



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 7574/1
File Number: DER2017/000598
Duration of Permit: 21 July 2018 to 21 July 2033

PERMIT HOLDER

Instant Products Group Pty Ltd

LAND ON WHICH CLEARING IS TO BE DONE

Lot 609 on Deposited Plan 409234, Muchea

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 12.06 hectares of native vegetation within the area cross-hatched yellow on attached Plan 7574/1a.

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. Dieback and weed control

When undertaking any clearing authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:

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

3. Period within which clearing is authorised

The Permit Holder shall not clear any native vegetation after 21 July 2023.

4. Offset – conservation covenant

Prior to undertaking any clearing authorised under this Permit, the Permit Holder shall:

- (a) give a conservation covenant under section 30B of the *Soil and Land Conservation Act 1945* setting aside the *covenant area* for the protection and management of vegetation in perpetuity; and
- (b) provide to the CEO a copy of the executed conservation covenant.

5. Offset – rehabilitation

(a) Within two years of the commencement of clearing, the Permit Holder must rehabilitate the area cross-hatched red on attached Plan 7574/1b by:

- (i) *planting* and/or *direct seeding* *Banksia attenuata* and *Banksia menziesii*; and
- (ii) *planting* and/or *direct seeding* *local provenance* understorey species.

- (b) Within two years of the commencement of clearing, the Permit Holder must rehabilitate the area cross-hatched red on attached Plan 7574/1c by *planting* and/or *direct seeding* native vegetation using a selection of not less than five species from the list at Schedule 1.
- (c) Prior to commencing the rehabilitation required by conditions 5(a) and 5(b), the Permit Holder shall engage an *environmental specialist* to:
 - (i) establish at least five 20 metre by 20 metre monitoring quadrats within the area cross-hatched red on attached Plan 7574/1b;
 - (ii) establish at least two 20 metre by 20 metre monitoring quadrats within the area cross-hatched red on attached Plan 7574/1c;
 - (iii) record the location of each monitoring quadrat 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;
 - (iv) record the combined per cent weed and bare soil cover within each monitoring quadrat; and
 - (v) take a photograph of each monitoring quadrat from the northeast corner.
- (d) In relation to the combined areas cross-hatched red on attached Plan 7574/1b and Plan 7574/1c, the Permit Holder shall achieve and maintain the following completion criteria:
 - (i) a combined cover of *Banksia attenuata* and *Banksia menziesii* of not less than 120 plants per hectare; and
 - (ii) a combined per cent weed and bare soil cover of no greater than 25 per cent.
- (e) The Permit Holder shall engage an *environmental specialist* to assess the monitoring quadrats established under condition 5(c) against the completion criteria identified in condition 5(d).
- (f) The assessment required under condition 5(e) must be undertaken on an annual basis for the first three years after commencement of rehabilitation and on a biennial basis thereafter for an additional four year period.
- (g) For each assessment event required under condition 5(f), the Permit Holder must:
 - (i) take a photograph of each monitoring quadrat from the northeast corner; and
 - (ii) produce a report detailing the assessment methods and results.
- (h) Where an assessment required under condition 5(f) identifies that the completion criteria are not being met, the Permit Holder must address the deficiency by:
 - (i) undertaking additional *planting* and/or *direct seeding* in accordance with the requirements of conditions 5(a) and 5(b); and/or
 - (ii) undertaking weed control; and/or
 - (iii) undertaking any other remedial actions approved by the *CEO*.

6. Records to be kept

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

- (a) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 1 of this Permit;
- (b) the date that clearing commenced;
- (c) the date that monitoring quadrats were established;
- (d) the location of each monitoring quadrat;
- (e) steps taken to minimise the risk of the introduction and spread of *weeds* and *dieback*, in accordance with condition 2 of this Permit;
- (f) a description of the combined per cent weed and bare soil cover of each monitoring quadrat recorded in accordance with the requirements of condition 5(c)(iv);
- (g) the photographs taken of each monitoring quadrat in accordance with the requirements of condition 5(c)(v);
- (h) the date that *planting* and/or *direct seeding* occurred in accordance with the requirements of conditions 5(a) and 5(b);
- (i) a list of species, including quantities, used for *planting* and/or *direct seeding* in accordance with the requirements of conditions 5(a) and 5(b);
- (j) the photographs taken of each monitoring quadrat in accordance with the requirements of condition 5(g)(i);
- (k) a copy of the reports produced in accordance with the requirements of condition 5(g)(ii); and
- (l) a description, including dates, of any activities undertaken in accordance with the requirements of condition 5(h).

7. Reporting

- (a) The Permit Holder must provide to the *CEO* on or before 30 June of each year, a written report of records required under condition 6 of this Permit.
- (b) If no clearing authorised under this Permit was undertaken between 1 January and 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 30 June of each year.
- (c) Prior to 21 April 2033, the Permit Holder must provide to the *CEO* a written report of records required under condition 6 of this Permit where these records have not already been provided under condition 7(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*;

covenant area means the area cross-hatched red on attached Plan 7574/1a;

dieback means the effect of *Phytophthora* species on native vegetation;

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

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

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

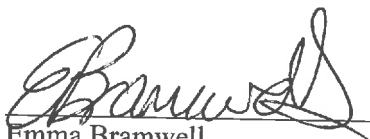
local provenance means native vegetation seeds and propagating material from natural sources within 20 kilometres and within the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared.

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;

weed/s means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
- (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or
- (c) not indigenous to the area concerned.



