



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 8861/2
Permit Holder:	Commissioner of Main Roads Western Australia
Duration of Permit:	22 July 2020 to 22 July 2030

ADVICE NOTE

Monetary Offset Contribution

The funds referred to in condition 12 of this permit are intended for contributing towards the purchase of 2.7 hectares of native vegetation with habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*) and 2.7 hectares of native vegetation that is representative of the 'Banksia woodlands of the Swan Coastal Plain' ecological community.

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purposes of road reconstruction and associated activities.

2. Land on which clearing is to be done

Lot 705 on Deposited Plan 405359, Neerabup.

3. Area of clearing

The Permit Holder must not clear more than 0.48 hectares of native vegetation within the areas cross-hatched yellow on attached Plan 8861/2.

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for the activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out work involving clearing for those activities under the *Main Roads Act 1930* or any other written law.

6. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation after 22 July 2025.

PART II – MANAGEMENT CONDITIONS

7. 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:

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

8. 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 machines and other vehicles of soil and vegetation prior to entering and leaving the area to be cleared
- (b) ensure that no known *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

9. Fauna management - direction of clearing

The Permit Holder shall conduct clearing in a slow progressive manner from one direction to the other (e.g. north to south) to allow fauna to move into adjacent native vegetation ahead of the clearing activity.

10. Fauna management - black cockatoo nesting trees

- (a) Immediately prior to undertaking any clearing authorised under this Permit:
 - (i) the area cross-hatched yellow on attached Plan 8861/2 shall be inspected by a *fauna specialist* who shall identify *black cockatoo nesting trees*, and
 - (ii) each *black cockatoo nesting tree* identified shall be inspected by a *fauna specialist* for evidence of current or past breeding use by *black cockatoos*.
- (b) Where a *black cockatoo nesting tree(s)* with evidence of current breeding use by *black cockatoos* is identified and cannot be avoided, that tree(s) shall be monitored by a *fauna specialist* to determine when it is no longer in use for that *breeding season*.
- (c) Any *black cockatoo nesting tree(s)* with evidence of current breeding use by *black cockatoos* shall not be cleared while it is in use as determined by the *fauna specialist* under condition 10(b) of this Permit.
- (d) Where a *black cockatoo nesting tree(s)* with evidence of past breeding use by *black cockatoos* is identified and cannot be avoided, that tree(s) shall only be cleared:
 - (i) later the same day of the inspection required under condition 10(a)(ii) of this Permit if that inspection does not identify evidence of current breeding use; or
 - (ii) later the same day of a repeat inspection undertaken by a *fauna specialist* if that inspection does not identify evidence of current breeding use.

11. Fauna management - artificial black cockatoo nest hollows

- (a) Within six months of clearing of *black cockatoo nesting trees* identified under Condition 10, and before the following *breeding season*, the Permit Holder shall install at least one artificial black cockatoo nest hollows for every *black cockatoo nesting tree(s)* cleared;
- (b) The Permit Holder shall install at least one artificial black cockatoo nest hollows;
- (c) The design and placement of the artificial black cockatoo nest hollows must be determined based on the guidelines provided in Schedule 1 and must be installed on land vested with the Department of Biodiversity, Conservation and Attractions;
- (d) The Permit Holder must monitor and maintain the installed artificial black cockatoo nest hollows for a period of at least ten years; and
- (e) Monitoring and maintenance must be undertaken in accordance with the guidelines provided in Schedule 2.

12. Monetary contributions to a fund maintained for the purpose of establishing or maintaining vegetation (offset)

Prior to undertaking any clearing authorised under this Permit and no later than 22 July 2021, the Permit Holder shall provide documentary evidence to the *CEO* that funding of \$3,753 has been transferred to the Department of Water and Environmental Regulation to purchase land for the purpose of establishing or maintaining native vegetation.

PART III - RECORD KEEPING AND REPORTING

13. 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
 - (ii) the date that the area was cleared
 - (iii) the size of the area cleared (in hectares)
 - (iv) the purpose for which clearing was undertaken.
 - (v) actions taken in accordance with condition 6 of this Permit
 - (vi) actions taken to avoid, minimise and reduce the impacts and extent of clearing in accordance with condition 7 of this Permit;
 - (vii) actions taken to minimise the risk of the introduction and spread of *weeds* and *dieback* in accordance with condition 8 of this Permit;
 - (viii) activities taken in accordance with condition 9 of this Permit; and
 - (ix) activities taken in accordance with condition 12 of this Permit.

- (b) In relation to fauna management pursuant to condition 10 of this Permit:
 - (i) the time(s) and date(s) of inspection(s) by the *fauna specialist*
 - (ii) a description of the *fauna specialist* inspection methods employed;
 - (iii) the location of each *black cockatoo nesting tree* identified, recorded using a GPS unit set to GDA94, expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (iv) a description of the evidence of current or past breeding use observed for each *black cockatoo nesting tree* identified;
 - (v) a photo of each *black cockatoo nesting tree* with evidence of current or past breeding use identified;
 - (vi) for each *black cockatoo nesting tree* with evidence of current breeding use:
 - (1) the time and date it was determined to no longer be in use for that breeding season;
 - (2) the evidence by which it was determined to no longer be in use for that breeding season
 - (vii) the time and date each *black cockatoo nesting tree* with evidence of current or past breeding use was cleared.

