



Dionne Cassanell  
Project Manager  
Department of Sustainability, Environment, Water,  
Population and Communities  
GPO Box 787  
CANBERRA ACT 2601

Reference: RNO13045.01

Dear Ms Cassanell

**LOTS 13, 14, 18 BARFIELD ROAD AND LOTS 48-51 ROWLEY ROAD, HAMMOND PARK, WA  
(EPBC NO. 2012/6524)**

Thank you for your letter dated 11 October 2012. Based on this correspondence we note that the Department seeks additional information in order to assess the relevant impacts of the action as follows:

1. It is noted in the referral documentation that 2.5 ha of bushland in good condition is to be retained in the Public Open Space (POS). Please clarify where these areas are located on the site and whether the bushland is considered foraging habitat for Black-Cockatoos.
2. Please provide details on the amount (number of trees and conversion to ha) of tree plantings that will be undertaken in the street scaping and areas of POS, including timeframes, species to be planted, management of key threats, percentage survival rates and replanting commitments and monitoring program.
3. It is understood that initial discussions with WA Department of Environment and Conservation (now Department of Parks and Wildlife [DPaW]) have been undertaken to identify a possible site to offset the clearance of vegetation. The Department requests further information on the possible offset site, including the following:
  - location and size of the offset site
  - type and condition of vegetation on-site
  - the amount (in hectares [ha]) and quality of suitable Black-Cockatoo foraging, roosting and breeding habitat
  - current tenure arrangements (including zoning and ownership)
  - legal mechanisms proposed to protect these areas in the future
  - risk of damage, degradation or destruction to any proposed offset sites in the absence of any formal protection and/or management
  - any plans to maintain or enhance the quality or extent of suitable Black-Cockatoo habitat present on-site over a specified time period
  - the amount of funding to be provided to the WA DPaW to purchase the offset, including additional funding to be paid to DPaW to assist in the ongoing management of the proposed offset site.
4. Please provide details on how the proposed offset package aligns with the principles of the EPBC Act Environmental Offsets Policy.

In response Richard Noble provides the following information on behalf of Gold Estates Pty Ltd and the Department of Housing (Gold Estates/DoH).

### *Public open space*

A fauna assessment of Lots 13, 14, 18 Barfield Road and Lots 48-51 Rowley Road, Hammond Park (the proposal area; Figure 1) was undertaken by Ecoscape (Ecoscape 2009a). The assessment noted from a fauna habitat perspective that good to excellent condition vegetation occurs across all lots within the proposal area, however good condition vegetation is divided by areas of degraded to completely degraded vegetation. A vegetation assessment was undertaken using the Keighery scale, assessing the condition of vegetation in the proposal area (Ecoscape 2009b), ranging from completely degraded to excellent.

Despite the occurrence of some areas of degraded condition, vegetation within the proposal area is generally considered to be very good condition habitat for Black-Cockatoo species, as discussed in the fauna report.

Proposed POS areas are located in areas of excellent, very good and some portions of degraded conditions as presented in Figure 1.

### *POS, street scaping and rehabilitation areas*

In order to reduce the impact of the proposed clearing on threatened species identified in the area, Gold Estates/DoH has planned for 1.8 ha of bushland in good to excellent condition to be retained in Public Open Space (which totals 4.19 ha). This 1.8 ha represents 7.8% of the 22.92 ha of potential foraging habitat found on-site, as identified in Figure 2.

It is noted that this figure of 1.8 ha has been reduced from the 2.5 ha provided in the referral document. The initial 2.5 ha was based on the Concept Design as it was at the time of the referral. The Design has subsequently changed due to the requirements of the City of Cockburn (CoC).

Gold Estates/DoH will undertake street tree planting and planting in POS areas involving revegetation with Black-Cockatoo foraging species consistent with vegetation communities identified during flora investigations (Ecoscape 2009b). A preliminary list of species to be used in street tree planting and revegetation across the site is presented in Table 1. In addition Gold Estates/DoH will rehabilitate approximately 1.78 ha of the adjacent CoC reserve in Frankland Avenue with Black-Cockatoo foraging species where practicable.