Emma Bramwell

A/ MANAGER

CLEARING REGULATION

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

21 June 2018

Schedule 1

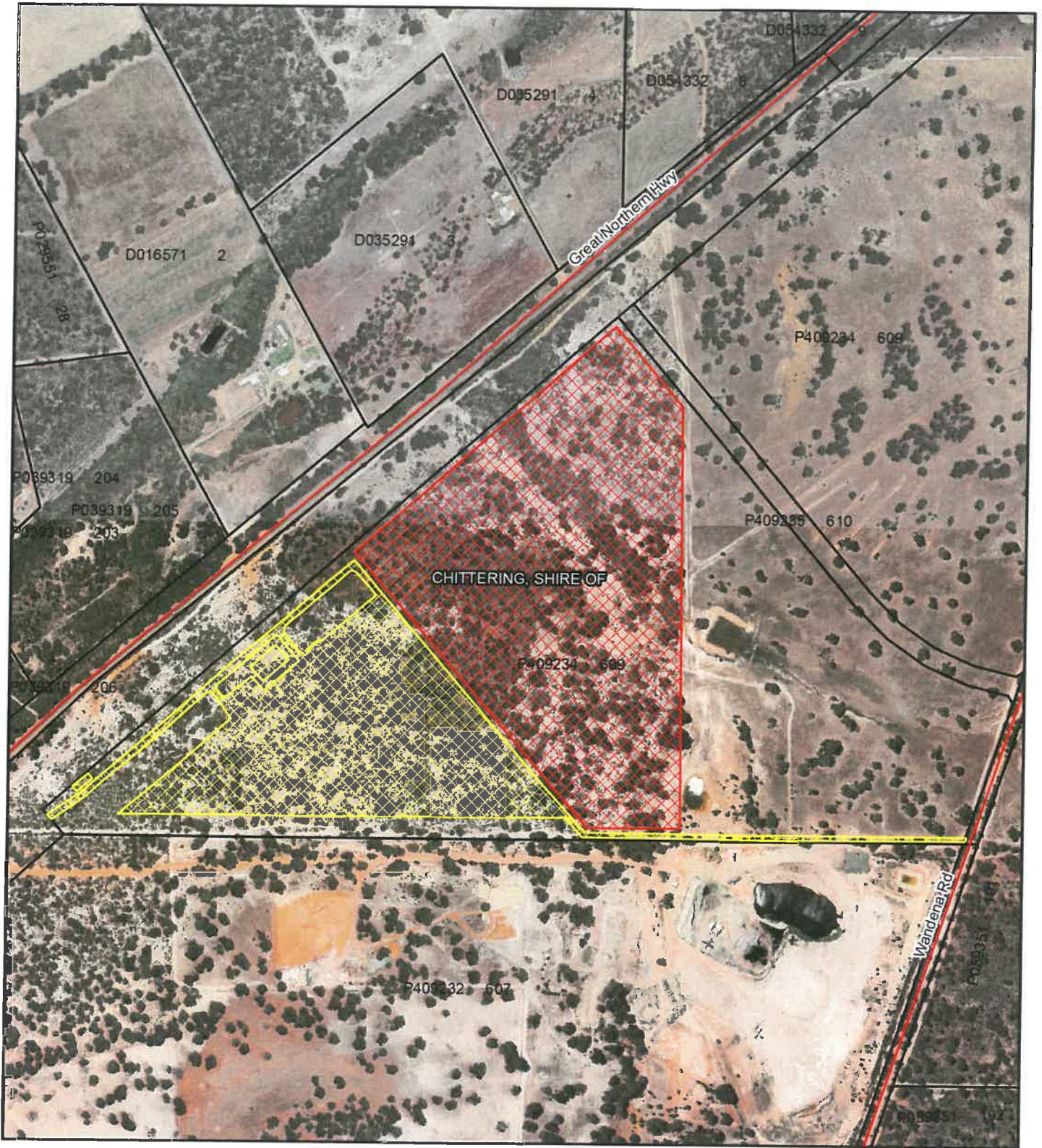
Native species recorded from quadrat Q02 excluding *Corymbia calophylla*, *Eucalyptus marginata* subsp. *thalassica* and taxa not identified to species level.

Taken from:





Maia Environmental Consultancy (2017). Instant Products Group: Muchea Lot 195 – Detailed (Level 2) Flora and Vegetation Assessment – Version 3. Unpublished report prepared for Instant Products Group, 5 September 2017. Subiaco (DWER Ref: A1518281).

Acacia drummondii subsp. *affinis* (P3)
Acacia pulchella var. *reflexa*
Astroloma pallidum
Banksia bipinnatifida subsp. *multifida*
Banksia dallanneyi subsp. *sylvestris*
Bossiaea eriocarpa
Cassyltha racemosa
Chamaescilla corymbosa
Conostylis setigera subsp. *setigera*
Daviesia decurrens subsp. *decurrens*
Desmocladus fasciculatus
Gompholobium knightianum
Haemodorum venosum
Hakea stenocarpa
Hibbertia commutata
Hibbertia huegelii
Hibbertia hypericoides subsp. *hypericoides*
Hovea trisperma var. *trisperma*
Lechenaultia biloba
Lepidosperma pubisquameum
Lomandra sericea
Neurachne alopecuroidea
Orthrosanthus laxus var. *laxus*
Podotheca gnaphalioides
Poranthera microphylla
Ptilotus stirlingii
Stackhousia pubescens
Stylidium ciliatum
Synaphea aephyrsa
Trachymene pilosa
Tricoryne elatior
Wahlenbergia gracilentia
Waitzia suaveolens var. *suaveolens*
Xanthorrhoea acanthostachya
Xanthorrhoea preissii

Plan 7574/1a



Legend

-  Local Government Authorities
-  Areas approved to clear
-  Areas subject to conditions
-  Roads
-  Cadastre



1:8,007

0 50 100 200 300 400



Meters

Geocentric Datum of Australia 1994

E Bramwell Date 21/06/18
E BRAMWELL

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







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Plan 7574/1b



Legend

-  Local Government Authorities
-  Areas subject to conditions
-  Roads
-  Cadastre



1:8,000

0 50 100 200 300 400

Meters

Geocentric Datum of Australia 1994

E Bramwell Date 21/06/18
E BRAMWELL

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of the Environmental Protection Act 1986







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Plan 7574/1c



Legend

-  Local Government Authorities
-  Areas subject to conditions
-  Roads
-  Cadastre



1:8,000

0 50 100 200 300 400



Meters

Geocentric Datum of Australia 1994

E. Bramwell Date 20/06/18
E BRAMWELL

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



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This report has been prepared to fulfil the requirements of an accredited environmental assessment process between the Commonwealth and State governments, pursuant to a bilateral agreement established under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This report is set out in four parts:

- Part 1: Application and site details;
- Part 2: Assessment against matters of national environmental significance (pursuant to the EPBC Act);
- Part 3: Assessment against the clearing principles (pursuant to the Western Australian *Environmental Protection Act 1986* (EP Act)); and
- Part 4: References.

Part 1: Application and site details

1. Application details

1.1 Applicant details

Applicant: Instant Products Group Pty Ltd

1.2 Property details

Property: Lot 609 on Deposited Plan 409234, Muchea
Local Government Authority: Shire of Chittering

1.3 EPBC Act details

Reference No.: EPBC 2017/7901
Referral date: 15 March 2017
Proposed action: To clear native vegetation and develop a Transport Depot and Warehouse at Lot 195 Great Northern Highway, Muchea, Western Australia
Controlled action decision date: 18 April 2017
Relevant controlling provisions: Listed threatened species and communities (sections 18 & 18A of EPBC Act)

1.4 EP Act details

Reference No.: CPS 7574/1
Clearing permit application type: Area Permit
Application date: 1 May 2017
Clearing area (hectares): 12.06 (as revised)
Clearing area (number of trees): N/A
Method of clearing: Mechanical Removal
Purpose category: Industrial

1.5 EP Act decision on application

Decision on permit application: Granted
Decision date: 21 June 2018
Reasons for decision: The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the EP Act. It has been concluded that the proposed clearing is at variance to principles (a), (b) and (d), and is not likely to be at variance to the remaining principles. It is considered that the proposed clearing will result in the following significant residual impacts:

- loss of up to 1.56 hectares from an occurrence of the 'Banksia Woodlands of the Swan Coastal Plain' threatened ecological community (Banksia Woodlands TEC); and
- loss of up to 12.06 hectares of significant foraging habitat for Carnaby's Cockatoo (*Calyptorhynchus latirostris*).