- (c) In relation to the installation of artificial black cockatoo nest hollows pursuant to condition 11 of this Permit:
 - (i) the date that each artificial black cockatoo nest hollow was installed;
 - (ii) the location where each artificial black cockatoo nest hollow was installed recorded using a GPS unit set to GDA94, expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (iii) a photo of each installed artificial black cockatoo nest hollow;
 - (iv) the dates each artificial *black cockatoo* nest hollow installed was monitored;
 - (v) a description of the monitoring methods employed for each artificial *black cockatoo* nest hollow installed;
 - (vi) a description of the monitoring observations for each artificial *black cockatoo* nest hollow installed;
 - (vii) the date(s) each artificial *black cockatoo* nest hollow installed was maintained;
 - (viii) a description of the maintenance activities undertaken for each artificial *black cockatoo* nest hollow installed; and
 - (ix) the total number of artificial hollows installed.

14. Reporting

- (a) The Permit Holder must provide to the *CEO* on or before 30 June of each year, a written report:
 - (i) of records required under condition 13 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.

- (b) If no clearing authorised under this Permit has been undertaken, a written report confirming that no clearing under this Permit has been undertaken, must be provided to the *CEO* on or before 30 June of each year.
- (c) Prior to 22 April 2025, the Permit Holder must provide to the *CEO* a written report of records required under condition 13 of this Permit where these records have not already been provided under condition 14(a) of this Permit.

DEFINITIONS

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

black cockatoo(s) means Carnaby's cockatoo (*Calyptorhynchus latirostris*), Baudin's cockatoo (*Calyptorhynchus baudini*) and forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*);

black cockatoo nesting tree/s means trees that have a diameter, measured at 1.5 metres from the base of the tree, of 50 centimetres or greater (or 30 centimetres or greater for *Eucalyptus salmonophloia* or *Eucalyptus wandoo*) that contain hollows suitable for nesting by Carnaby's cockatoo, Baudin's cockatoo or forest red-tailed black cockatoo;

breeding season means the period from 1 June to 29 February of any given year;

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

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

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

fauna specialist means a person who holds a tertiary qualification specialising in environmental science or equivalent, and has a minimum of two years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Biodiversity Conservation Act 2016*.

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

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.



Mathew Gannaway
MANAGER
NATIVE VEGETATION PROTECTION

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

24 September 2020

SCHEDULE 1

How to design and place artificial hollows for Carnaby's cockatoo



How to design and place artificial hollows for Carnaby's cockatoo

Artificial hollows can be used to help conserve the threatened Carnaby's cockatoo by enabling the cockatoos to breed in areas where natural hollows are limited.

A wide variety of artificial hollow designs have been used with mixed success. Evidence suggests that, while the hollow must meet some basic requirements, other factors such as proximity to existing breeding areas may be more important in determining the success of artificial hollows. Before using this information sheet to construct or install an artificial hollow, you should refer to the criteria listed in the separate information sheet; *When to use artificial hollows for Carnaby's cockatoo*.

This information sheet contains broad guidelines for the design and placement of artificial hollows for Carnaby's cockatoo.

Below are three examples of successful artificial hollows used by Carnaby's cockatoo for nesting. Artificial hollows made from a natural log with cut side entrance (left), white industrial pipe with top entrance (centre) and natural log with natural side entrance (right).



Photos by Christine Groom (left and right) and Rick Dawson (centre)

Walls

The walls of the artificial hollow need to be constructed from a material that is;

- Durable enough to withstand exposure to elements for an extended period of time (i.e. 20+ years).
- Able to simulate the thermal properties of a natural tree hollow.
- Not less than 380 mm in internal diameter.
- Preferably 1.2 m deep overall and 1m deep to top of substrate/nesting material.

Successful artificial hollows have been constructed from sections of salvaged natural hollow, black and white industrial pipe. When using non-natural materials care must be taken to ensure there are no toxic residues and that the materials are safe to ingest.

Base

The base of the artificial hollow must be;

- Able to support the adult and nestling(s).
- Durable enough to last the life of the nest.
- Free draining.
- At least 380 mm in diameter.
- Covered with 200 mm of sterile, dry, free draining material such as charcoal, hardwood woodchips or wood debris.

Do not use:

- Saw dust or fibre products that will retain moisture.

Example materials that could be used for artificial hollow bases include heavy duty stainless steel, galvanised or treated metal (e.g. Zinalume ®), thick hardwood timber slab or marine ply (not chipboard or MDF). The base material must be cut to size to fit internally with sharp or rough edges ground away or curled inwards and fixed securely to the walls.



