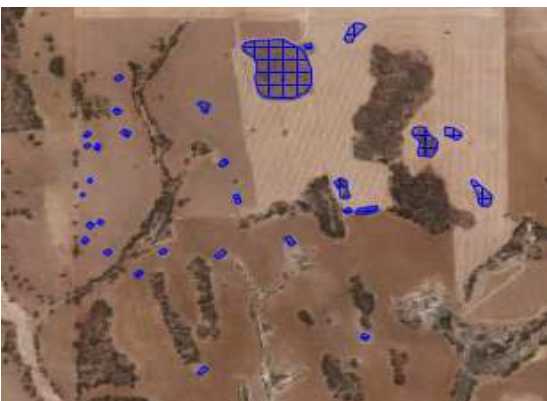


Figure 3: Proposed clearing area (blue-hatched areas); clearing is proposed over several land parcels



Figure 4: Proposed clearing area (blue-hatched areas); clearing

is proposed over several land parcels



Figure 5: Overview of CPS 7952/1

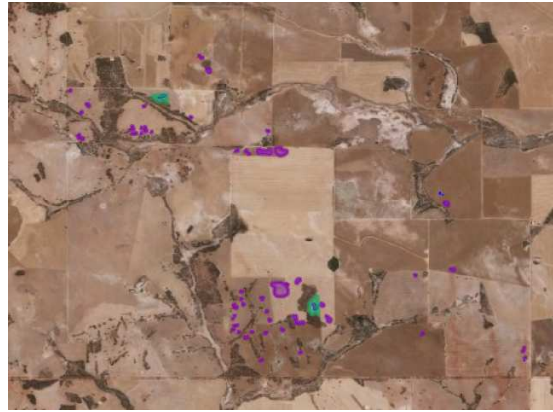


Figure 6: Overview of CPS 7952/1 partial grant areas (purple) and retention/revegetation areas (green)

The below photographs (7-15) were obtained during DWER site inspection (DWER, 2018).



Figure 7: Typical tree-lined watercourse



Figure 8: Large hollow bearing wandoo tree



Figure 9: Large hollow bearing wandoo tree





Figure 10: Typical tree clump



Figure 11: Typical tree grouping



Figure 12: Remnant vegetation type and condition



Figure 13: Remnant vegetation type and condition



Figure 14: Remnant



Figure 15: Degraded remnant

## 1. Assessment of application against clearing principles

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

#### Proposed clearing may be at variance to this Principle

The proposed clearing of 11.9 hectares includes scattered trees and small remnants distributed over an approximately 1,200 hectare footprint (over a range of approximately eight kilometres), located within the five land parcels as listed under Section 1.3 above, is within the Shire of Moora's agricultural zone.

As outlined in Section 2 above, the application area's two pre-European vegetation types are mapped as a medium woodland of York gum and Salmon gum and a medium woodland of York gum and wandoo (Shepherd et al, 2001). There are also two soil types mapped: (a) shallow gravel, loamy gravel, pale and yellow deep sand, yellow to brown sandy earth, sandy duplex, loamy duplex, pale to yellow shallow sand soils and (b) loamy gravel, some loamy earths, sandy and loamy duplexes and sands (DPIRD, 2018; DPIRD, 2017).

From photographs and information obtained during the DWER (DWER, 2018) and CSLC (DPIRD, 2018) site inspections, it was noted the application area is extensively cleared having been impacted and degraded by historical agricultural practices including livestock grazing. The vegetation under application comprises predominately either isolated trees, small clumps of trees or small sized remnants comprising either a groundcover of weeds and shrubs or trees, or no groundcover. The application area no longer accurately represents the mapped vegetation types, whilst the local area retains just 7.6 per cent native vegetation cover. The vegetation condition, predominately the remnants under application, varies from good, to degraded to completely degraded (Keighery, 1994) condition. The remainder of the surrounding land parcels are under cultivation.