Table 1 Rehabilitation tree species list

Botanical name	Origin	Planting Location	Black-Cockatoo species – priority planting in accordance with DPaW (Groom 2011)
<i>Agonis flexuosa</i>	Local native	Street trees (main avenue; minor/local roads); POS; Wetland and drainage areas	Low
<i>Corymbia ficifolia</i>	Native	Street trees (main avenue; minor/local roads); POS	Medium
<i>Eucalyptus leucoxylan rosea</i>	Native	Street trees (main avenue)	
<i>Eucalyptus victrix</i>	Native	Street trees (main avenue); POS	
<i>Platanus acerifolia</i>	Exotic	Street trees (main avenue)	
<i>Platanus orientalis insularis</i>	Exotic	Street trees (main avenue)	
<i>Eucalyptus decipiens</i>	Local native	Street trees (minor/local roads); POS	
<i>Eucalyptus erythrocarys</i>	Local native	Street trees (minor/local roads); POS	
<i>Eucalyptus torquata</i>	Native	Street trees (minor/local roads)	
<i>Banksia attenuata</i>	Local native	POS	High
<i>Banksia grandis</i>	Local native	POS	High
<i>Banksia menziesii</i>	Local native	POS	High

Botanical name	Origin	Planting Location	Black-Cockatoo species – priority planting in accordance with DPaW (Groom 2011)
<i>Brachichyton acerifolium</i>	Native	POS	
<i>Casuarina obesa</i>	Local native	POS	
<i>Eucalyptus gomphocephala</i>	Local native	POS	High
<i>Eucalyptus rudis</i>	Local native	POS; wetland and drainage areas	Low
<i>Macrozamia reidleyi</i>	Local native	POS	
<i>Melaleuca lanceolata</i>	Local native	POS	
<i>Melaleuca preissiana</i>	Local native	POS; wetland and drainage areas	
<i>Melaleuca quinquernervia</i>	Local native	POS	
<i>Xanthorrhoea preissii</i>	Local native	POS	Medium
<i>Banksia littoralis</i>	Local native	Wetland and drainage areas	High
<i>Eucalyptus patens</i>	Native	Wetland and drainage areas	Medium
<i>Melaleuca incana</i>	Native	Wetland and drainage areas	
<i>Melaleuca raphiophylla</i>	Local native	Wetland and drainage areas	

A more detailed species list will be determined as part of the final landscape master plan incorporating additional species outlined in *Plants Used by Carnaby's Black Cockatoo* (Groom 2011).

Revegetation of POS will be undertaken as the various POS parcels are legally created during the anticipated 4 to 5 year development period. Rehabilitation of the adjacent CoC reserve will be undertaken in Year 1 or 2 of the development, such that it is established to a standard acceptable to CoC by the conclusion of development.

The area to be revegetated in POS areas and the adjacent reserve will be determined as part of a more detailed Parks Management Plan/s and Rehabilitation Management Plans. The Site Rehabilitation Management Plan will also incorporate requirements for street tree planting once a final landscape master plan is developed. The Site Rehabilitation Management Plan will specify the species types and number of seedlings of each to be planted across the site. A separate Reserve Rehabilitation Management Plan will be prepared in consultation with CoC.



**Figure 1: Vegetation condition**

Scale 1:5,287 at A4  
 0 20 40 60 80 100 Meters  
 Coordinate System: GDA 1994 MGA Zone 50  
 Note that positional errors may occur in some areas  
 Date: 18/07/2013  
 Author: SF ining  
 Source: Aerial image; Nearmap 11/2012; Client 2013.

**Legend**

- Hammond Park development boundary
  - POS
  - Cleared areas
  - Rehabilitation area
- | Vegetation condition   |  |
|--|--|
| <span style="background-color: green; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Excellent            | <span style="background-color: orange; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Good        |
| <span style="background-color: lightgreen; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Very Good       | <span style="background-color: lightblue; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Degraded |
| <span style="background-color: purple; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Completely Degraded |  |





**Figure 2: Retention of native vegetation**

Scale 1:5,000 at A4

0 20 40 60 80 100 Meters



Coordinate System: GDA 1994 MGA Zone 50

Note that positional errors may occur in some areas

Date: 26/07/2013

Author: SFinning

Source: Aerial image; Nearmap 11/2012. Client 2013.