Carnaby's cockatoo eggs in an artificial hollow.
Photo by Rick Dawson

Entrance

The entrance of the artificial hollow must;

- Have a diameter of at least 270 mm).
- Preferably be top entry which will minimise use by non-target species.

Top entry hollows are unattractive to nest competitors such as feral bees, galahs and corellas. Side entry hollows have been successful in areas where feral bees are not a problem and where galahs and corellas are deterred.

Ladder

For artificial hollows made of non-natural materials, or of processed boards, it is necessary to provide a ladder to enable the birds to climb in and out of the hollow easily.

The ladder must be;

- Securely mounted to the inside of the hollow.
- Made from an open heavy wire mesh such as WeldMesh™ with mesh size of 30 - 50 mm, or heavy chain.

Do not use:

- A material that the birds can chew.
- Galvanized because the birds may grip or chew the ladder and ingest harmful compounds.

If using mesh for the ladder, the width will depend on the curvature of the nest walls. A minimum width of about 60 - 100 mm is recommended.

Sacrificial chewing posts

For artificial hollows made of non-natural materials, or of processed boards, it is necessary to provide sacrificial chewing posts. The birds chew material to prepare a dry base on which to lay their egg(s).

The sacrificial chewing posts must:

- Be made of untreated hardwood such as jarrah, marri or wandoo
- Be thick enough to satisfy the birds' needs between maintenance visits.
- Extend beyond the top of the hollow as an aid to see whether the nest is being used.
- Be placed on the inside of the hollow.
- Be attached in such a way that they are easy to replace e.g. hook over the top of hollow or can slide in/out of a pair of U bolts fitted to the side of the hollow.

It is recommended that at least two posts are provided. Posts 70 x 50 mm have been used, but require replacing at least every second breeding season when the nest is active. Birds do vary in their chewing habits and therefore the frequency at which the chewing posts require replacement will also vary.



Bottom of an artificial hollow showing ladder that is fixed to the wall and a chewed sacrificial post which is 200 mm from the floor.

Photo by Rick Dawson

Mountings

The artificial hollows must be mounted such that:

- The fixings used will last the duration of the nest e.g. galvanized bracket or chain fixed with galvanized coach screws.
 - It is secured by more than one anchor for security and stability.
 - It is positioned vertically or near vertically.
-

Placement

Sites should be chosen within current breeding areas and where they can be monitored, but preferably not conspicuous to the general public. It is important that artificial hollows are placed where they will be accessible for future monitoring and maintenance. For more detail refer to the separate information sheet; *When to use artificial hollows for Carnaby's cockatoo*.

The height at which artificial hollows should be placed is variable. The average height of natural hollows in dominant tree species in the area is a good guide. Natural hollows used by Carnaby's cockatoos have been recorded as low as 2 m above the ground. If located on private property the hollows can be placed lower to the ground so they are accessible by ladder or a rope and pulley system can be used. Where public access is possible artificial hollows should be placed at least 7 m high (i.e. higher than most ladders) and on the side of the tree away from public view to reduce the chance of interference or poaching.

Carnaby's cockatoo show no preference for aspect of natural hollows, however, it may still be beneficial to place artificial hollows facing away from prevailing weather and where they receive the most shade and protection.

Artificial hollows to be placed in trees require:

- Accessibility of the tree for a vehicle, elevated work platform or cherry picker.
- A section of trunk 2-3 m long suitable for attaching the hollow

If necessary, artificial hollows may be placed on poles, but this may result in excessive exposure to sun during very hot weather. When erected on poles there should be"

- A hinge at the bottom of the pole that can be secured when the pole is in the upright position.
- Access for a vehicle to assist raising the pole.

Safety

Care needs to be taken when placing artificial hollows to ensure safety is considered at all times. Artificial hollows are heavy and require lifting and manoeuvring into position up to 7 m above the ground.

Maintenance and monitoring

Once artificial hollows have been placed they require monitoring and maintenance to ensure they continue to be useful for nesting by Carnaby's cockatoo. It is important to monitor artificial hollows to determine use by Carnaby's cockatoo, other native species as well as pest species. By undertaking monitoring the success of the design and placement of artificial hollows can be determined and areas for improvement identified for future placement of artificial hollows.

Monitoring can also assess whether any maintenance is required. Without regular maintenance artificial hollows are unlikely to achieve their objective (that is, they will fail to provide nesting opportunities for threatened cockatoos). Therefore it is important to continue a regime of regular maintenance while the artificial hollow is required. It may be several (to many) decades until a natural replacement hollow is available.

For further advice on monitoring and maintenance of artificial hollows please refer to the separate information sheet; *How to monitor and maintain artificial hollows for Carnaby's cockatoo*.