According to available databases, two Priority 1 (P1), two Priority Two (P2) and nine Priority 3 (P3) listed flora species have been recorded within the local area. Noting the soil type preferences of some of these species and the mapped soil and landform present within the application area, some species may occur within the application area (refer Table 1).

The P1 species *Androcalva fragifolia* is known from seven WA Herbarium records. The closest record to the application area is approximately eight kilometres northeast within a railway reserve, whilst the other six populations occur 37 to 62 kilometres to the south.

The P2 species *Acacia arcuatis* is known from 30 WA Herbarium records. The closest record to the application area is approximately eight kilometres to the east within a road/rail way reserve, whilst the other 24 populations occur between 250 to 460 kilometres to the southeast (WAH, 1998-).

The P2 *Synaphea rangiferops* is known from 17 WA Herbarium records. The closest record is 10 kilometres south whilst the other populations extend up to 135 kilometres further south (WAH, 1998-).

Suitable habitat for P1 or P2 flora species is most likely to occur where the structure of native vegetation is retained as these species occur in the mid to ground cover structure. Given the size and condition of these remnants within the application area, suitable habitat is not likely to be able to support viable populations of these species. In addition, based on the current distribution and population records of all the mapped priority flora and based on the broad distribution of the proposed clearing, any occurrences within the clearing footprint are not likely to be significant as new range extents or otherwise significant populations and occurrences of these species within the application area would not impact the conservation status of these species. In determining to partially grant the area applied to clear the Delegated Officer determined to remove the most suitable habitats from the decision area.

P3 and P4 flora species occur over a wide geographical area and are known from several populations, some within conservation reserves, and so their conservation status is not considered to be under any immediate threat (Jones, 2015). Noting this, and the number of records and current extent of these species, the proposed clearing is not likely to impact on the conservation status of these species should any individuals occur within the clearing footprint.

**Table 1: Priority listed flora mapped within the local area (WAH, 1998-)**

Taxon	Conservation code	Soil type preference/growth habit	Likelihood of historical/current presence (Yes, No or Possible)
<i>Androcalva fragifolia</i>	1	Brown clay/loam with lateritic gravel.	P
<i>Verticordia dasystylis</i> subsp. <i>oestopoa</i>	1	Gritty soils over granite; outcrops / spreading shrub	N
<i>Acacia arcuatis</i>	2	Sand or sandy loam, sometimes with lateritic gravel. Undulating plains, rises / rounded, spreading shrub	P
<i>Synaphea rangiferops</i>	2	Sandy, loam gravel / gently slopes / eucalyptus woodland.	P
<i>Acacia anarthros</i>	3	Lateritic gravelly soils. Slopes / erect or prostrate shrub	P



<i>Adenanthos cygnorum</i> subsp. <i>chamaephyton</i>	3	Grey sand, lateritic gravel / prostrate, mat-forming shrub	P
<i>Daviesia debilior</i> subsp. <i>sinuans</i>	3	Gravelly lateritic clay / straggly shrub	P
<i>Eucalyptus macrocarpa</i> x <i>pyriformis</i>	3	Sand, lateritic sandy soils. Hills, rocky ironstone ridges, sandplains / erect, open mallee	P
<i>Gastrolobium rotundifolium</i>	3	Heavy clay or loam soils, granite, sandstone, quartzite / erect, bushy shrub on low rises, breakaways	N
<i>Grevillea asparagoides</i>	3	Gravelly loam, white or yellow sand / dense, prickly shrub	P
<i>Melaleuca sclerophylla</i>	3	Gravelly sand, clayey sand. Granite outcrops, rises / erect-spreading to prostrate	N
<i>Stylidium periscelanthum</i>	3	Loamy clay, moist soils pockets / bulb forming perennial on wet flats, low granitic hills	N
<i>Verticordia huegellii</i> var. <i>tridens</i>	3	Sandy or gravelly loam/ shrub on winter-wet areas, low hills	N
<i>Calothamnus accedens</i>	4	Sandy soils over laterite / erect and slender shrub	P