The Delegated Officer noted that environmental impacts have been avoided and minimised through modifications to the application area as a result of the planning approvals process. The Delegated Officer determined that:

- entering into a conservation covenant and rehabilitating a 21.2 hectare portion of adjacent remnant native vegetation on Lot 609 is adequate to counterbalance impacts to Carnaby's Cockatoo foraging habitat and the Banksia Woodlands TEC; and
- implementing weed and dieback hygiene measures will mitigate the risk of significant impacts to adjoining native vegetation.

In granting a clearing permit subject to conditions, the Delegated Officer determined that the proposed clearing is unlikely to have any unacceptable environmental impacts.

2. Background

The revised application is to clear up to 12.06 hectares of native vegetation within Lot 609 on Deposited Plan 409234, Muchea, for the purpose of a new warehouse and transport depot development. The proposed site development plan includes hardstand areas, a warehouse, access ways, parking areas, drainage infrastructure and landscaping areas (refer Figure 1). The applicant's operations are currently spread over at least two sites in Wangara. The proposed development will allow the applicant to relocate its commercial operations to one larger and more modern premises.

Lot 609 is approximately 96 hectares in size (Figure 1). Approximately 56 hectares of the property (eastern portion) is parkland cleared. According to available historical aerial imagery, the parkland clearing occurred sometime between 1983 and 2000 (refer Figures 2 and 3 – note no imagery available between 1983 and 2000). The remaining 40 hectare western portion, within which the majority of the application area is located, contains remnant native vegetation in varying condition. No broad scale clearing of this area is apparent on available historical aerial imagery dating back to 1977, however, evidence of disturbance between 1983 and 2000 is apparent as shown in Figure 4.

Note: The original application area is shown in Figures 2 to 4 for the clearing of up to 12.37 hectares of native vegetation. The application area was subsequently revised on 21 February 2018 to that shown in Figure 1 for the clearing of up to 12.06 hectares of native vegetation, following the outcome of planning approval negotiations between the applicant and the Shire of Chittering.



Figure 1. 2017 Aerial imagery of Lot 609 (black outline) and revised application area (blue outline)



Figure 2. 1983 Aerial imagery for Lot 609 (black outline) and original application area (blue outline)



Figure 3. 2000 Aerial imagery for Lot 609 (black outline) and original application area (blue outline)



Figure 4. 2000 Aerial imagery for Lot 609 (black outline) and original application area (blue outline) showing evidence of disturbance

3. Site details

Vegetation Description:

The application area is mapped as Heddle vegetation complex Moondah which is described as "Low closed to low open forest of *Banksia attenuata* (Slender Banksia) - *Banksia menziesii* (Firewood Banksia) - *Eucalyptus todtiana* (Pricklybark) - *Banksia prionotes* (Acorn Banksia) on slopes, open woodland of *Corymbia calophylla* (Marri) - *Banksia* species in valley" (Heddle *et al.*, 1980).

A flora and vegetation survey commissioned by the applicant identified three vegetation types within the application area (Maia Environmental Consultancy, 2017a):

- EtMWL – Mallee Woodland of Pricklybark with a Low Shrubland of *Eremaea pauciflora* var. *pauciflora* and *Hibbertia hypericoides* subsp. *hypericoides* +/- Tall Scattered Shrubs of Firewood Banksia and Slender Banksia.
- CcEmF – Open Forest of Marri +/- *Eucalyptus marginata* subsp. *thalassica* (Blue-leaved Jarrah) with an Open Shrubland of *Xanthorrhoea preissii* (Grass Tree) and a Low Open Shrubland of *Hibbertia hypericoides* subsp. *hypericoides*.
- EmCcWL – Tall Woodland/Open Forest of Blue-leaved Jarrah and/or Marri with a Low mixed Shrubland (*Xanthorrhoea acanthostachya*, *Lechenaultia biloba* (Blue Leschenaultia), *Hibbertia hypericoides* subsp. *hypericoides*).

Vegetation Condition:

Vegetation condition within the application area is:

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

Soil/Landform Type:

Three soil landscape map units are intersected by the application area (Department of Agriculture and Food 2017):

- Reagan 1b Phase (222Re_1b) – Gentle slopes (less than 10 per cent) from the Dandaragan plateau to the Pinjarra plain. Deeply bleached sands.
- Reagan 10 Subsystem (222Re10) – Drainage depressions on the Dandaragan Plateau. Generally duplex, some uniform fine, yellow to yellowish brown alluvial soils.
- Reagan 12 Subsystem (222Re12) – Gentle slopes from the Dandaragan plateau to the Pinjarra plain. Loamy sands overlying sandy loams to sandy clay loam at approximately 1 metre.

Comments:

The condition of the vegetation was determined by a flora and vegetation survey commissioned by the applicant. The three vegetation types identified (EtMWL, CcEmF and EmCcWL) were all considered to be in very good condition. The remaining area which was described as "D - disturbed" was considered to be in degraded to completely degraded condition (Maia Environmental Consultancy, 2017a). A map showing the locations of each vegetation type is provided in Figure 5.

The local area considered in the assessment of this application is defined as a 10 kilometre radius around the application area. The local area retains approximately 35 per cent (approximately 11,000 hectares) native vegetation cover.



Figure 5. Vegetation types recorded

Part 2: Assessment against matters of national environmental significance

4. Description of controlling provision(s)

The proposed action to clear native vegetation and develop a transport depot and warehouse at Lot 195 Great Northern Highway, Muchea was determined to be a controlled action on 18 April 2017. Based on the information available in the referral, the Commonwealth Department of the Environment and Energy (DotEE) considered that the proposed action is likely to have a significant impact on Carnaby's Cockatoo (*Calyptorhynchus latirostris*) listed as endangered under the EPBC Act.

Currently, the overall population trend for Carnaby's Cockatoo is one of decline due to the loss and fragmentation of habitat as a result of clearing of native vegetation (Saunders, 1990; Johnstone and Storr, 1998; Saunders and Ingram, 1998; Garnett *et al.*, 2011). Carnaby's Cockatoo is endemic to the south-west of Western Australia. Breeding takes place predominantly between late July and December and occurs mostly in the inland wheatbelt region of its distribution, in areas receiving between 300 and 750 millimetres of annual average rainfall (Saunders, 1974). During the non-breeding season the majority of the birds move to the higher rainfall coastal regions of their range including the midwest coast, Swan Coastal Plain and south coast (Saunders, 1980; Saunders, 1990; Berry, 2008; Johnstone *et al.*, 2011). There has been an apparent expansion in the breeding range to include areas further west and south since the middle of last century with a more rapid increase into the Jarrah and Marri forests of the south west (Johnstone and Storr, 1998; Johnstone *et al.*, 2011). This expansion in breeding range is due to threatening processes such as clearing of breeding habitat and competition for suitable breeding hollows.

Carnaby's Cockatoo preferred habitat is remnant native eucalypt woodlands, especially those of *Eucalyptus salmonophloia* (Salmon Gum) and *Eucalyptus wandoo* (Wandoo), and in shrubland or kwongan heathland dominated by plants of the Proteaceae family. It also occurs in forests containing Marri, Jarrah, *Eucalyptus diversicolor* (Karri) and *Eucalyptus gomphocephala* (Tuart) (Department of Parks and Wildlife, 2013).

Carnaby's Cockatoo forages on the seeds, flowers and nectar of native proteaceous plant species (e.g. *Banksia*, *Hakea* and *Grevillea* species), *Eucalyptus* and *Callistemon* species. The species also forages on seeds of introduced species (e.g. *Pinus* and *Erodium* species, canola and almonds), insects and insect larvae. Carnaby's Cockatoo generally forages within six kilometres of a night roost site and, while nesting, within a 12 kilometre radius of their nest site (Commonwealth of Australia, 2012).

Carnaby's Cockatoo nests in large hollows in tall, living or dead eucalypts. It nests most commonly in Wandoo and Salmon Gum, but has also been recorded breeding in *Eucalyptus longicornis* (Red Morrel), *Eucalyptus loxophleba* (York Gum), tuart, *Eucalyptus rudis* (Flooded Gum), *Eucalyptus occidentalis* (Swamp Yate), *Eucalyptus salubris* (Gimlet) and Marri, and are said to nest in any species of *Eucalyptus* with a suitable hollow (Department of Parks and Wildlife, 2013).

The Carnaby's Cockatoo recovery plan summarises habitat critical to the survival of Carnaby's Cockatoo as:

- the *Eucalyptus* species woodlands that provide nest hollows used for breeding, together with nearby vegetation that provides feeding, roosting and watering habitat that supports successful breeding;
- woodland sites known to have supported breeding in the past and which could be used in the future, provided adequate nearby food and/or water resources are available or are re-established; and
- in the non-breeding season the vegetation that provides food resources as well as the sites for nearby watering and night roosting that enable the cockatoos to effectively utilise the available food resources (Department of Parks and Wildlife, 2013).

The recovery plan also states that success in breeding is dependent on the quality and proximity of feeding habitat within 12 kilometres of nesting sites. Along with the trees that provide nest hollows, the protection, management and increase of this feeding habitat that supports the breeding of Carnaby's Cockatoo is a critical requirement for the conservation of the species (Department of Parks and Wildlife, 2013). It is considered that approval of the proposed action would not be inconsistent with the recovery plan.

5. Summary of impacts

The application area occurs within the modelled distribution of Carnaby's Cockatoo including within the modelled breeding range of the species (Commonwealth of Australia, 2012). According to available geographic information system (GIS) datasets, confirmed Carnaby's Cockatoo breeding sites occur approximately 1.5 kilometres and 2.5 kilometres south of the application area.

Recent surveys commissioned by Main Roads Western Australia of vegetation along Great Northern Highway between Old Gingin Road and Sandalford Drive (a distance of approximately 14 kilometres), recorded a total of 22 trees showing evidence of nesting use by Carnaby's Cockatoo. This included observations of pairs of birds at hollows and hearing chicks within hollows. The majority of the 22 trees were Wandoo (Arup Jacobs Joint Venture, 2017).

The application area is located along Great Northern Highway approximately three kilometres north of Old Gingin Road. All of the aforementioned 22 trees occur within a 12 kilometre radius of the application area.

Based on the results of a black cockatoo habitat assessment commissioned by the applicant, the application area contains 27 trees with a diameter at breast height of 500 millimetres or greater. The 27 trees comprise Marri and Jarrah only. No trees with suitable nesting hollows were identified within the application area. A Jarrah tree with a potentially suitable nesting hollow was recorded approximately ten metres from the application area, however no breeding activity such as scratch marks was observed (Biologic, 2016). No trees with suitable nesting hollows were identified during a site inspection conducted by Department of Water and Environmental Regulation (DWER) officers (DWER, 2017).

Foraging evidence (pine cones showing seed extraction), most likely from Carnaby's Cockatoo, was recorded adjacent to the application area (Biologic, 2016). Black cockatoos were observed flying over the application area during a site inspection conducted by DWER officers (DWER, 2017). Given the vegetation types present, the entire application area is considered to comprise Carnaby's Cockatoo foraging habitat.

The application area contains 12.06 hectares of Carnaby's Cockatoo foraging habitat within 12 kilometres of confirmed nesting locations. The loss of this habitat would increase the risk of further declines in breeding success and population size.

6. Public consultation

The original application/proposed action was advertised for public comment on the former Department of Environment Regulation's (DER) website for a 21 day submission period closing 23 June 2017. The revised application was advertised on DWER's website for a seven day submission period closing 24 May 2018. No public submissions were received during either submission period.

The development application associated with the proposed action was advertised for public comment by the Shire of Chittering in accordance with the requirements of the town planning scheme. The majority of the submissions received were comments from government agencies. Two public submissions were received objecting to the proposed development. Issues raised included:

- the land is zoned for agricultural land uses not industrial;
- visual amenity impacts;
- pollution risks (e.g. water, dust, noise); and
- traffic and road safety implications (Urban & Rural Perspectives, 2017a).

7. Avoidance, mitigation and offsets

The applicant proposes the following avoidance and mitigation measures:

- implementation of weed and dieback hygiene measures to prevent introduction/spread into surrounding native vegetation;
- restrict access to surrounding native vegetation to reduce the risk of weed and dieback introduction/spread; and
- maintain/construct fences to prevent grazing of and access to remaining remnant native vegetation on the property (Urban & Rural Perspectives, 2017b).

A weed and dieback hygiene condition will be imposed to mitigate the risk of weed and dieback introduction/spread.

The applicant advised that no feasible alternatives to the location of the proposed development were identified due to:

- the lack of suitably zoned and serviced land in other parts of the Muchea locality;
- the nature and extent of existing constraints on the subject land including a small intermittent watercourse that forms part of the Ellen Brook catchment and the presence of clay soil types in the majority of the northern portion of the property which are highly reactive and costly to develop; and
- the proposed road upgrades by Main Roads Western Australia along the land's frontage to Great Northern Highway and the limited opportunities available for practical and safe access by heavy vehicles (Urban & Rural Perspectives, 2017b).

To offset any significant residual impacts the applicant proposes to rehabilitate a 15 hectare portion of remnant native vegetation on the property. In addition the applicant is willing to enter into a conservation covenant for that area. As an alternative to the rehabilitation and covenant, the applicant is willing to consider making a monetary contribution to a fund maintained for the purpose of establishing or maintaining native vegetation (Urban & Rural Perspectives, 2017b).

The application area and the offset site contain similar environmental values, including vegetation types (as mapped by Maia Environmental Consultancy, 2017a) and Carnaby's Cockatoo foraging habitat values.

8. Other relevant considerations

The applicant's operations are currently spread over at least two sites in Wangara. The proposed development will allow the applicant to relocate its commercial operations to one larger and more modern premises increasing efficiency. Construction is anticipated to take approximately six months. Initial estimates indicate that once complete the new warehouse will accommodate 25 staff members at any one time and the transport depot will provide employment for eight people with room for growth over time (Urban & Rural Perspectives, 2017c).

The applicant has an environmental policy with the objectives of the policy being:

"Instant Products Group provides a diverse range of professional hire products to metropolitan and regional communities. We believe that it is essential to respect our natural environment and implement sustainable working practices. We are committed to protecting the environment and preventing pollution by adhering to the environmental legal requirements." (Instant Products Group Pty Ltd, 2017)

The applicant has not previously referred an action under the EPBC Act and has not advised of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources (Instant Products Group Pty Ltd, 2017).

Part 3: Assessment against the clearing principles

9. Assessment against clearing principles

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

Proposed clearing is at variance to this principle

A flora and vegetation survey commissioned by the applicant recorded a total of 199 flora taxa (175 native) in the application area and adjoining remnant vegetation (Maia Environmental Consultancy, 2017a). No rare flora were identified. The presence of two priority flora were confirmed, being *Acacia drummondii* subsp. *affinis* (Priority 3) and *Haemodorum loratum* (Priority 3). An additional potential priority flora could not be identified beyond genus level due to lack of flowering or fruiting material, being *Grevillea ?drummondii* (Priority 4). All four records of *Acacia drummondii* subsp. *affinis* occur outside the application area. A total of 70 plants of *Haemodorum loratum* were recorded, 22 of which were located in the application area. Additional plants of *Haemodorum loratum* were potentially recorded but could not be identified beyond genus level. Two plants of *Grevillea ?drummondii* were recorded, but neither occurs within the application area (Maia Environmental Consultancy, 2017a).

The former Department of Parks and Wildlife (Parks and Wildlife) provided the following advice in relation to the priority flora species identified:

- *Acacia drummondii* subsp. *affinis* seems to be fairly well represented by WA Herbarium records in the local area;
- the population of *Haemodorum loratum* appears to be relatively large, and the proposed taking of plants will not impact the conservation status of the species; and
- the loss of the *Grevillea ?drummondii* plants would not impact the conservation significance of this species, however it is noted that this population increases the southern known extent of this species and is therefore considered locally significant since the species is not well represented in the local area (Department of Parks and Wildlife, 2017).

Based on the above advice and the fact that the majority of the plants recorded occur outside the application area, no significant impacts to priority flora are expected from the proposed clearing.

As outlined in the assessment at principle (d), the application area contains a 1.56 hectare portion of an occurrence of the Commonwealth-listed threatened ecological community (TEC) 'Banksia Woodlands of the Swan Coastal Plain' (Banksia Woodlands TEC). The application area may also contain an occurrence of the State listed TEC 'SCP3b *Corymbia calophylla*-*Eucalyptus marginata* woodlands on sandy clay soils of the southern Swan Coastal Plain' (SCP3b TEC).

Approximately 326,000 hectares of the Banksia Woodlands TEC remained in 2008, or approximately 48 per cent of its original extent (Department of Biodiversity, Conservation and Attractions, 2017a). Cumulative impacts such as that which would result from the proposed clearing are considered significant in the context of the ongoing incremental decline of the TEC extent.

In relation to the SCP3b TEC, as outlined in the assessment at principle (d), it is considered that the risk of significant impacts is insufficient to warrant further mapping and assessment.

Some of the quadrats from each of the three vegetation types recorded by Maia aligned with the State listed Priority 3 ecological community Floristic Community Type (FCT) 21c described as 'Low lying *Banksia attenuata* woodlands or shrublands' in the FCT analysis.

The Department of Biodiversity, Conservation and Attractions (DBCA) advised that the quadrats have not strongly allocated to this FCT and have affinities for other FCTs. Boundaries of the FCT may therefore not be particularly distinctive. FCT21c is currently known from 59 locations over a range of approximately 195 kilometres from Pinjar to Gelorup. The boundaries of 14 locations have been mapped and total approximately 320 hectares (Department of Biodiversity, Conservation and Attractions, 2017b).

FCT21c forms part of the Banksia Woodlands TEC. Impacts to this TEC from the proposed clearing will be counterbalanced through an offset as outlined under Section 10. Given this, and the extent of FCT21c currently remaining, it is considered that further mapping and assessment of FCT21c is unwarranted.

As outlined in Sections 4 and 5, and the assessment at principle (b), the application area contains significant foraging habitat for Carnaby's Cockatoo. Although significant, substantial areas of similar or more diverse foraging habitat occur in the local area.

As outlined in the assessment at principles (e), (f) and (h), the application area is unlikely to include significant remnant vegetation in a highly cleared area, significant wetland or watercourse vegetation, or vegetation significant for maintaining the environmental values of any adjacent or nearby conservation area.

Given the application area supports a 1.56 hectare portion of an occurrence of the Banksia Woodlands TEC, the proposed clearing is at variance to this principle.

Mechanical clearing increases the risk of spreading weeds and dieback into native vegetation adjacent to the application area. Potential impacts to biodiversity outside the application area as a result of the proposed clearing may be minimised by the implementation of weed and dieback management practices.

(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

As outlined in Sections 4 and 5, the application area contains 12.06 hectares of foraging habitat for Carnaby's Cockatoo within 12 kilometres of confirmed nesting locations. The loss of this habitat would increase the risk of further declines in breeding success and population size.

The application area occurs on the edge of the modelled distribution of forest red-tailed black cockatoo (*Calyptorhynchus banksii* subsp. *naso*; listed as rare or likely to become extinct under the WA *Wildlife Conservation Act 1950*) (Commonwealth of Australia 2012). Black cockatoos were observed flying over the application area during a DWER site inspection. Potential black cockatoo foraging evidence was also observed including chew marks potentially consistent with those made by forest red-tailed black cockatoos (DWER, 2017).

The application area contains suitable foraging habitat for forest red-tailed black cockatoo, but it is considered unlikely that the application area, or nearby vegetation, supports breeding activities. The foraging habitat is unlikely to be significant for the species.

The application area may provide suitable habitat for two priority fauna species listed by DBCA: *Neelaps calanotos* (black-striped snake – Priority 3) and *Isoodon obesulus fusciventer* (southern brown bandicoot – Priority 4) (Biologic Environmental Survey Pty Ltd 2017). The DWER site inspection observed open vegetation types most likely due to historical disturbance (DWER 2017). Given this the application area is unlikely to provide sufficient dense cover to represent significant habitat for these species. For the same reason the application area is considered unlikely to form part of a significant ecological linkage for ground dwelling fauna.

As the application area contains 12.06 hectares of significant foraging habitat for Carnaby's Cockatoo, the proposed clearing is at variance to this principle.

(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

According to available datasets, three different rare flora species have been recorded between 1 and 2.5 kilometres from the application area in remnant vegetation to the southeast.

Flora surveys of the application area undertaken in March 2016 and October 2016 did not identify any rare flora (Maia Environmental Consultancy, 2017a).

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

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

Proposed clearing is at variance to this principle

According to available datasets, no TECs endorsed by the WA Minister for Environment have been mapped within five kilometres of the application area. The application area is mapped as the Commonwealth-listed Banksia Woodlands TEC, which is listed as Priority 3 by DBCA.

The flora and vegetation survey commissioned by the applicant identified that the vegetation types EtMWL and CcEmF could be an occurrence of the Banksia Woodlands TEC (Maia Environmental Consultancy, 2017b). The survey report outlines that:

"Maia vegetation types EtMWL and CcEmF meet most of the criteria for the TEC, however, both lack the characteristic dominant *Banksia stratum*. EtMWL was dominated by *Eucalyptus tottiana* mallees with scattered *B. attenuata* and *B. menziesii* shrubs and CcEmF was dominated by *Corymbia calophylla* and/or *Eucalyptus marginata* subsp. *thalassica* and only two *B. menziesii* (one adult and one juvenile) were recorded in the Maia vegetation type.....Woodland dominated by *Banksia attenuata* was noted in a relatively undisturbed patch of vegetation in an adjacent lot to the south of the Survey Area, however, this vegetation was not mapped by Maia. The vegetation comprising Maia vegetation types EtMWL and CcEmF has been disturbed in the past and there is either no shrub understorey or the shrubs are regrowth. The majority of quadrats sampled in Maia vegetation types EtMWL and CcEmF grouped with SCP sites from FCT21c and FCT28 in the regional analysis and both FCTs are included in the TEC. Due to the disturbance history it is likely that these Maia vegetation types are a modified/degraded form of the ecological community" (Maia Environmental Consultancy, 2017b).

Recent surveys commissioned by Main Roads Western Australia to support an application to clear native vegetation for the upgrade of Great Northern Highway (CPS 7563/1) confirmed that a 3.7 hectare occurrence of the Banksia Woodlands TEC was present on the lot to the south (Arup Jacobs Joint Venture, 2017). The clearing of 1.34 hectares of the 3.7 hectare occurrence of the TEC was proposed under CPS 7563/1.

Based on the information supplied in the two aforementioned survey reports, and observations from the DWER site inspection (DWER, 2017), it is considered that an additional 5.5 hectares of a modified version of the Banksia Woodlands TEC occurs within Lot 609 and the Great Northern Highway road reserve. 3.42 hectares of this occurs within the application areas for CPS 7574/1 (1.56 hectares) and CPS 7563/1 (1.86 hectares) (Figure 6). This area along with the vegetation on the lot to the south is considered to be a single 9.2 hectare occurrence of the TEC. The proposed clearing under both CPS 7574/1 and CPS 7563/1 will result in the loss of approximately half of the TEC occurrence (4.76 hectares).

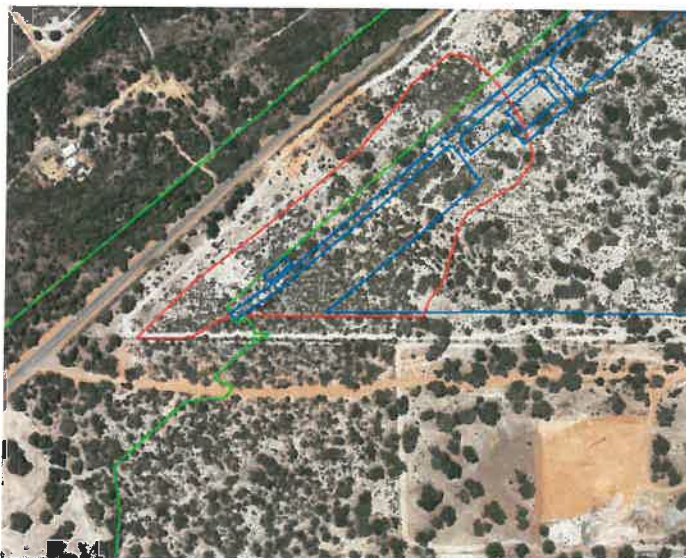


Figure 6. Modified form of the Banksia Woodlands TEC (red outline) within the CPS 7574/1 (blue outline) and CPS 7563/1 (green outline) application areas.

Approximately 326,000 hectares of the Banksia Woodlands TEC remained in 2008, or approximately 48 per cent of its original extent (Department of Biodiversity, Conservation and Attractions, 2017a). Cumulative impacts such as that which would result from the proposed clearing are considered significant in the context of the ongoing incremental decline of the TEC extent.

The flora and vegetation survey commissioned by the applicant also identified that a quadrat from vegetation type EmCcWL grouped as an outlier from the SCP3b TEC in the FCT analysis. The report states:

"Quadrat Q02 was sampled on a low lateritic hill with a surface layer of laterite gravel and stones with an underlying brown sandy-loam soil. Species richness at Q02 was lower than the average species richness for FCT3b (43 species compared to an average of 61). There were signs of earlier vegetation clearing (wood piles and bare areas) in the vicinity of this quadrat and this disturbance may have influenced the species richness and composition and the result of the floristic analysis." (Maia Environmental Consultancy, 2017b).

The SCP3b TEC is currently known from 36 locations totalling 260 hectares from a range of approximately 195 kilometres between Maddington and Dunsborough (Department of Biodiversity, Conservation and Attractions, 2017b). Given only one quadrat aligned with the TEC, and that historical disturbance may have influenced the FCT analysis, it is considered that the presence of the TEC is possible but not confirmed. If present, the occurrence would represent the northernmost record of the TEC.

DBCA advised that Maia applied reasonably appropriate methods to determine FCTs but that the FCTs allocated to quadrats do not seem to relate well to the vegetation type mapping. As a result, the extent of each FCT cannot be determined based on the mapping provided, which in turn limits the ability to assess the significance of impacts. DBCA recommended additional FCT mapping is undertaken (Department of Biodiversity, Conservation and Attractions, 2017b).

Quadrat Q02 occurs within vegetation type EmCcWL. The only other quadrat recorded from this vegetation type was quadrat Q08 which aligned with FCT21c ('Low lying *Banksia attenuata* woodlands or shrublands') but also showed affinities to FCT28 ('Spearwood *Banksia attenuata* or *Banksia attenuata-Eucalyptus* woodlands'). The next closest quadrats were Q03 and Q06 which aligned with FCT28 and FCT21c respectively. These quadrats occur approximately 20 to 40 metres from the mapped boundary of EmCcWL (Maia Environmental Consultancy, 2017b).

Based on observations from the DWER site inspection, it was clear that vegetation type EmCcWL was distinct from other vegetation types recorded. Therefore it is considered likely that, if present, the SCP3b TEC would be restricted to the EmCcWL vegetation type. Furthermore, noting the locations of the quadrats assessed, and the topography of the site, any area of the SCP3b TEC is more likely to occur in the eastern and southern portions of EmCcWL (i.e. closer to Q02 and higher in the landscape). The majority of these areas occur outside the application area and within an area proposed to be utilised as an offset for the application (refer Section 10). Given this, it is considered that the risk of significant impacts to the SCP3b TEC, if present, is insufficient to warrant further mapping and assessment.

The application area contains a 1.56 hectare portion of an occurrence of the Banksia Woodlands TEC. The proposed clearing is at variance to this principle.

Mechanical clearing increases the risk of spreading weeds and dieback into native vegetation adjacent to the application area. Potential impacts to TECs outside the application area as a result of the proposed clearing may be minimised by the implementation of weed and dieback management practices.

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

Proposed clearing is not likely to be at variance to this principle

The National Objectives and Targets for Biodiversity Conservation 2001-2005 include a target to have clearing controls in place that prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750 (i.e. pre-European settlement) (Commonwealth of Australia, 2001).

As indicated in Table 1, the Swan Coastal Plain bioregion, the Shire of Chittering and the mapped Hedde vegetation complex retain greater than 30 per cent of their pre-European extents.

As outlined in Section 3, the local area retains approximately 35 per cent (approximately 11,000 hectares) native vegetation cover. The proposed clearing would reduce this extent to approximately 34.95 per cent.

Given the above, the application area is not likely to contain vegetation significant as a remnant in an area that has been extensively cleared. The proposed clearing is not likely to be at variance to this principle.

Table 1: Vegetation remaining statistics

	Pre-European extent (ha)	Current extent (ha)	Current extent (%)	% Current extent in all DBCA managed lands
IBRA Bioregion*:				
Swan Coastal Plain	1,501,222	578,432	39%	38% (218,946 hectares)
Local Government Authority*:				
Shire of Chittering	121,835	46,477	38%	10% (4,621 hectares)
	Pre-European extent (ha)	Current extent (ha)	Current extent (%)	% Remaining in all DBCA managed lands
Hedde vegetation complex**:				
Moondah	17,713	7,233	41%	12% (2,075 hectares)

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

Proposed clearing is not likely to be at variance to this principle

According to available datasets, no watercourses or wetlands occur within the application area.

The closest watercourse or wetland is a minor non-perennial watercourse mapped approximately 300 metres northeast of the application area. This watercourse flows in a northwest direction passing under the Great Northern Highway before flowing into Rocky Creek. Rocky Creek flows in a southwest direction into Ellen Brook approximately four kilometres downstream.

No wetlands or watercourses, or vegetation growing in association with the nearby mapped watercourse, were identified during the DWER site inspection (DWER, 2017).

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

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

Proposed clearing is not likely to be at variance to this principle

According to available datasets, the eastern most point of the application area has the highest elevation of approximately 130 meters Australian Height Datum (AHD). The western corner of the application area has the lowest elevation of approximately 95 meters AHD. The drop in elevation occurs across a distance of approximately 1,350 metres.

As outlined in Section 3, the application area is mapped as three soil landscape map units, comprising gentle slopes with sand or sandy loam soils, and drainage depressions with alluvial soils. The majority of the application area is mapped as either the 222Re10 or 222Re12 map units.

The DWER site inspection observed gravel/lateritic soils in the area mapped as vegetation type EmCcWL and sandy soils in the remainder. No steep slopes or evidence of erosion were observed (DWER, 2017).

Based on the observations from the DWER site inspection the risk of the proposed clearing causing appreciable land degradation is considered low. The proposed clearing is not likely to be at variance to this principle.

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

Proposed clearing is not likely to be at variance to this principle

The nearest DBCA managed conservation area is the Barracca Nature Reserve located approximately 2 kilometres northeast.

A total of 10 properties containing native vegetation that is subject to either a conservation covenant or an agreement to reserve under the *Soil and Land Conservation Act 1945* occur within a kilometre of the application area. The closest of these is approximately 150 metres from the application area, on the opposite side of the Great Northern Highway.

Based on a review of aerial imagery and remnant native vegetation mapping, the application area is unlikely to represent, or form part of, a significant ecological linkage with any adjacent or nearby conservation area. The proposed clearing is not likely to have an impact on the environmental values of any adjacent or nearby conservation area.

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

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

Proposed clearing is not likely to be at variance to this principle

As discussed under principle (f), the closest watercourse or wetland is a minor non-perennial watercourse mapped approximately 300 metres northeast of the application area. This watercourse flows in a northwest direction passing under the Great Northern Highway before flowing into Rocky Creek. Rocky Creek flows in a southwest direction into Ellen Brook approximately four kilometres downstream.

The 300 metre wide area between the application area and the watercourse contains remnant native vegetation in very good (Keighery 1994) condition (Maia Environmental Consultancy, 2017a). Given this buffer, no significant impacts to surface water quality as a result of the proposed clearing are considered likely.

As outlined in Section 3, the local area retains approximately 35 per cent (approximately 11,000 hectares) native vegetation cover. The proposed clearing is unlikely to result in significant changes to groundwater levels or quality.

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

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

Proposed clearing is not likely to be at variance to this principle

Noting the predominantly sandy soils within the application area and the extent of the proposed clearing, the proposed clearing is not likely to cause or exacerbate the incidence or intensity of flooding. The proposed clearing is not likely to be at variance to this principle.

Planning instruments and other relevant matters.

As discussed in Section 6, the original application was advertised for public comment on DER's website for a 21 day submission period closing 23 June 2017, and the revised application was advertised on DWER's website for a seven day submission period closing 24 May 2018. No public submissions were received during either submission period.

The application area is zoned 'Agricultural Resource' under the Shire of Chittering Local Planning Scheme No. 6. The applicant submitted a development application to the Shire of Chittering for the proposed development. The applicant received development approval from the Shire on 4 April 2018 based on an amended site layout following a State Administrative Tribunal hearing. This resulted in a need to amend the clearing permit application area (i.e. to that shown in Figure 1).

Changes to the impacts of the proposed clearing as a result of the amended application area are summarised in Table 2.

Table 2: Impacts of clearing original application area versus amended

Environmental value	Impacts based on original application area	Impacts based on amended application area
<i>Acacia drummondii</i> subsp. <i>affinis</i> (P3)	Clearing of 4 of 4 plants recorded.	Clearing of 0 of 4 plants recorded.
<i>Haemodorum loratum</i> (P3)	Clearing of 39 of 70 plants recorded.	Clearing of 22 of 70 plants recorded.
<i>Grevillea ?drummondii</i> (P4)	Clearing of 1 of 2 plants recorded.	Clearing of 0 of 2 plants recorded.
Carnaby's Cockatoo foraging habitat	Clearing of 12.37 hectares of foraging habitat.	Clearing of 12.06 hectares of foraging habitat.
Carnaby's Cockatoo habitat trees	Clearing of 16 trees with a diameter at breast height of 500 mm or greater. Includes clearing of a large Jarrah tree with hollows.	Clearing of 27 trees with a diameter at breast height of 500 mm or greater. Large Jarrah tree with hollows avoided.
Banksia Woodlands TEC	Clearing of a 3.64 hectare portion of the TEC.	Clearing of a 1.56 hectare portion of the TEC.
SCP3b TEC	Clearing of 3.27 hectares (approximately 41 per cent) of the EmCcWL vegetation type recorded which potentially aligns with the TEC.	Clearing of 1.9 hectares (approximately 24 per cent) of the EmCcWL vegetation type recorded which potentially aligns with the TEC.

It is considered that the revised application area has resulted in a substantial reduction in the environmental impacts of the proposed clearing.

No Aboriginal sites of significance are mapped within the application area.

10. Suitability of proposed offset

As outlined in Section 7, the applicant proposes the following avoidance and mitigation measures:

- implementation of weed and dieback hygiene measures to prevent introduction/spread into surrounding native vegetation;
- restrict access to surrounding native vegetation to reduce the risk of weed and dieback introduction/spread; and
- maintain/construct fences to prevent grazing of and access to remaining remnant native vegetation on the property (Urban & Rural Perspectives, 2017b).

The applicant advised that no feasible alternatives to the location of the proposed development were identified due to:

- the lack of suitably zoned and serviced land in other parts of the Muchea locality;
- the nature and extent of existing constraints on the subject land including a small intermittent watercourse that forms part of the Ellen Brook catchment and the presence of clay soil types in the majority of the northern portion of the property which are highly reactive and costly to develop; and
- the proposed road upgrades by Main Roads Western Australia along the land's frontage to Great Northern Highway and the limited opportunities available for practical and safe access by heavy vehicles (Urban & Rural Perspectives, 2017b).

The assessment against the clearing principles has identified that the proposed clearing is at variance to principles (a), (b) and (d). After consideration of the proposed avoidance and mitigation measures, it is considered that the proposed clearing will result in the following significant residual impacts:

- loss of up to 1.56 hectares of an occurrence of the Banksia Woodlands TEC; and
- loss of up to 12.06 hectares of significant foraging habitat for Carnaby's Cockatoo.

To offset any significant residual impacts the applicant proposes to rehabilitate a 15 hectare portion of remnant native vegetation on the property. In addition, the applicant is willing to enter into a conservation covenant for that area. As an alternative to the rehabilitation and covenant, the applicant is willing to consider making a monetary contribution to a fund maintained for the purpose of establishing or maintaining native vegetation (Urban & Rural Perspectives 2017b).

The application area and the offset site contain similar environmental values, including similar vegetation types (as mapped by Maia) and Carnaby's Cockatoo foraging habitat value. The offset site includes the vegetation type CcEmF which, as outlined in the assessment under principle (d), meets most of the criteria for the Banksia Woodlands TEC except the characteristic dominant *Banksia stratum* (Maia Environmental Consultancy, 2017b). It is considered that rehabilitation of this area using Slender Banksia and Firewood Banksia will restore vegetation similar to the area of the TEC proposed to be cleared.

Rehabilitation of the offset site using Slender Banksia and Firewood Banksia will also enhance the Carnaby's Cockatoo foraging habitat values of the site. However, it is considered that rehabilitation of the portion of the offset site mapped as vegetation type

EmCcWL should only occur using species already identified from this vegetation type. This is in order to ensure that any potential SCP3b TEC values of this vegetation are preserved if present.

It is considered that complimentary rehabilitation of the offset site using understorey species will also increase the long term sustainability of the remnant by reducing the risk of weed incursion and soil erosion.

In assessing whether the proposed offset is adequately proportionate to the significance of the environmental values being impacted, DWER undertook a calculation using the Commonwealth Offsets Assessment Guide. The calculation indicated that rehabilitation (through the establishment of 120 Slender Banksia and Firewood Banksia plants per hectare) and conservation of an area of 21.2 hectares is required to counterbalance the loss of Carnaby's Cockatoo foraging habitat. Rehabilitation (through the establishment of 120 Slender Banksia and Firewood Banksia plants per hectare) and conservation of an area of at least 2.6 hectares is required to counterbalance the loss of vegetation consistent with the Banksia Woodlands TEC. Given the rehabilitation method used as a basis for undertaking both calculations would achieve establishment of both Carnaby's Cockatoo foraging habitat and vegetation consistent with the Banksia Woodlands TEC, the required size of the offset is not cumulative (i.e. 21.2 hectares is required not 21.2 hectares plus 2.6 hectares).

Entering into a conservation covenant to protect the offset site in perpetuity is required to deliver a long term strategic outcome.

Given the above, entering into a conservation covenant and rehabilitating a 21.2 hectare portion of adjacent remnant native vegetation on the property is considered adequate to counterbalance the significant residual impacts of the proposed clearing consistent with the *WA Environmental Offsets Policy September 2011*.

The applicant has agreed to the rehabilitation and conservation of up to 22 hectares of remnant vegetation on Lot 609.

Part 4: References

11. References

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- Urban & Rural Perspectives (2017c). Additional Information Provided for Clearing Permit Application CPS 7574/1. Received 13 June 2017 (DWER Ref: A1449980).

GIS Datasets:

- Aboriginal Sites of Significance
- DAFWA Heritage Parcels
- DBCA Tenure
- Geomorphic Wetlands (Classification), Swan Coastal Plain
- Hydrography, linear
- IBRA Australia
- Imagery
- Local Government Authority
- NLWRA, Current Extent of Native Vegetation
- Rivers AUSLIG
- SAC Bio datasets (accessed July 2017)
- SW Veg Complexes SCP 250K
- Topographic Contours, Statewide