Carnaby's cockatoo female prospecting an artificial hollow.
Photo by Rick Dawson



Example fixing for artificial hollow
Photo by Christine Groom

Acknowledgements

This information sheet is a joint initiative of Birdlife Australia, the Western Australian Museum and the Department of Parks and Wildlife. Many individuals have contributed to its preparation. Special acknowledgement is made for the contributions of Ron Johnstone from the WA Museum, Alan Elliott from the Serpentine-Jarrahdale Land care Centre and Denis Saunders. This updated version was compiled by Rick Dawson (Department of Parks and Wildlife).

Other information sheets in the series: Artificial hollows for Carnaby's cockatoo

- *How to design and place artificial hollows for Carnaby's cockatoo*
- *How to monitor and maintain artificial hollows for Carnaby's cockatoo*

Information sheets available on the *Saving Carnaby's cockatoo* webpage:

<http://www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-animals/208-saving-carnaby-s-cockatoo>

SCHEDULE 2

How to monitor and maintain artificial hollows for Carnaby's cockatoo



How to monitor and maintain artificial hollows for Carnaby's cockatoo

It is important to monitor and maintain artificial hollows after they have been erected. Monitoring ensures that the effectiveness of the artificial hollow can be determined. It also means that problems with pest species or any maintenance requirements can be identified and resolved.

Without regular maintenance, artificial hollows are likely to fail to achieve their objective (that is, they will fail to provide nesting opportunities for threatened cockatoos). Therefore it is important to continue a regime of regular maintenance while the artificial hollow is required. It may be several (to many) decades until a natural replacement hollow is available.

Monitoring should be undertaken in order to detect:

- Use by Carnaby's cockatoo
- Maintenance requirements
- Use by other native species
- Use by pest species (e.g. feral bees, galahs, corellas etc.)



Carnaby's cockatoo female prospecting an artificial hollow.
Photo by Rick Dawson

How do I monitor artificial hollows?

Before undertaking monitoring of artificial hollows for Carnaby's cockatoo it is recommended that you seek advice from BirdLife Australia, the WA Museum or the Department of Parks and Wildlife. It is also important to contact Parks and Wildlife, Wildlife Licensing Section, to determine if a scientific licence is required (wildlifelicencing@dpaw.wa.gov.au).

Monitoring artificial hollows requires keen observation and naturalist skills. It is often not possible to observe evidence of breeding directly (i.e. nestlings or eggs) and inferences must be made based on observation. There are many techniques available to monitor artificial hollows. A combination of several is likely to achieve the best results.

Looking for signs of use

Cobwebs covering the entrance to the hollow will indicate that the hollow has not been used recently. This would also apply to other light debris that may have fallen to cover the opening partially. Signs of recent use or interest in the hollow include evidence of chewing.

Observing parent behaviour around the hollow

The behaviour of parent birds around a hollow will indicate an approximate age of young in the nest.

Parent behaviour	Approximate age/stage of young
Prospecting for hollow	Unborn
Male only seen out of hollow	Egg or very young nestling (< 3 - 4 weeks)
Both parents seen entering/exiting the hollow	Nestling(s) have hatched (> 3 - 4 weeks)

Observing feeding flocks

Flocks of all male birds indicate that the females are incubating eggs. When flocks are mixed it suggests the birds have either not laid yet or that the nestlings have hatched and no longer require brooding (approximately 3 - 4 weeks old).

Tapping

When females are sitting on eggs they will usually respond to tapping at the base of their tree (or pole) by appearing at the entrance or flying from the hollow opening. This is not a guarantee of breeding activity, but an indication that it is possibly occurring in the hollow.

Observing insect activity around nest

The faecal matter produced by nestlings in a nest attracts insects, especially flies and ants. The type and number of these insects will help indicate how old any nestlings present may be. Factors such as temperature and humidity will also affect insect activity and so observations of insect activity should only be used as supporting evidence for other indications of age/use. Blowflies around a nest usually indicate that a death has occurred.

Listening for nestlings

With experience it is possible to determine if one or two nestlings are present and a broad estimate of age based on the type and loudness of noises they make.

Looking inside the nest

This can be achieved either with the aid of a telescopic pole and camera or mirror, or with the use of a ladder or other climbing equipment. This method can obtain the most detailed monitoring information for artificial hollows. However it is also the most time consuming and difficult to organise. Special equipment is likely to be needed depending on the height and positioning of artificial hollows. There are also safety issues associated with ladder or rope climbing options to reach nests to undertake observations.

How often should I monitor artificial hollows?

The minimum frequency of monitoring and the techniques used will be determined by the aims of the monitoring and the resources available. It is important to limit disturbance to breeding birds and this should be considered when determining the techniques used and frequency.

How do I maintain artificial hollows?

Artificial hollows require maintenance to ensure they continue to have the greatest chance of them being used by Carnaby's cockatoos. Periodic maintenance checks should be undertaken at least every two years, preferably annually. These checks should be undertaken prior to the breeding season which is between July and January with breeding occurring later in this period in southern areas. It is important to maintain a regime of regular maintenance as long as the artificial hollow is required. It may take several (to many) decades until a natural replacement hollow is available.