**Legend**

Hammond Park development boundary

POS

**xx ha** Total area  
**xx ha** Area of existing native vegetation retained  
**xx%** % of existing native vegetation retained



## Objectives and targets

Indicative objectives and targets for revegetation have been developed and will be subject to review as part of the Rehabilitation Management Plan. Indicative objectives and targets are presented in Table 2.

Table 2 Indicative revegetation objectives and completion criteria

Aspect	Objective	Target
Public open space – revegetation	Enhance vegetation health within retained areas of vegetation	No introduction of new weed species and existing species are not spread (i.e., total weed cover is less than 10%).
		Reduce feral fauna usage of rehabilitated areas through appropriate management measures, for example targeted trapping and tree guards etc.
	Establish an ecologically diverse and stable vegetation community with similar structure and composition to the original native vegetation	Vegetation community types in rehabilitated areas are representative of those present in the pre-disturbance environment.
		Revegetate with species identified in the species list
Ensure the ongoing protection of and prevent future expansion into POS.	Control access to and conserve in perpetuity POS areas.	
Street tree planting	Establish Black-Cockatoo foraging habitat	Trees/shrub species ( <i>Banksia</i> , <i>Hakea</i> , <i>Grevillia</i> , <i>Allocasuarina</i> , and <i>Eucalyptus</i> (where applicable)) are included in street tree planting to provide additional feeding resources for Black-Cockatoo species.

## Completion criteria

Indicative completion criteria have been determined to provide targets to be met before revegetation can be considered completed. Completion criteria presented below are specific to POS rehabilitation and are indicative only, subject to revision as part of the Rehabilitation or Park Management Plan. Indicative completion criteria include the following:

1. Enhance bushland condition of POS to be retained (via direct seeding and/ or planting seedlings); increase the species richness of native flora species to 12 – 15 key species within three years of establishment (to be determined in consultation with DPaW).
2. Final revegetation compliance will be achieved when plant cover in POS is at 5% overstorey, 30% midstorey and 65% understorey.
3. Rehabilitation to be undertaken with local provenance species approved to at least 5000 stems/ha to achieve a minimal survival rate of 70 – 80% over three years.
4. No introduction of new weed species and existing species are not spread (i.e., total weed cover is less than 10%).

Street tree planting will be undertaken in accordance with the final landscape master plan.

Completion criteria for the reserve rehabilitation will be included in the Reserve Rehabilitation Management Plan.

## Timing

Revegetation will be undertaken over one year with infill planting undertaken as required following the initial planting. Monitoring of rehabilitation will be undertaken over 3 years or when completion criteria are met.

## Management

Rehabilitation management will include the following measures:

- installation of temporary fencing and signage indicating the area is being rehabilitated
- initial weed control prior to commencement of rehabilitation activities
- implement environmental awareness training for site personnel, regarding weed management
- use local provenance seed where possible when revegetating to maintain genetic diversity, unless sufficient seed is unavailable
- installation of tree guards to prevent fauna access.

Additional management measures will be developed as part of the Rehabilitation Management Plan.

### Monitoring

Performance targets and completion criteria will be measured through annual monitoring undertaken in autumn and spring. A draft monitoring program has been developed (Table 3).

Table 3 Monitoring program

Objective	Parameter	Frequency/duration	Location	Purpose
Enhance vegetation health within retained areas of vegetation	No. of suitable Black-Cockatoo habitat species	During spring undertaken annually for three years or until completion criteria are met.	Monitoring sites within rehabilitation areas	To monitor the abundance of species suitable for future use by Black-Cockatoo's.
	Weed infestation	Establish reference sites in adjacent remnant vegetation and compare annually in autumn (prior to winter rains) for three years or until completion criteria are met.	Monitoring sites within rehabilitation areas	To monitor and compare presence and distribution of weeds.
	Erosion	During spring undertaken annually for three years or until completion criteria are met.	Susceptible areas within rehabilitation area.	To monitor occurrence and extent of erosion.
Establish an ecologically diverse and stable vegetation community with similar structure and composition to the original native vegetation	Native flora <ul style="list-style-type: none"> <li>• density</li> <li>• species composition</li> <li>• growth habit</li> <li>• health of vegetation</li> <li>• deaths.</li> </ul>	During spring undertaken annually for three years or until completion criteria are met.	Establish monitoring sites within rehabilitation areas and reference sites in adjacent remnant vegetation.	Monitor establishment of vegetation and compare progress to performance indicators and completion criteria.
Ensure the ongoing protection of and prevent future expansion into POS.	Access	Opportunistically until management handover	Revegetated POS.	To monitor unauthorised access into retained vegetation.
Establish self-sustaining ecosystems capable of supporting native biota	Fauna habitat	Opportunistically until management handover	Vegetation / habitat condition of rehabilitation areas.	To monitor potential of rehabilitated areas to support native fauna species. Monitor vegetation condition / potential habitat.

### *Offset strategy*

The *EPBC Environmental Offsets Policy* (October 2012) encourages the delivery of an ‘overall conservation outcome that improves or maintains the viability of the aspect of the environment that is protected by national environmental law and affected by the proposed action’.

While the design of Hammond Park has minimised the scale and intensity of potential impacts to Black-Cockatoo species, habitat removal will occur. On this basis the following proposed additional management measures are proposed to enhance the overall conservation outcome for the development.

#### Offset package details

Gold Estates/DoH commenced discussions with the WA DEC in late 2012 to identify and discuss potential sites to offset the proposed clearing of Hammond Park. These discussions led to selection of a 107 ha offset site in Bodakine Hills, Clackline, near Northam, Western Australia. The proposed offset site has been identified by DEC due to its quality Black-Cockatoo habitat including potential breeding sites. The offset site comprises healthy and diverse gully and ridge *Corymbia calophylla*/ *Eucalyptus wandoo* (Marri/Wandoo) wheatbelt mixed vegetation types with a northern *Eucalyptus marginata* (jarrah) varied understorey. The proposed offset will involve the provision of funds by Gold Estates/DoH to DPaW for purchase of the offset for inclusion in the conservation estate. This proposed offset is of a size and scale proportionate to the residual impacts on the protected matter.

In addition Gold Estates/DoH will rehabilitate approximately 1.78 ha of the adjacent reserve, known as Frankland Reserve that is protected in perpetuity as a Reserve, vested in CoC. The portion of the reserve to be rehabilitated is completely degraded. Rehabilitation of the 1.78 ha will be undertaken to establish a stable vegetation community which provides Black-Cockatoo habitat. Rehabilitation will utilise species to promote a self-sustaining ecosystem, primarily incorporating Black-Cockatoo foraging species.

Rehabilitation will be undertaken through implementation of the following:

- site preparation, including transfer of topsoil to the rehabilitation area (as required)
- ripping and mounding of the area prior to seeding
- direct seeding over a period to be determined through monitoring of rehabilitated areas
- implementation of weed control measures
- annual monitoring.

Rehabilitation of a portion of the reserve will result in additional Black-Cockatoo foraging habitat which will be realised over approximately 5 to 7 years. Rehabilitation and associated monitoring will be undertaken until rehabilitation has achieved an outcome consistent with CoC requirements. Additional detail for each property is provided in Table 4.

Table 4 Additional detail – offset property and rehabilitation offset

Detail requested	Offset property	Rehabilitation offset
Current tenure	Freehold land	Reserve (zoned parks and recreation)
Size	107 ha	1.78 ha
Legal mechanisms for future protection	Vesting as a Nature Reserve with the Conservation Commission of WA by DPaW	Vested in CoC for the purpose of parks and recreation.



Detail requested	Offset property	Rehabilitation offset
Risk of damage, degradation or destruction to any proposed offset site in the absence of any formal protection and/or management	If the site is not vested with the Conservation Commission of Western Australia, the land will remain freehold and be subject to activities and usage possibly uncondusive to conservation purposes, including increased grazing and weed incursion, unsympathetic fire regimes and possible further subdivision and clearing.	If the site is not protected as a Reserve, it is likely the land would be further degraded through weed incursion and uncontrolled access.
Any plans to maintain or enhance the quality or extent of suitable habitat present on-site over a specified time period	The offset site will be protected in perpetuity as a Nature Reserve therefore existing vegetation will be maintained and protected.	The rehabilitation area is currently completely degraded. Rehabilitation will improve the overall quality of the area providing foraging habitat to Black-Cockatoo species.
Amount of funding to be provided to DPaW to purchase the offset, including additional funding to be paid to DPaW to assist in ongoing management of the offset site	Up to \$240,000 will be provided to DPaW for purchase of the land, with additional at present un-costed funds, being used to provide fencing, signage etc.	Rehabilitation will be undertaken by Gold Estates/DoH to the satisfaction of CoC.