According to available databases, the ecological community 'Eucalypt woodlands of the Western Australian Wheatbelt' (Wheatbelt Woodlands) has been mapped from a number of occurrences within the local area and within the application area. This ecological community is listed as a priority ecological community (PEC) by the Department of Biodiversity, Conservation and Attractions (DBCA), and as a threatened ecological community (TEC) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This eucalypt-dominated community is defined by its structure as a woodland. Noting the historical and current agricultural landuse, and the good, to degraded to completely degraded (Keighery, 1994) condition of the vegetation within the application area, the application area is not likely to comprise this PEC/TEC.

As discussed under Principle (e), the mapped Beard vegetation associations within the bioregion retains less than the 30 per cent recommended threshold. The local area retains approximately 7.6 per cent native vegetation cover. On this basis, the application area is considered to be located in an area that has been extensively cleared. Whilst the vegetation under application may not comprise a high level of biological diversity at the local level, it is considered significant vegetation regionally because these remnants can provide valuable fauna refuge within an extensively cleared landscape.

The proposed clearing may be at variance to this Principle.

**(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.**

**Proposed clearing is at variance to this Principle**

According to available databases, four threatened fauna species have been recorded within the local area (DBCA, 2007-). These are:

- *Calyptorhynchus latirostris* (Carnaby's cockatoo);
- *Egernia stokesii* subsp. *badia* (Western Spiny-tailed Skink, Gidgee Skink);
- *Idiosoma nigrum* (Shield-backed Trapdoor Spider); and
- *Leipoa ocellata* (Malleefowl)

Carnaby's cockatoo breed in large hollow-bearing trees, generally within woodlands or forests or in isolated trees (CoA, 2012). 'Breeding habitat' for black cockatoos is defined as trees of species known to support breeding within the range of the species which either have a suitable nest hollow or are of a suitable diameter at breast height (DBH) to develop a nest hollow. For most tree species, suitable DBH is 500 millimetres (CoA, 2012). DWER's site inspection noted two suitable breeding habitat trees for Carnaby's cockatoo in an area dominated by wandoo trees (DWER, 2018). The Delegated Officer determined to remove these trees from the decision area to mitigate the potential risk associated with clearing these trees.

There are 311 records of the Western Spiny-tailed Skink distributed over the Murchison, Wheatbelt and Shark Bay regions (DoE, 2018a; DBCA, 2007-). Most of the Wheatbelt form of the skink's primary habit is associated with York gum woodland, with some records in Gimlet (*Eucalypts salubris*) and Salmon Gum woodland. Populations persist in woodland patches as small as one hectare and completely surrounded by cropping. Previous fauna surveys noted sites with the greatest number of individuals contain numerous fallen logs and were subjected to low-intensity grazing by domestic stock (DoE, 2018a). The landform of the application area is described as (a) gradual rises with numerous shallow drainage lines and (b) older colluvial slopes, very gently to gently inclined hillslopes and rarely hillcrests (DPIRD, 2017). DWER's site inspection noted the application area contains some areas of rocky outcropping and the vegetation condition varied between good, to degraded to completely degraded (Keighery,

1994) condition (DWER, 2018). Given the skinks preferred habitat requirements and the application areas historical and current agricultural landuse, poor vegetation condition and lack of observed fallen logs, it is considered unlikely that the application area contains suitable or significant habitat for the skink (DWER, 2018).

The Shield-backed Trapdoor Spider is endemic to semi-arid south-west Western Australia (DoE, 2018b; DBCA, 2007-). It occurs in a number of severely fragmented populations in the central and northern Wheatbelt. Further north, the species occurs in more arid areas in the Midwest (e.g. large isolated ranges at Jack Hills), Weld Range and Blue Hills and coastal areas of the Midwest (e.g. Zuytdorp Station north of the Murchison River and Nanga Station south of Shark Bay). The arid Midwest populations are naturally fragmented or isolated because they persist only on ranges, but the Wheatbelt and coastal Midwest populations are all severely fragmented as a result of land clearing. Leaf litter and twigs are extremely important to the species as it provides material for the burrows, reduced soil moisture loss and increased prey availability. The species avoids areas of dense leaf litter as juveniles are unable to dig their initial hole in such areas. Areas of lower grazing pressure may support greater population abundance. In the Wheatbelt, habitat critical to the species is identified as open York gum, Salmon gum and Wheatbelt Wandoo (*Eucalyptus capillosa*) woodland, where Jam (*Acacia acuminata*) forms a sparse understorey in heavy clay soils (DoE, 2018b). The site inspection did not record any areas that could support this species given the lack of sufficient leaf litter, suitable habitat for this spider and previous grazing pressure.

The malleefowl is found in semi-arid to arid shrublands and low woodlands, especially those dominated by mallee and/or acacias (Benshemesh, J., 2007). A sandy substrate and abundance of leaf litter are required for breeding. Densities of the birds are generally greatest in areas of higher rainfall and on more fertile soils where habitats tend to be thicker and there is an abundance of food (Benshemesh, J., 2007). The species has been shown to be highly sensitive to grazing by sheep, and is probably similarly sensitive to grazing by other introduced herbivores (Benshemesh, J., 2007). Given the malleefowl's preferred habitat requirements and the application areas historical and current agricultural landuse and condition, it is considered unlikely that the application area contains suitable or significant habitat for the malleefowl nesting requirements.

As noted in Principle (e) below, the application area is located in an area that has been extensively cleared, and the vegetation under application is considered significant as a remnant of native vegetation within an extensively cleared landscape. It is considered the remnant patches and clumps of trees remaining within the application area contribute to ecological linkages and landscape connectivity, provide a 'stepping stone' function and contributes to fauna dispersal between larger isolated bushland fragments in an extensively cleared landscape.

Noting the presence of at least two Carnaby's cockatoo habitat trees and the landscape connectivity function the vegetation within the application area represents, the proposed clearing is at variance to this Principle. In determining to partially grant the application area, the Delegated Officer retained the most suitable fauna habitat areas and two Carnaby's cockatoo habitat trees to mitigate the potential risk to fauna from the proposed clearing.

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

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

As discussed within Section 2 above, the application area has been impacted by historical and current agricultural practices, including livestock grazing.

According to available databases, five rare flora species have been mapped within the local area (refer Table 2 below). The closest occurrence of these species are between four to fourteen kilometres east from the application area within road or rail reserves. The mapped soil types of the application area, and the soil type preferences of these species are similar. The remnants of the application area that are in a good (Keighery, 1994) condition, and retain their basic structure, may include suitable habitat for these species. In determining to partially grant the application area the Delegated Officer retained the most suitable habitat for rare flora.

Given the historical and current landuse including livestock grazing, the remnants may not be able to support viable populations of these species given that they are mid and ground story dominant. Based on the known distribution and population records of the flora (WAH, 1998-) and based on the scattered distribution of the proposed clearing areas, if any individuals did persist, they are not likely to be considered significant populations.

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

**Table 2: Rare flora mapped within 20 kilometres of the application area**

Taxon	Soil type preference / habitat / growth form	Likelihood of presence (Yes, No or Possible)	Total known populations and range
<i>Acacia vassalii</i>	Brown sand with gravel over laterite or in yellow sand; in low scrub and heath; low spreading shrub to 60cm high to 1m wide; responds to fire events	P; closest records are from within road reserve 5kms east	21 within a radius of between 5 and 81kms of the application area; one in conservation estate
<i>Chorizema humile</i>	Red loam, brown sandy clay with granite or clay soils; on plains in scrub or open tree mallee; small, ground hugging plant 60cm in diameter	P; closest records are from within road reserve 14kms south	18 within a radius of between 14 and 262kms of the application area; one in conservation estate
<i>Gastrolobium hamulosum</i>	Yellowish clay loam, sand and gravel on clay flats or in white and grey sand or sandy clay; low heath with tamma,	P; closest records are from within road reserve 8kms east	7 within a radius of between 7 and 62kms of the application area;



	melaleucas, eucalypts and tall sedges; small erect straggly shrub to 45cm tall.		three in conservation estate.
<i>Eucalyptus recta</i>	Sandy laterite / high in landscape on lateritic breakaway 15m tree with smooth bark	P; closest record is 8kms southeast	10 within a radius of between 8 and 77kms of the application area; one in conservation estate
<i>Grevillea bracteosa</i> subsp. <i>bracteosa</i>	Yellow-brown, sand, clay loam, lateritic gravel; woodland, heathland; Spindly shrub to 2m high	P; closest records are from within rail reserve 5kms east	28 within a radius of between 5 and 72kms of the application area; one in conservation estate.

**(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.**

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

As discussed under Principle (a), the ecological community 'Eucalypt woodlands of the Western Australian Wheatbelt' (Wheatbelt Woodlands) has been mapped from a number of occurrences within the local area and within the application area. This community is listed as a PEC by DBCA and as a TEC under the EPBC Act.

The document '*Environment Protection and Biodiversity Conservation Act 1999 Approved Conservation Advice (including listing advice) for the Eucalypt Woodlands of the Western Australian Wheatbelt*' (Approved Conservation Advice), states that the community is dominated by a complex mosaic of *Eucalyptus* species with a tree or mallet form over an understorey that is highly variable in structure and composition (TSSC, 2015).

Noting the historical and current clearing for agricultural use, and the predominately degraded to completely degraded (Keighery, 1994) condition of the remaining vegetation within the application area, it is considered that the vegetation within the application area does not meet the criteria outlined in the advice.

The vegetation within the application area is not likely to comprise the whole or a part of, or is necessary for the maintenance of this TEC.

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

**(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.**

**Proposed clearing is 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 (CoA, 2001).

The application area is located within the Avon Wheatbelt Interim Biogeographic Regionalisation of Australia bioregion, which retains approximately 18.5 per cent of its pre-European vegetation extent, and the mapped Beard vegetation complexes "7" and "142" retain approximately 10.6 and 12.4 per cent of their pre-European extents (GWA, 2018). The local area retains approximately 7.6 per cent native vegetation cover.

On this basis, the application area is located in an area that has been extensively cleared, and the vegetation under application is considered significant as a remnant of native vegetation within an extensively cleared landscape.

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

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed lands (ha)	Extent remaining in all DBCA managed lands (proportion of Pre-European extent) (%)
<b>IBRA bioregion:</b>					
Avon Wheatbelt	9,517,109	1,761,226	18.5	174,960	1.8
<b>Beard's Vegetation association in Bioregion:</b>					
7	144,189.50	15,279.52	10.60	156.2	<1
142	637,707	79,309	12.4	2,381	<1

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

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

According to aerial imagery and as noted during a DWER site inspection (DWER, 2018), several minor watercourses traverse the land parcels in a predominately east-west and north-south direction.

Several watercourses have been impacted by previous agricultural activities where some have little riparian vegetation remaining. The applicant stated that they do not intend to clear along watercourses, and would not clear within a certain distance of a watercourse (DWER, 2018).

Noting this, the proposed clearing is not likely to impact on vegetation growing in association with a watercourse and is not likely to be at variance to this Principle.

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

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

The application area is located on the midslope and upper position of the landscape with undulating rises to low hills. There are two soil types mapped: (a) shallow gravel, loamy gravel, pale and yellow deep sand, yellow to brown sandy earth, sandy duplex, loamy duplex, pale to yellow shallow sand soils and (b) loamy gravel, some loamy earths, sandy and loamy duplexes and sands (DPIRD, 2018; DPIRD, 2017).

The CSLC advises that the area has a high capability of dryland cropping, the soils do not exhibit any significant degradation characteristics or issues and as such the risk of land degradation in the form of salinity, soil water or wind erosion or waterlogging is low (DPIRD, 2018).

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

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

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

There are three conservation areas (nature reserves) within 20 kilometres of the application area, the closest is 12 kilometres to the south whilst the others are over 20 kilometres to the east.

No direct or in-direct impacts to the environmental values of these conservation areas is expected given the geographical distance to them and that there is no ecological linkage joining them and the application area. Furthermore, no impacts are likely given the proposed clearing includes scattered trees and small remnants distributed over an approximately 1,200 hectare footprint.

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

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

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

The application area is located on the midslope and upper position of the landscape with undulating rises to low hills. There are two soil types mapped: (a) shallow gravel, loamy gravel, pale and yellow deep sand, yellow to brown sandy earth, sandy duplex, loamy duplex, pale to yellow shallow sand soils and (b) loamy gravel, some loamy earths, sandy and loamy duplexes and sands (DPIRD, 2018; DPIRD, 2017).

As discussed in Principle (f), several minor watercourses within the application area have been impacted by previous agricultural activities with little riparian vegetation remaining. However, other sections do retain vegetation in the form of a dominate, upper-storey tree line. The applicant stated that they do not intend to clear along watercourses, and would not clear within a certain distance of a watercourse (DWER, 2018).

As discussed in Principle (g), the CSLC advises that the area has a high capability of dryland cropping and as such the risk of land degradation in the form of salinity, soil water or wind erosion or waterlogging is low (DPIRD, 2018). It is considered 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.

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

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

As noted in section 2 above, the application area is located on the midslope and upper position of the landscape with undulating rises to low hills. There are two soil types mapped: (a) shallow gravel, loamy gravel, pale and yellow deep sand, yellow to brown sandy earth, sandy duplex, loamy duplex, pale to yellow shallow sand soils and (b) loamy gravel, some loamy earths, sandy and loamy duplexes and sands (DPIRD, 2017; DPIRD, 2018).

As discussed under Principle (g), the CSLC advises that the area has a high capability of dryland cropping and as such the risk of land degradation in the form of waterlogging is low (DPIRD, 2018). It is considered 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.



## Planning instruments and other relevant matters.

Application area is zoned as General agriculture under the Shire of Moora's Town Planning Scheme.

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

The clearing permit application was advertised on DWER's website on 16 March 2018 with a 21 day submission period. No public submissions have been received in relation to this application.

### Avoid, minimise and onsite mitigation

The applicant has committed to avoiding and minimising the clearing of native vegetation where possible. DWER officers discussed with the applicant the retention, rehabilitation and revegetation of some key areas on his property during a site inspection.

On 27 March 2019, DWER wrote to the applicant proposing a partial grant scenario which reduced the clearing under this application to 10.8 hectares and included retention and rehabilitation of 4.9 hectares of native vegetation. On 23 April 2019, the applicant agreed to the proposed partial grant.

## 2. References

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Jones, A. (2015) Threatened and Priority Flora List, 11 November 2015. Department of Parks and Wildlife: Kensington, WA.  
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, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.  
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Western Australian Herbarium (WAH, 1998-) FloraBase-the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <https://florabase.dpaw.wa.gov.au/>

### GIS Databases:

- Aboriginal Sites of Significance
- Department of Biodiversity, Conservation and Attractions Estate
- Groundwater salinity
- Hydrography, linear
- SAC bio datasets (accessed October 2018)
- Soils, Statewide
- Virtual Mosaic Landgate / Aerial imagery (accessed October 2018)