Maintenance checks should assess the following as a minimum:

- Condition of chewing posts (if present)
- Condition of attachment points
- Condition of hollow bases
- Stability of tree or pole used to mount the artificial hollow



Artificial hollow base needing repair.
Photo by Christine Groom

Repairing hollows

Any problems identified during maintenance checks should be addressed, and any repairs required done, as soon as possible. If breeding is currently occurring, maintenance may need to be delayed if it is likely to disturb the parents or nestling. Likely maintenance needs include replacement of chewing posts (frequently) or nest bases (occasionally) and repairing of any cracks (infrequently). Maintenance concerns regarding the security of attachment points or the stability of the tree or pole should be addressed as a priority for safety reasons.

For artificial hollows known to be used, spare chewing posts should be taken into the field when undertaking maintenance checks.

Monitoring of artificial hollows:

Monitoring aim	Frequency of visits	Monitoring techniques
To determine possible use by Carnaby's cockatoo	At least once during peak breeding season (i.e. between September and December)	<ul style="list-style-type: none"> • Observing behaviour of adults around hollow • Tapping to see if female will flush from hollow (best undertaken between 10am and 3pm when females most likely to be sitting) • Listening for nestlings • Looking for evidence of chewing • Looking inside nest
To confirm use by Carnaby's cockatoo	At least two visits during peak breeding season (i.e. between September and December)	<p>To observe at least two of the following:</p> <ul style="list-style-type: none"> • Breeding behaviour of adults around hollow or evidence of chewing • Female flushed from hollow • Noises from nestlings in hollow <p>Or to observe:</p> <ul style="list-style-type: none"> • Nestlings or eggs in nest
To determine nesting success by Carnaby's cockatoo	The more visits, the better. Preferably fortnightly visits between July and December. As a minimum, at least 3 visits spread throughout breeding season.	<ul style="list-style-type: none"> • Looking inside nest to observe eggs or nestlings.
To determine use by any species	As often as possible.	<ul style="list-style-type: none"> • Inspection from ground as a minimum. • Looking inside nest for detailed observations.
To determine maintenance requirements	At least every two years and preferably annually if hollow fitted with sacrificial chewing posts, can be longer if without.	<ul style="list-style-type: none"> • A basic maintenance check can be undertaken from the ground. A ladder or elevated work platform will be required for a comprehensive check and to replace sacrificial chewing posts