When compared to the key provisions of the Department's *EPBC Act Environmental Offsets Policy*, the proposed direct offsets described above address the key offset requirements in the policy as shown in Table 5 below.

Table 5 Comparison of Black Cockatoo offset requirements with proposed offsets

Offset requirements – draft policy	Proposed offsets
Suitable offsets must deliver an overall conservation outcome that improves or maintains the viability of the aspect of the environment that is protected by national environmental laws and affected by the proposed action	The proposed offsets for Carnaby's Black-Cockatoo (CBC) will result in an improved overall conservation outcome, ensuring protection and enhancement of key habitat for the species.
Suitable offsets must be built around direct offsets but may include other compensatory measures	The upfront management actions proposed in the offsets represent direct offsets on the basis that they will in themselves directly improve the protection, management and long term viability of CBC habitat within the offset property.
Suitable offsets must be in proportion to the level of statutory protection that applied to the protected matter	The offsets proposed are considered appropriate and are consistent with DSEWPac policy, providing greater than 90% of the impact offset as identified through the offset calculator.
Suitable offsets must be of a size and scale proportionate to the residual impacts on the protected matter	The extent of habitat to be subject to improved management and maintenance as a result of the offsets will be proportionate to the residual impacts on habitat within the development area. The project will result in the clearing of approximately 22.92 ha of potential foraging habitat for CBC. The proposed offset site is 107 ha in size, therefore is of a size and scale proportionate to the residual impacts on the protected matter. The rehabilitation offset provides an additional 1.78 ha of CBC foraging habitat.
Suitable offsets must effectively account for and manage the risk of the offset not succeeding	The risk of the offsets not fulfilling the aims for which they are designed is considered to be very low. The offset properties will be the subject of ongoing management by the DPaW and CoC which will ensure that the direct offset measures undertaken are enduring in terms of their improvement of the habitat values. This has been the current practice to date.

Offset requirements – draft policy	Proposed offsets
Suitable offsets must be additional to what is already required, determined by law or planning regulations or agreed to under other schemes or programs (this does not preclude the recognition of state or territory offsets that may be suitable as offsets under the EPBC Act for the same action)	The proposed offsets package for CBC is to satisfy the requirements of the Commonwealth EPBC Act only.
Suitable offsets must be efficient, effective, timely, transparent, scientifically robust and reasonable	The proposed offsets will be efficiently managed in a transparent manner by DPaW.
Suitable offsets must have transparent governance arrangements, including being able to be readily measured, monitored, audited and enforced	Performance measures for the improvement of the direct offset and rehabilitation offset habitat are readily measurable through the development of a baseline position and ongoing monitoring and reporting in terms of improvements being undertaken. This can be readily undertaken in an audited manner and enforced through conditions which can be applied to the approval decision

### *Conclusion*

Based on the above additional information, the proposal is considered to achieve the avoidance and mitigation measures as primary strategies for managing the potential significant impacts of the proposed action. Where a residual impact is still evident a suite of actions consisting of direct offsets and other compensatory measures has been proposed to contribute to the ongoing viability of Carnaby's Black-Cockatoo populations.

Improving the habitat quality in targeted areas will lead to an improved overall conservation outcome, particularly when combined with the onsite protection of habitat within the development area which is expected to ensure the retention of 7.8% of foraging habitat on site.

I trust that the above information is suitable to enable you to finalise the approval decision with respect to the proposed project.

I look forward to timely finalisation of the approval decision for the matter.

Yours sincerely



Darren Walsh  
CEO & SENIOR PRINCIPAL

26 July 2013

cc: Alexander Stevenson Gregg  
Director  
Gold Estates Holdings Pty Ltd

Graeme Morris  
Project Manager  
Richard Noble

### *References*

Groom C (2011) *Plants Used by Carnaby's Black Cockatoo*, [Online] Department of Environment and Conservation, available from: < <http://www.dec.wa.gov.au/management-and-protection/threatened-species/5983-plants-for-carnabys-search-tool.html> > [1 July 2013]