Acknowledgements

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Further information

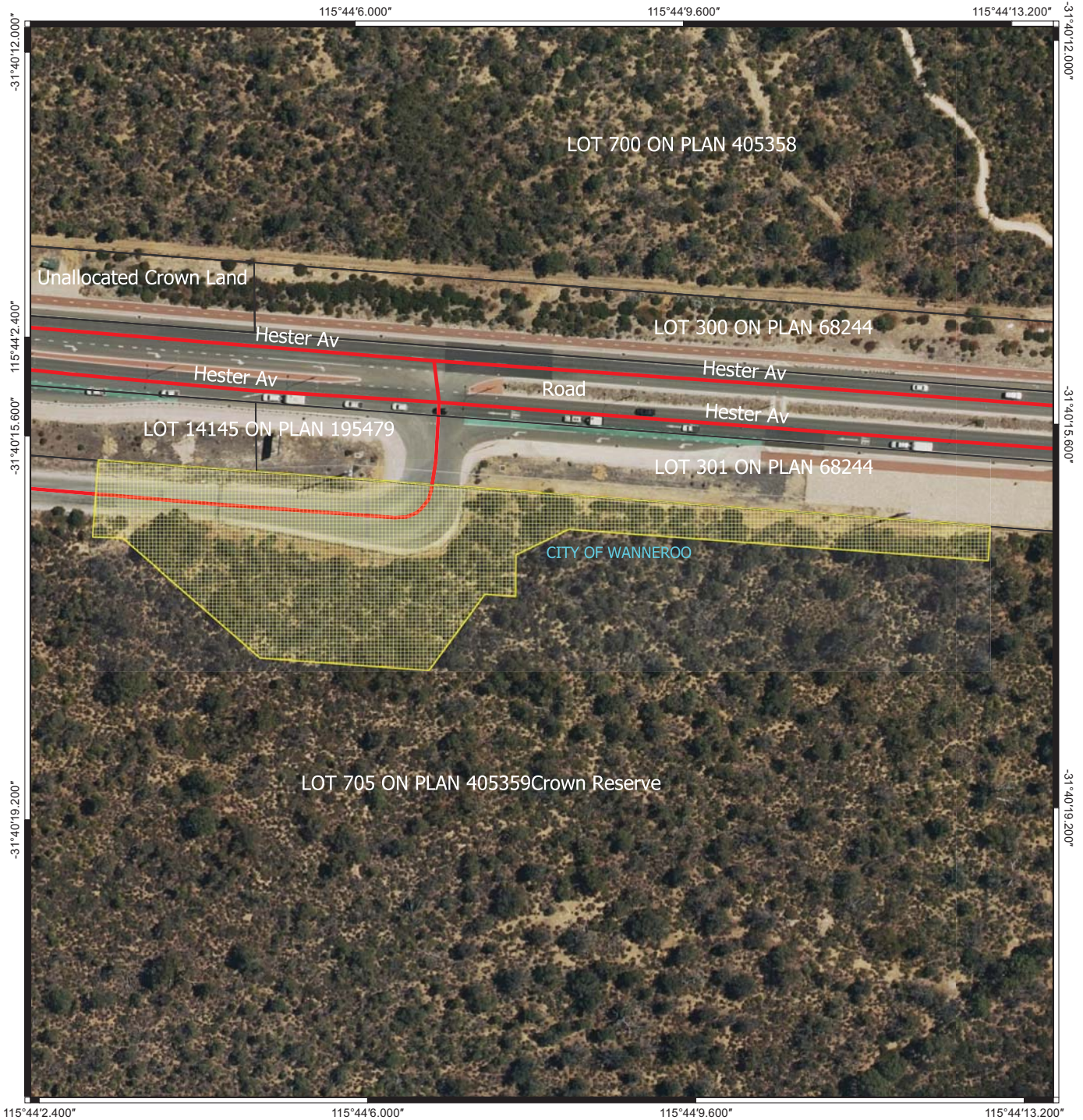
Last updated 28/04/2015

Contact fauna@dpaw.wa.gov.au or your local office of the Department of Parks and Wildlife

See the department's website for the latest information: www.dpaw.wa.gov.au

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Plan 8861/2



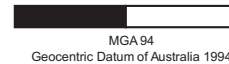
Legend

-  CPS areas approved to clear base layers
-  Local Government Authorities
-  Cadastre - LGATE 218
-  Roads - Landgate 012

Image



0 25 50 m



Mathew Gannaway
 Mathew Gannaway
 2020.09.24
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Officer with delegated authority under Section 20 of the Environmental Protection Act 1986



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Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8861/2
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Commissioner of Main Roads WA
Application received date: 18 September 2020

1.3. Property details

Property: Lot 705 on Deposited Plan 405359, Neerabup
Local Government Authority: City of Wanneroo
Localities: Neerabup

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
0.48		Mechanical Removal	Road construction or upgrades

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 24 September 2020
Reasons for Decision: On 30 June 2020, Clearing Permit CPS 8861/1 was granted to clear up to 0.5 hectares of native vegetation for the purpose of construction and development of a road and associated infrastructure. An appeal was lodged against the conditions of the permit.

This clearing permit amendment gives effect to the determination of the Minister for Environment (Minister) to allow appeal 036/20. The Minister has requested the Department of Water and Environmental Regulation (DWER) to amend Clearing Permit CPS 8861/1 to reduce the application area footprint to create a 29-metre buffer of native vegetation immediately west of the fauna underpass under Hester Avenue.

Given the above, the Delegated Officer decided to grant a clearing permit subject to the reduction of the area authorised to be cleared.

2. Site Information

Clearing Description

The application is to clear 0.48 hectares of native vegetation within a 0.67 hectare footprint within Lot 705 on Deposited Plan 405359, Neerabup, for the purpose of construction and development of a road and associated infrastructure (Figure 1). The proposed clearing will enable the realignment and construction of a two lane quarry access road connecting to Hester Avenue. The existing access road is required to be realigned due to the requirement for a new roundabout at Hester Avenue which has a larger footprint than the existing T-intersection (GHD, 2020a)

The project relates to the larger Mitchell Freeway extension project designed to support the expansion of Perth's fast growing outer northern suburbs. The majority of the larger project was considered under the MRS Amendment (992/33), which was considered by the Environmental Protection Authority (EPA), and approved under Ministerial Statement 629. The application area was not considered under the MRS amendment and has therefore been applied to clear under Part V of the EP Act.

Biological Surveys

A larger project area (2.57 hectares) encompassing the application has been subject to biological surveys undertaken by GHD (2019). The survey report (hereafter referred to as the Survey) was commissioned for the larger area south of Hester Avenue. The Survey included a detailed vegetation and flora assessment, targeted flora survey, Level 1 fauna survey and a Black Cockatoo habitat assessment. The Survey was undertaken on 23 and 25 September 2019 to identify and describe vegetation units, assess vegetation condition and identify and record vascular flora taxa present at the time of the Survey (GHD, 2019). Searches for conservation significant or other significant ecological communities and flora taxa were also undertaken. The Survey was undertaken in accordance with the Environmental Protection Authority's (EPA) *Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (GHD, 2019).

With regard to fauna, the Survey included (GHD, 2019):

- opportunistic fauna searches;
- targeted black cockatoo habitat assessment; and
- fauna species identification.

The Survey methodology was undertaken in accordance with the EPA *Technical Guidance – Sampling methods for terrestrial vertebrate fauna* and *Technical Guidance – Terrestrial Fauna Surveys* (GHD, 2019).

Vegetation Description

The Application area occurs within the 'SCP' Interim Biogeographic Regionalisation for Australia (IBRA) bioregion, and is mapped as the Cottesloe Complex-Central and South SCP vegetation complexes, which is described as a mosaic of woodland of *Eucalyptus gomphocephala* (Tuart) and open forest of *E. gomphocephala* – *E. marginata* (Jarrah) – *Corymbia calophylla* (Marri); closed heath on the limestone outcrops (majority of survey area) (Heddlé, 1980).

The Survey conducted by GHD (2019) mapped the Application area as comprising of Woodland of *Banksia attenuata*, *B. menziesii* and *B. grandis* with scattered *Eucalyptus marginata* and *Allocasuarina fraseriana* over a mid open shrubland of *Xanthorrhoea preissii*, *Allocasuarina humilis* and *Acacia pulchella* var. *glaberrima* over low shrubland of *Hibbertia hypericoides*, *Petrophile macrostachya* and *Leucopogon parviflorus* over open sedgeland and forbland of *Mesomelaena pseudostygia*, *Conostylis* spp. and weedy grasses and herbs (**Heliophila pusilla*, **Briza maxima* and **Ursinia anthemoides*).

Vegetation Condition

The condition of the vegetation within the application area is considered to be in good (Keighery, 1994) to degraded condition (Keighery, 1994; GHD, 2019). The vegetation along the tracks and cleared area is rated as completely degraded due to edge effects and weed invasion. The extent and description of the recorded vegetation condition is summarised below (Keighery, 1994; GHD, 2019):

Table 1 Vegetation condition recorded in the application area (GHD, 2019)

Vegetation condition	Vegetation description (Keighery, 1994)	Mapped extent [ha] (GHD, 2019)
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species	0.25
Good	Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate	0.22
Completely degraded	No longer intact, completely/almost completely without native species	0.03

Soil type

The Application Area is mapped as Karrakatta Sand Yellow Phase, which is described as comprising low hilly to gently undulating terrain. Yellow sand over limestone at 1-2 metre. *Banksia* spp. woodland with scattered emergent *E. gomphocephala* and *E. marginata* and a dense shrub layer (Schoknecht et al., 2004).

The Survey (GHD, 2019) described soils within the application area as deep sandy soils.

Comments

The local area is considered a 10 kilometre radius from the perimeter of the Application area (excluding ocean).

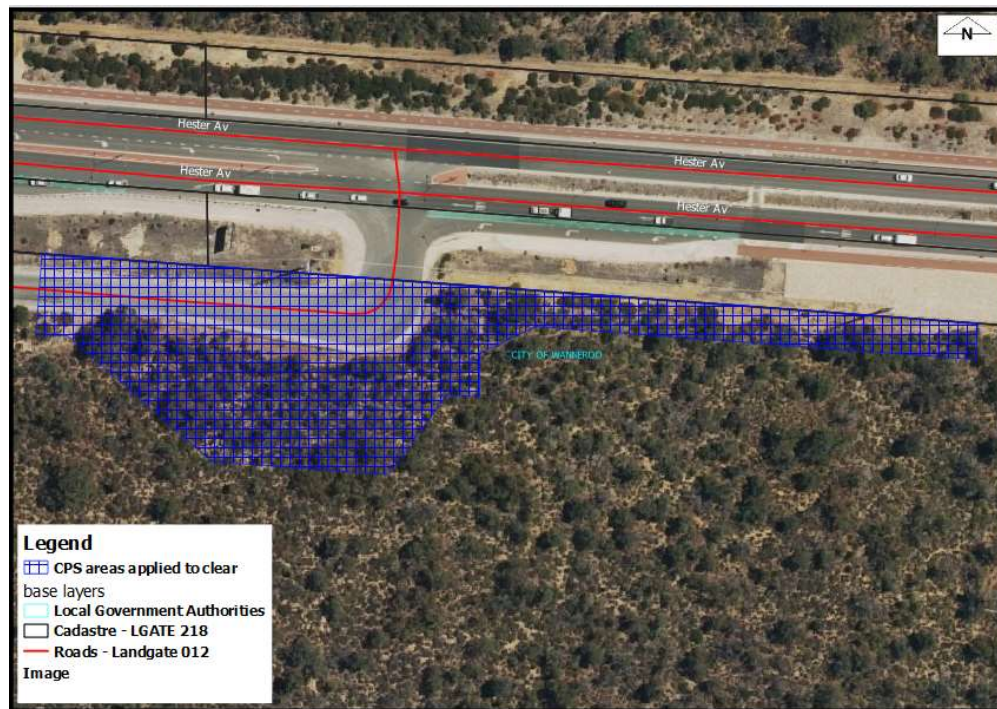


Figure 1 Application area cross-hatched blue



Figure 2a



Figure 2b



Figure 2c



Figure 2d

Figures 2a-d: Representative photos of the vegetation within the Application area (GHD, 2019).

3. Minimisation and mitigation measures

In relation to whether alternatives have been considered that would avoid or minimise the need for clearing, the applicant advised that the proposal design has commenced, and impacts will be minimised and avoided where possible to prevent the clearing of native vegetation. The following avoidance and minimisation measures have been considered (GHD, 2020a):

- The access road has been located as close as possible to existing access road to minimise footprint and impacts to adjacent vegetation;
- Where possible, works will be undertaken within previously cleared land;
- Design retains access in its current location to reduce impacts;
- Fully sealed road to eliminate potential impact of dust particles on adjacent vegetation (associated with unsealed roads);
- Implementation of typical surface water control measures along the access road including swales to prevent impacts to adjacent vegetation from surface water runoff and control 1 in 50 year flooding events;
- Early consultation with utility service providers ensuring design is optimised to minimise relocation of existing services (and associated ground disturbance and clearing);
- Early consultation with the Department of Biodiversity, Conservation and Attractions (DBCA) to ensure design acceptance and determine concerns in relation to minimising impacts to native vegetation and the National Park;
- Proposal design has reduced the cross section width of the access road to the minimum permissible to ensure safe and efficient movement;
- Ensuring the access road alignment uses as much of the existing road pavement as possible and ties into the existing pavement as soon as possible;
- Roundabout size is the minimum permissible to accommodate the design vehicles;
- Vertical design of the road closely matches existing topography where possible to minimise earthworks; and
- Impacts could be further minimised by installation of retaining walls to reduce the earthworks batters, this will be considered during detailed design.

The applicant has prepared a Construction Environmental Management Plan (CEMP) and dieback management plan (DMP) for the larger Mitchell Freeway Extension (Hester Avenue to Romeo Road) and has advised that this CEMP will be utilised for the proposed works associated with this application (GHD, 2020a). The applicant notes that the CEMP includes the following measures (GHD, 2020a):

Vegetation Clearing Management

- Vegetation to be retained will be clearly marked with flagging on site
- Additional areas required for construction such as laydown areas, stockpile areas and vehicle turn around, will be located in areas cleared for permanent works.

Fauna Management

- Pre-clearance surveys will be undertaken for all areas of black cockatoo habitat proposed to be cleared within the breeding period of black cockatoos.
- Speed limits between 40-80 kilometres per hour will be applied throughout the construction site to reduce the risk of fauna strikes during construction.
- Transfer of any injured fauna found on site to an appropriate fauna rescue organisation or individual. A list of local fauna rescue organisations and individuals will be maintained on site.

Other management measures:

- Water carts and/or surface stabilization measures (e.g. hydro mulch) will be used to minimise dust generated from cleared areas.
- Topsoil will be harvested, stockpiled and reused in accordance with Main Roads Environmental Guideline Topsoil Management.
- Temporary drainage will be installed to capture and infiltrate surface runoff from construction areas and prevent runoff from entering adjacent native vegetation.
- All heavy plant and machinery will be inspected at entry and exit of the work site and be confirmed to be clean and free of vegetation and soil material.
- The proposal is in a phytophthora dieback susceptible bioregion, with conservation significant protectable vegetation adjacent to the application area. Dieback Management will be undertaken for the larger Mitchell Freeway Extension project including within the application area.
- Revegetation will be undertaken post-construction to prevent soil and wind erosion.
- Weed control will be undertaken during works as part of the CEMP, specifically targeting Weeds of National Significance and Declared Pests. The application area will also be subject to the yearly Main Roads weed spraying program.

4. Assessment of application against clearing principles

The amendment is a result of an appeal determination made by the Minister for Environment regarding conditions of clearing permit CPS 8861/1.

The assessment against the clearing principles outlined in Schedule 5 of the *Environmental Protection Act 1986* has not changed and can be found in the Clearing Permit Decision Report CPS 8861/1.

Planning instruments and other relevant matters.

The assessment against planning instruments and other matters has not changed and can be found in clearing permit decision report CPS 8861/1.

5. References

- GHD. (2019). *Main Road Western Australia. Hester Avenue – Quarry Access Road. Biological Survey*. Surveys undertaken in relation to clearing permit application CPS 8861/1. DWER Ref: A1887229.
- GHD. (2020a). *Main Roads Western Australia. Quinns Quarry Access. Native Vegetation Clearing Permit Supporting Documentation*. Supporting documents in relation to clearing permit application CPS 8861/1. DWER Ref: A1887229.
- Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) *Vegetation Complexes of the Darling System, Western Australia*. In Department of Conservation and Environment, *Atlas of Natural Resources, Darling System, Western Australia*.
- Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Schoknecht, N., Tille, P. and Purdie, B. (2004) *Soil-landscape mapping in South-Western Australia – Overview of Methodology and outputs* Resource Management Technical Report No. 280. Department of Agriculture.

GIS databases:

- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography – Inland Waters – Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Remnant Vegetation, All Areas
- Soil Landscape Mapping – Best Available

- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- RIWI Act, Groundwater Areas (DWER-034)

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities