

MUCHEA INDUSTRIAL PARK

COMPLIANCE REPORT  
EPBC 2017/8119

16 December 2019

to

16 December 2020

Project Implementation Year 1

Prepared by Harvis,  
with Emerge Technical Reports

(REV 1 - ISSUED)

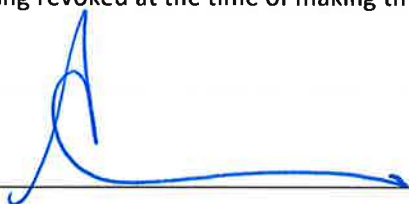
## TABLE OF CONTENTS

1. DECLARATION OF ACCURACY.....	3
2. TERMINOLOGY .....	4
3. DESCRIPTION OF ACTIVITIES .....	5
4. COMPLIANCE TABLE .....	6
Annexure A - Figure 1: 2020 Clearing Extent - Black Cockatoo Habitat .....	13
Annexure B - Figure 2: 2020 Clearing Extent - Banksia Woodland TEC .....	15
Annexure C - Notification of Commencement of Revegetation Works .....	17
Annexure D - Evidence of 2x Potential Nesting Trees Currently Retained .....	21
Annexure E - Confirmation Email of 6x Artificial Nesting Hollows Installation & Inspections.....	22
Annexure F - Black Cockatoo Artificial Hollow Installation and Monitoring Letter .....	23
Annexure G – Black Cockatoo Natural Hollow Monitoring Results Letter (3-Years) .....	49
Annexure H - Email (of Letter) Advising Commencement of Action.....	64
Annexure I - Email record of Submitted CEMP to Department .....	66
Annexure J - Email Advising of CEMP Upload .....	67
Annexure K - Evidence of CEMP Remaining Published to Website (ongoing) .....	68
Annexure L – Table 3: Conformance with Construction Environmental Management Plan .....	69
Annexure M - Excerpt from Wormald Induction Register .....	73
Annexure N - Extent of Installed Permanent Southern Reserve Fencing .....	75
Annexure O - Example Wormald Clearing Permit .....	76
Annexure P - Identified Tree Retention Review.....	78
Annexure Q - Email evidence of Emerge Engagement to Fauna Inspection.....	79
Annexure R - Extract from Wormald Dust Management Policy.....	80
Annexure S - Hydro Mulched Areas .....	81

## 1. DECLARATION OF ACCURACY

In making this declaration, I am aware that sections 490 and 491 of the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed:



Full Name:

**Kelvin Flynn**

Position:

**Managing Director**

Organisation:

**Harvis Capital Pty Ltd, as trustee for the Northern Gateway Unit Trust No 2  
ABN – 99 450 875 764**

Date:

**15 / 01 / 2021**

## 2. TERMINOLOGY

The 'Compliance Status' field of the audit tables describes the implementation of actions and compliance with the approval. Table 1 details the terminology that has been applied in this audit report.

### Specific Definitions:

**Compliance Period:** 16 December 2019 – 16 December 2020

**Compliance Area:** That area of the Muchea Industrial Park project that falls within the EPBC Act approval area (i.e. does not include the specifically agreed excised area)

**Table 1 Audit terminology**

Compliance status term	Abbreviation	Description
Regulatory requirements - applicable to the conditions of approval		
Compliant	C	When all the requirements of a condition have been met, including the implementation of management plans or other measures required by those conditions.
Completed	CLD	Where a requirement with a finite period of application has been satisfactorily completed.
Not Applicable	NA	Where the requirements of a condition or elements of a condition fall outside of the scope of the current reporting period. For example, a condition which applies to an activity that has not yet commenced.
Non-compliant	NC	Where the requirements of a condition or elements of a condition, including the implementation of management plans and other measures, have not been met.
Corporate policies, standards and procedures – applicable to the CEMP		
Conformant	C	When sufficient evidence has been provided to confirm that the requirements within a corporate policy, standard and/or procedure (including an environmental management plan) has been satisfactory implemented.
Completed	CLD	Where a requirement with a finite period of application has been satisfactorily completed.
Not Applicable	NA	Where the requirements of a corporate policy, standard and/or procedure (including an environmental management plan) fall outside of the scope of the current reporting period. For example, a management plan which applies to an activity that has not yet commenced.
Non-conformant	NC	Where the requirements within a corporate policy, standard and/or procedure (including an environmental management plan) have not been satisfactory implemented.

### 3. DESCRIPTION OF ACTIVITIES

EPBC Number:	<b>2017 / 8119</b>
Project Name:	<b>Muchea Industrial Park, Great Northern Highway Muchea</b>
Approval Holder (ABN):	<b>Harvis Capital Pty Ltd, as trustee for the Northern Gateway Unit Trust No 2 ABN – 99 450 875 764</b>
Person Accepting Report Responsibility:	<b>Kelvin Flynn (See Section 1 for Declaration)</b>
Approved Action:	<b>To clear vegetation and construct an industrial precinct and related infrastructure at Lot 809 Great Northern Highway, Muchea, Western Australia.</b>
Dates for the Reporting Period of the Report:	<b>16 / 12 / 2019 – 16 / 12 / 2020</b> <i>(Note: First Reporting Period for the Project)</i>
Date of Preparation of the Report:	<b>15 / 01 / 2021</b>

#### Description of Activities

The activities within the reporting period relevant to the Approved Action are summarised as follows:

- Clearing of 1.73ha (of up to 12.55 hectares permitted) of 'Black Cockatoo Habitat' have been cleared, with 21.07ha remaining undisturbed in-situ.
- Clearing of 0.17ha (of up to 0.43 hectares permitted) of 'Banksia Woodlands TEC' have been cleared, with 7.11ha remaining undisturbed in-situ.
- The 2x trees containing the potential 'nesting hollows' have not been cleared as part of the current works, and were specifically excluded from the works zone for continued monitoring. Hollow monitoring of the trees was undertaken during peak breeding season as outlined here-in.
- The installation of 6x 'artificial nesting hollows' was undertaken prior to the beginning of the breeding season following the commencement of the action. Monitoring during peak breeding season was undertaken as outlined here-in.

Section 4, Table 2 below provides the tabulated detail of the current compliance status and relevant actions against each of the specific approval conditions of EPBC 2017/8119.

## 4. COMPLIANCE TABLE

Table 2: List of approval conditions and current compliance status of EPBC 2017/8119

Condition No.	Condition	Compliance Status	Evidence / Comments
Part A – Conditions specific to the action			
1	The approval holder must not clear more than 12.55 hectares of <b>black cockatoo habitat</b> and must not clear more than 0.43 hectares of <b>Banksia Woodlands TEC</b> within the <b>project area</b> .	N/A	<p>Overall project clearing works ongoing.</p> <p>Extent of clearing works undertaken to date are well within areas calculated to be ultimately cleared and do not impact on compliance with the overall condition values.</p> <p>With respect to 'Black Cockatoo Habitat', to date 1.73ha have been cleared with 21.07ha remaining. See <i>Annexure A – Figure 1: 2020 Clearing Extent - Black Cockatoo Habitat</i></p> <p>With respect to 'Banksia Woodlands TEC', to date 0.17ha have been cleared with 7.11ha remaining. See <i>Annexure B – Figure 2: 2020 Clearing Extent - Banksia Woodland TEC</i></p> <p><b>Not-Applicable - Condition Works Ongoing.</b></p>
2	To mitigate impacts to <b>black cockatoos</b> and <b>black cockatoo habitat</b> , the approval holder must implement the <b>Construction Environmental Management Plan (CEMP)</b> during construction.	Compliant	<p>The CEMP was implemented during construction, with the CEMP incorporated into requirements of Civil Contractor (Wormall Contracting) responsibilities and implemented by Stage 1B works.</p> <p>The CEMP implementation actions are specified in Annexure L - Table 3 below. Further stages of Civil Contractors works will continue to ensure the CEMP are implemented via the contractor's management plans.</p> <p>See <i>Annexure L – Table 3: Conformance with Construction Environmental Management Plan</i></p> <p><b>Compliant.</b></p>
3	To mitigate impacts to <b>black cockatoos</b> and <b>Banksia Woodlands TEC</b> , the approval holder must, no later than 12 months following the submission of the final report under Condition 4f., provide the <b>Department</b> with: <ul style="list-style-type: none"> <li>a) written evidence demonstrating that a restrictive statutory conservation covenant has been established over the identified <b>conservation reserves</b> for their protection in perpetuity</li> <li>b) written evidence demonstrating that ownership of the <b>conservation reserves</b> has been ceded to the Shire of Chittering</li> <li>c) the <b>conservation reserves'</b> attributes, <b>shapefiles</b> and textual descriptions and maps to clearly define the location and boundaries of the <b>conservation reserves</b>.</li> </ul>	N/A	<p>Condition ongoing</p> <p>Neither conditions 3a), 3b) or 3c) have yet reached a point of implementation to be created. We expect to implement Condition 3 on a staged basis within future reporting periods.</p> <p><b>Not-Applicable – Condition Ongoing.</b></p>

Condition No.	Condition	Compliance Status	Evidence / Comments
4	<p>To mitigate the loss of 12.55 hectares of black cockatoo habitat and improve potential breeding and foraging opportunities for black cockatoos in the project area, the approval holder must:</p> <p>a) undertake revegetation works within the <b>conservation reserves</b> to establish a self-sustaining vegetation cover integrated with the surrounding ecosystem which provides <b>black cockatoo habitat</b> and that meets the <b>completion criteria</b></p> <p>b) ensure that the density of planted vegetation is sufficient to account for mortality to meet the <b>completion criteria</b> and until the reserves are ceded to the Shire of Chittering</p> <p>c) commence revegetation required under Condition 4.a. within 12 months of <b>commencement of the action</b></p> <p>d) provide the <b>Department</b> with written and photographic evidence of the commencement of the revegetation works within 10 days of their commencement</p> <p>e) not cease revegetation works until a <b>suitably qualified horticulturist</b> has verified that the revegetation works meet the <b>completion criteria</b> and the <b>Department</b> has been provided with written evidence, endorsed by a <b>suitably qualified horticulturist</b>, that the revegetation works meet the <b>completion criteria</b></p> <p>f) upon attainment of the <b>completion criteria</b>, ensure all areas of revegetation are inspected by a <b>suitably qualified horticulturist</b> once every two years, during spring, for a further 10 years to ensure the <b>completion criteria</b> are maintained and provide the <b>Department</b> with a report of each inspection within 40 days after the inspection</p> <p>g) re-establish the <b>completion criteria</b> within revegetated areas within three months of becoming aware that an area of revegetation no longer meets the <b>completion criteria</b>.</p>	Compliant (Except 4d)	<p>Overall Condition still ongoing:</p> <p>4a) Ongoing. Revegetation works have commenced within part of the Southern Reserve (where forward preparation works could be completed this reporting period), however the full extent of revegetation works will be implemented over several future years (winter seasons) as the necessary preparatory/Interface civil works are completed. See <i>Annexure C – Notification of Commencement of Revegetation Works</i></p> <p>4b) Ongoing, subject to full extent of revegetation planting being implemented.</p> <p>4c) Compliant. Initial revegetation works commenced on 8th October 2020, within the 12-month window of the notified commencement of the action (16th December 2019). See <i>Annexure C – Notification of Commencement of Revegetation Works</i></p> <p>4d) Non-Compliant (late). Written and photographic evidence of the commencement of revegetation was provided on 2nd December 2020, however this should technically have been provided by 18th October 2020. Notification of the non-compliance was raised within the notification letter itself. See <i>Annexure C – Notification of Commencement of Revegetation Works</i></p> <p>4e) Ongoing. Revegetation works are confirmed as continuing, with further planting scheduled for Winter 2021 (and beyond).</p> <p>4f) N/A. Revegetation works not yet complete.</p> <p>4g) N/A. Revegetation works not yet complete.</p> <p><b>Generally Compliant, except 4d), which has been noted as a late (administrative) notification.</b></p>
5	<p>To mitigate impacts to nesting black cockatoos, the approval holder must, within two days prior to clearing the two known nesting hollows, investigate these hollows to determine if they are currently utilised by black cockatoos for nesting. The investigation must be undertaken by a suitably qualified person. If any black cockatoos are detected utilising any hollow in any tree, the approval holder must:</p> <p>a) clearly identify and mark the nesting tree</p> <p>b) not clear the identified nesting tree or any vegetation within a 10 metre radius of that tree until a <b>suitably qualified ecologist</b> has verified that the hollow in the tree is no longer being used by <b>black cockatoos</b>.</p>	Compliant	<p>Overall Condition still ongoing:</p> <p>5a) Ongoing. The 2x trees containing the potential 'nesting hollows' have not been cleared as part of the current works, and were specifically excluded from the works zone for continued monitoring. See <i>Annexure D – Evidence of 2x Potential Nesting Trees Currently Retained</i>.</p> <p>5b) Compliant/Ongoing. 10-20m setback zones (currently still present) were installed during current works to allow continued monitoring of the 2x trees. See <i>Annexure D – Evidence of 2x Potential Nesting Trees Currently Retained</i>, showing images of Civil Contractor installed setback zones.</p> <p><b>Compliant.</b></p>
6	To mitigate and offset the loss of two known nesting hollows within the project area, the approval holder must install, within the conservation reserves and in accordance with artificial hollow installation guidelines, at least six artificial nesting hollows. To maximise the likelihood of the installed	Compliant	<p>Overall Condition still ongoing:</p> <p>6a) Compliant. Following commencement of the action on 16 December 2019, 6x artificial nesting hollows were installed on 23 June 2020, prior to the beginning of the next breeding season in July 2020.</p>



Condition No.	Condition	Compliance Status	Evidence / Comments
	<p>artificial nesting hollows being used by black cockatoos, the approval holder must:</p> <p>a) install at least six artificial nesting hollows prior to the beginning of the next <b>breeding season</b> following the <b>commencement of the action</b></p> <p>b) undertake adaptive management of the artificial nesting hollows, and as a component of adaptive management, ensure that each installed artificial nesting hollow is:</p> <p>i. monitored and maintained in accordance with relevant <b>artificial hollow maintenance guidelines</b> for the life of the approval, with maintenance actions undertaken outside of the <b>breeding season</b> and before the commencement of the next <b>breeding season</b></p> <p>ii. not install in a manner that requires additional <b>clearing of black cockatoo habitat</b> or within 10 metres of the edge of the road seals or buildings, to reduce the risk of vehicle strike and human disturbance.</p> <p>c) prior to clearing the <b>known nesting hollows</b>, have a <b>suitably qualified ecologist</b> undertake a hollow inspection of the <b>known nesting hollows</b> during the <b>peak breeding season</b> across three consecutive years, to confirm whether <b>black cockatoo nesting</b> is occurring. If a <b>suitably qualified ecologist</b> certifies in writing that no <b>black cockatoo nesting</b> occurred in any of the three consecutive years, then compliance with Condition 6d, 6e and 7 is not required.</p> <p>d) ensure that each installed artificial nesting hollow is inspected at least twice each year, and at least 4 weeks apart, by a <b>suitably qualified ecologist</b> during the <b>peak breeding season</b> for nine years to record any evidence of use by <b>black cockatoos</b> and to identify any maintenance requirements</p> <p>e) not cease <b>adaptive management</b> of artificial nesting hollows until at least one artificial nesting hollow<sup>1</sup> for each <b>known nesting hollow</b> identified with evidence of <b>black cockatoo nesting</b> under Condition 6.c. has shown evidence of <b>black cockatoo nesting</b>, as verified in writing by a <b>suitably qualified ecologist</b>, for three consecutive years.</p>		<p>See <i>Annexure E – Confirmation Email of 6x Artificial Nesting Hollows Installation</i> See <i>Annexure F – Black Cockatoo Artificial Hollow Installation and Monitoring Letter</i></p> <p>6b)i) Ongoing. First post-installation review and maintenance to be undertaken ahead of the 2021 breeding season.</p> <p>6b)ii) Compliant. No habitat was required to be cleared for installation of the Artificial Nesting Hollows and locations are greater than 10m from any adverse conditions. See <i>Annexure F – Black Cockatoo Artificial Hollow Installation and Monitoring Letter</i></p> <p>6c) Compliant. Qualified ecologists undertook hollow inspections on the following peak breeding dates: 5 November 2018 (2018 Peak Breeding Season) 15 October 2019 (2019 Peak Breeding Season) 30 September 2020, 5 October 2020 &amp; 16 December 2020 (2020 Peak Breeding Season) At no times during the inspected dates was nesting observed to be occurring, and accordingly the letter attached at Annexure G certifies that no black cockatoo nesting occurred in any of the three consecutive years. As such, compliance with Condition 6d, 6e and 7 is not required. See <i>Annexure G – Black Cockatoo Natural Hollow Monitoring Results Letter (3-Years)</i></p> <p>6d) No Longer Applicable. In accordance with 6c) outcomes above, compliance with condition 6d) is no longer formally required. Notwithstanding, following the installation of the 6x artificial hollows on 23 June 2020, inspection during the current 2020 Peak Breeding Season were undertaken by Emerge Associates qualified ecologist on 30 September 2020 &amp; 16 December 2020, No evidence of nesting was witnessed at the hollows during inspection. See <i>Annexure E – Confirmation Email of 6x Artificial Nesting Hollows Installation</i></p> <p>6e) No longer Applicable. In accordance with 6c) outcomes above, compliance with condition 6e) is no longer formally required. Notwithstanding, as the current 2020 Peak Breeding Season is the first season post installation, adaptive management has not yet been due to occur.</p> <p><b>Compliant.</b></p>
7	<p>If, after nine years from <b>commencement of the action</b>, the approval holder is unable to provide the verification by a <b>suitably qualified ecologist</b> required under Condition 6.e., the approval holder must, within ten years after <b>commencement of the action</b>:</p> <p>a) submit to the <b>Minister</b> for approval, the details of an offset that meets the requirements of the <b>EPBC Environment Offsets Policy</b> and will compensate for the permanent loss of the two <b>known nesting hollows</b></p> <p>b) submit to the <b>Department</b> a detailed assessment of the factors that caused the failure to achieve <b>black cockatoo nesting</b> in at least one</p>	N/A	<p>No Longer Applicable. In accordance with 6c) outcomes above, compliance with condition 7 is no longer formally required.</p> <p><b>Not Applicable.</b></p>

<sup>1</sup> The artificial nesting hollow in use for three consecutive years need not be the same artificial nest hollow each year.



Condition No.	Condition	Compliance Status	Evidence / Comments
8	artificial nesting hollow <sup>2</sup> for each <b>suitable nesting hollow</b> for three consecutive years.  All data, enquiries and findings of the monitoring required by Condition 6 must be provided to the <b>Department</b> to contribute to broader research into the use of artificial nesting hollows by <b>black cockatoos</b> . Provision must occur within one year of the verification by a <b>suitably qualified ecologist</b> required under Condition 6.e. being obtained, or within 25 <b>business days</b> after submitting the assessment report required under Condition 7.b.	N/A	Not Applicable. The current compliance reporting period, being the first year of implementation, has not yet yielded any reportable findings. Monitoring outcomes will be reported in future years as applicable.
<b>Part B – Standard administrative conditions</b>			
<b>Notification of date of commencement of the action</b>			
9	The approval holder must notify the <b>Department</b> in writing of the date of <b>commencement of the action</b> within 10 <b>business days</b> after the date of <b>commencement of the action</b> .	Compliant	The action commenced on 16 December 2019, and a notification letter was sent to the Department on the same day, along with an email copy on 20 December 2019. <i>See Annexure H - Email (of Letter) Advising Commencement of Action</i>  <b>Compliant.</b>
<b>Compliance records</b>			
10	The approval holder must maintain accurate and complete <b>compliance records</b> .	Compliant	Ongoing. Compliance records commencing with this current first compliance report are being maintained by the approval holder and the project's environmental consultant (Emerge Associates).  <b>Compliant.</b>
11	If the <b>Department</b> makes a request in writing, the approval holder must provide electronic copies of <b>compliance records</b> to the <b>Department</b> within the timeframe specified in the request.  <b>Note:</b> <b>Compliance records</b> may be subject to audit by the <b>Department</b> or an independent auditor in accordance with section 458 of the EPBC Act, and or used to verify compliance with the conditions. Summaries of the result of an audit may be published on the <b>Department's</b> website or through the general media.	N/A	No requests made to date.  <b>Not Applicable.</b>
<b>Preparation and publication of plans</b>			
12	The approval holder must: a) submit <b>plans</b> electronically to the <b>Department</b> ;	Compliant	The applicable 'plan' is the approved Construction Environmental Management Plan (CEMP).

<sup>2</sup> The artificial nesting hollow in use for three consecutive years need not be the same artificial nest hollow each year.

Condition No.	Condition	Compliance Status	Evidence / Comments
	<p>b) publish each <b>plan</b> on the <b>website</b> within <b>20 business days</b> of the date the <b>plan</b> is approved by the <b>Minister</b> or of the date a revised action management plan is submitted to the Department, unless otherwise agreed to in writing by the <b>Minister</b>;</p> <p>c) exclude or redact <b>sensitive ecological data</b> from <b>plans</b> published on the <b>website</b> or provided to a member of the public; and</p> <p>d) keep <b>plans</b> published on the <b>website</b> until the end date of this approval.</p>		<p>12a) Compliant – CEMP was submitted electronically to the Department during the EPBC Act assessment process for the project. See <i>Annexure I – Email record of Submitted CEMP to Department</i></p> <p>12b) Compliant – The CEMP was uploaded to the project website on 20 December 2019, within 20 business days of the action commencing on 16 December 2019. Email from Harvis to DAWE confirming this dated 20 December 2019. See <i>Annexure J – Email Advising of CEMP Upload</i></p> <p>12c) N/A – there was no sensitive ecological data to exclude or redact. The full CEMP is available online.</p> <p>12d) Compliant – the CEMP remains on the project website. See <i>Annexure K - Evidence of CEMP Remaining Published to Website (ongoing)</i></p> <p><b>Compliant.</b></p>
13	The approval holder must ensure that any <b>monitoring data</b> (including <b>sensitive ecological data</b> ), surveys, maps, and other spatial and metadata required under conditions of this approval, is prepared in accordance with the <b>Department's</b> Guidelines for biological survey and mapped data (2018) and submitted electronically to the <b>Department</b> within six months of monitoring taking place.	Compliant	<p>Condition 6 requires monitoring of the installed artificial hollows, which was mostly recently completed in December 2020. The monitoring outcomes are provided in Annexure F. This will also be submitted electronically to the Department in the first half of 2021, within the 6 month timeframe.</p> <p><b>Compliant.</b></p>

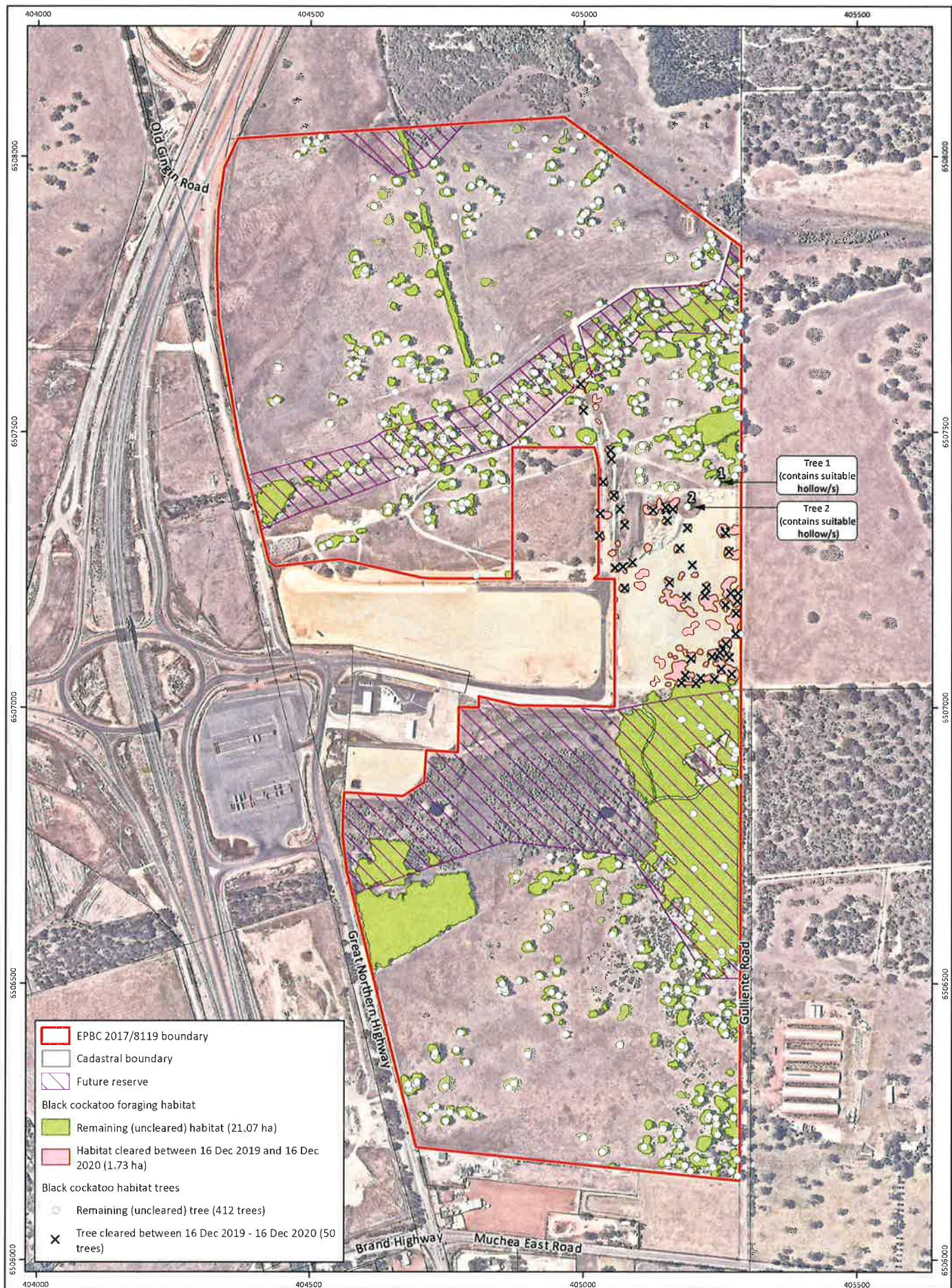
Table 2: List of approval conditions and current compliance status of EPBC 2017/8119 (continued)

Condition No.	Condition	Compliance Status	Evidence / Comments
<b>Annual compliance reporting</b>			
14	<p>The approval holder must prepare a compliance report for each 12 month period following the date of commencement of the action, or otherwise in accordance with an annual date that has been agreed to in writing by the Minister. The approval holder must:</p> <ul style="list-style-type: none"> <li>a) publish each <b>compliance report</b> on the <b>website</b> within 20 <b>business days</b> following the relevant 12 month period;</li> <li>b) notify the <b>Department</b> by email that a <b>compliance report</b> has been published on the <b>website</b> and provide the weblink for the <b>compliance report</b> within five <b>business days</b> of the date of publication;</li> <li>c) keep all <b>compliance reports</b> publicly available on the website until this approval expires;</li> <li>d) exclude or redact <b>sensitive ecological data</b> from compliance reports published on the <b>website</b>; and</li> <li>e) where any <b>sensitive ecological data</b> has been excluded from the version published, submit the full <b>compliance report</b> to the <b>Department</b> within five <b>business days</b> of publication.</li> </ul> <p><b>Note:</b> Compliance reports may be published on the <b>Department's</b> website.</p>	Compliant	<p>Overall Condition still ongoing:</p> <p>14a) The Muchea Industrial Precinct Compliance Report (for EPBC approval 2017/8119) will be published on the project website by 30 January 2021 at <a href="https://www.mucheaindustrialpark.com.au/muchea/downloads">https://www.mucheaindustrialpark.com.au/muchea/downloads</a>. Note: The current compliance report represents the first reporting period.</p> <p>14b) The Department will be notified via email by 5 February 2021 that the 2020 ACR was published on the Muchea Industrial Park project website by 30 January 2021. Note: Evidence of website publication and Department notification will be provided in the following year's compliance report.</p> <p>14c) Ongoing. The compliance reports will remain available.</p> <p>14d) Not Applicable. No sensitive ecological data applicable to reports to date.</p> <p>14e) Not Applicable. No sensitive ecological data applicable to reports to date.</p> <p><b>Compliant.</b></p>
<b>Reporting non-compliance</b>			
15	<p>The approval holder must notify the <b>Department</b> in writing of any: <b>incident</b>; non-compliance with the conditions; or non-compliance with the commitments made in <b>plans</b>. The notification must be given as soon as practicable, and no later than two <b>business days</b> after becoming aware of the <b>incident</b> or non-compliance. The notification must specify:</p> <ul style="list-style-type: none"> <li>a) any condition which is or may be in breach;</li> <li>b) short description of the <b>incident</b> and/or non-compliance; and</li> <li>c) the location (including co-ordinates), date and time of the incident and/or non-compliance.</li> </ul>	Compliant	<p>As outlined in condition 4d) above, in preparing the notification of commencement of revegetation works, the approval holder became aware that the notification itself was late/overdue. Whilst the revegetation works themselves were undertaken within the required compliance timeframe, the follow-up advice notification itself was prepared on the 2<sup>nd</sup> December 2020 (due 18<sup>th</sup> October 2020). As the non-compliance was administrative in nature (not physical) the matter of late reporting was outlined within the notification itself.</p> <p>See <i>Annexure C – Notification of Commencement of Revegetation Works</i>.</p> <p><b>Compliant (in notifying of the incident).</b></p>

16	<p>The approval holder must provide to the <b>Department</b> the details of any <b>incident</b> or non-compliance with the conditions or commitments made in <b>plans</b> as soon as practicable and no later than 10 <b>business days</b> after becoming aware of the <b>incident</b> or non-compliance, specifying:</p> <ul style="list-style-type: none"> <li>a) any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;</li> <li>b) the potential impacts of the <b>incident</b> or non-compliance; and</li> <li>c) the method and timing of any remedial action that will be undertaken by the approval holder.</li> </ul>	Compliant	<p>As outlined in condition 4d) and 15) above, in preparing the notification of commencement of revegetation works, the approval holder became aware that the notification itself was late/overdue. Whilst the revegetation works themselves were undertaken within the required compliance timeframe, the follow-up advice notification itself was prepared on the 2<sup>nd</sup> December 2020 (due 18<sup>th</sup> October 2020). As the non-compliance was administrative in nature (not physical) the matter of late reporting was outlined within the notification itself.</p> <p>16a) As the non-compliance was administrative in nature, the admission of error (late reporting) was provided, and no further action is proposed.</p> <p>16b) As the non-compliance was administrative in nature, there are not expected to be any result on-ground impacts as a result of the non-compliance.</p> <p>16c) As the non-compliance was administrative in nature and was for a one-off administrative notification, no further remedial action is proposed unless advised otherwise by the Department.</p> <p><b>Compliant (in notifying of the incident).</b></p>
<b>Independent audit</b>			
17	<p>The approval holder must ensure that <b>independent audits</b> of compliance with the conditions are as requested in writing by the <b>Minister</b>.</p>	N/A	No audit requests made to date. <b>Not Applicable.</b>
18	<p>For each <b>independent audit</b>, the approval holder must:</p> <ul style="list-style-type: none"> <li>a) provide the name and qualifications of the independent auditor and the draft audit criteria to the <b>Department</b>;</li> <li>b) only commence the <b>independent audit</b> once the audit criteria have been approved in writing by the <b>Department</b>; and</li> <li>c) submit an audit report to the <b>Department</b> within the timeframe specified in the approved audit criteria.</li> </ul>	N/A	No audit requests made to date. <b>Not Applicable.</b>
19	<p>The approval holder must publish the audit report on the <b>website</b> within 10 <b>business days</b> of receiving the <b>Department's</b> approval of the audit report and keep the audit report published on the <b>website</b> until the end date of this approval.</p>	N/A	No audit requests made to date. <b>Not Applicable.</b>
<b>Revision of action management plans</b>			
20	<p>The approval holder may, at any time, apply to the <b>Minister</b> for a variation to the <b>CEMP</b> by submitting an application in accordance with the requirements of section 143A of the <b>EPBC Act</b>. If the <b>Minister</b> approves a revised <b>CEMP</b> then, from the date specified, the approval holder must implement the revised <b>CEMP</b> in place of the previous <b>CEMP</b>.</p>	N/A	No modification to the CEMP required at this time. <b>Not Applicable.</b>
21	<p>The approval holder may choose to revise the <b>CEMP</b> without submitting it for approval under section 143A of the <b>EPBC Act</b>, if the taking of the action in accordance with the revised <b>CEMP</b> would not be likely to have a <b>new or increased impact</b>.</p>	N/A	No modification to the CEMP required at this time. <b>Not Applicable.</b>

Annexure A - Figure 1: 2020 Clearing Extent - Black Cockatoo Habitat





**Figure 1: 2020 Clearing Extent - Black Cockatoo Habitat**

**Project:** 2020 Compliance Report  
EPBC 2017/8119 Mueha Industrial Precinct

**Client:** Harvis Capital Pty Ltd

**Plan Number:** EP17-089(07)-F83  
**Drawn:** GAR  
**Date:** 21/12/2020  
**Checked:** ADB  
**Approved:** ADB  
**Date:** 21/12/2020



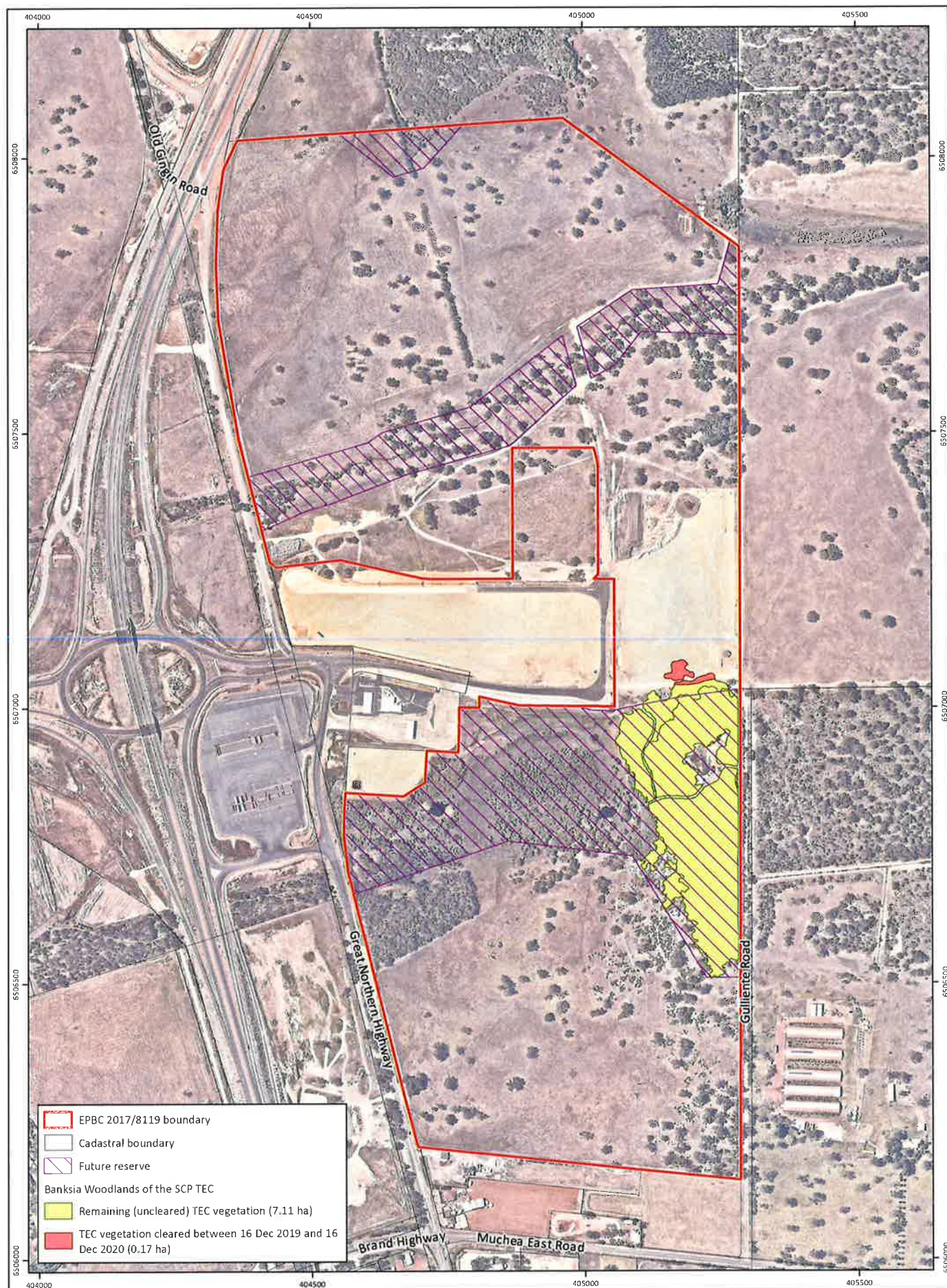
0 100 200  
Metres  
Scale: 1:9,000@A4  
GDA 1994 MGA Zone 50

**emerge**  
ASSOCIATES



Annexure B - Figure 2: 2020 Clearing Extent - Banksia Woodland TEC





**Figure 2: 2020 Clearing Extent - Banksia Woodland TEC**

**Project:** 2020 Compliance Report  
EPBC 2017/8119 Mucchea Industrial Precinct  
**Client:** Harvis Capital Pty Ltd

**Plan Number:** EP17-089(07)-FB4  
**Drawn:** GAR  
**Date:** 21/12/2020  
**Checked:** AD8  
**Approved:** AD8  
**Date:** 21/12/2020



0 100 200  
Metres  
Scale: 1:9,000@A4  
GDA 1994 MGA Zone 50

**emerge**  
ASSOCIATES

## Annexure C - Notification of Commencement of Revegetation Works



2<sup>nd</sup> December 2020

Mr Declan O'Connor-Cox  
A/g Assistant Secretary  
Environmental Approvals Division  
GPO Box 787  
Canberra ACT 2601

Lodgement by Email: [postapproval@awe.gov.au](mailto:postapproval@awe.gov.au)

Dear Mr O'Connor-Cox

**Commencement of Revegetation Works: EPBC 2017/8119  
Muchea Industrial Park, Lot 9002 (Former Lot 809) Great Northern Highway, Muchea, WA**

In accordance with the requirements of the Approval Decision for EPBC 2017/8119, and subsequent to our advice letter of 16<sup>th</sup> December 2019 advising that 'commencement of the action' had occurred for EPBC 2017/8119, I am now writing to inform you that we have 'commenced revegetation' under Condition 4.a. of the Approval Decision.

The revegetation commenced with the planting of the first batch of 640 *Corymbia calophylla* (marri) with our local partner environmental management partner the Chittering Landcare Group within one of the dedicated Conservation Reserve(s) within the Project Area. Planting was undertaken on 8<sup>th</sup> October 2020 following completion of the necessary ground works and fencing of the area. The 640 tube-stock plantings were applied within a defined area of approximately 1ha, ensuring a density of at least 250 trees per hectare can be achieved upon final completion.

The following attachments are provided as evidence of commencement of revegetation works:

Attachment A: Location Map - Commenced Revegetation

Attachment B: Images - Commenced Revegetation

In preparing this notification we have subsequently realised this correspondence to the Department should have been provided within 10 days of the planting (ie by 18<sup>th</sup> October), which we hereby acknowledge. We trust that this delayed notification does not impact the intent of the Conditions specific to the action, however if any further corrective action is required, please let us know.

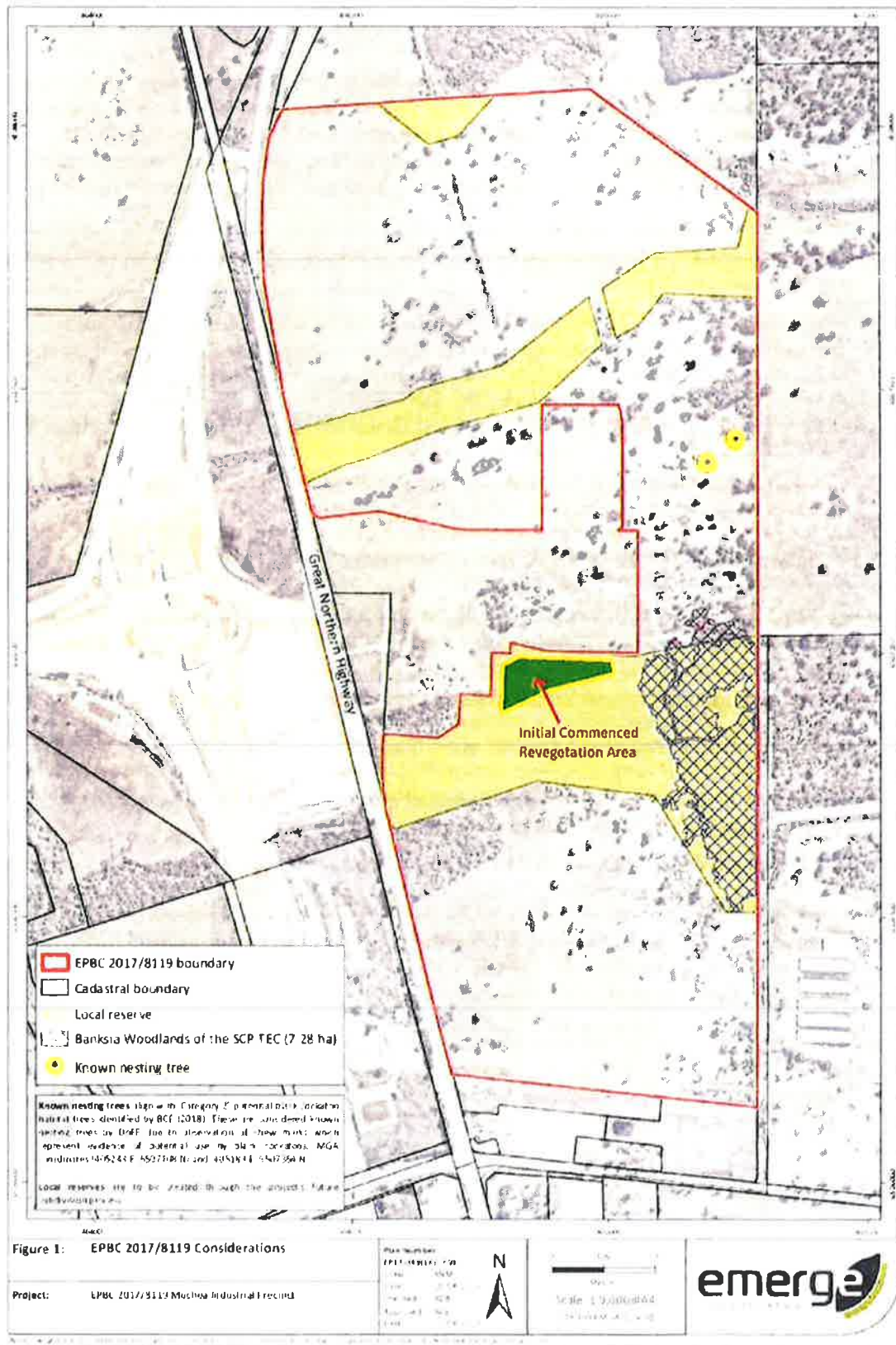
Please contact Daniel Chatley for further information, on 041 888 1658 or [daniel@harvis.com.au](mailto:daniel@harvis.com.au).

Yours sincerely,



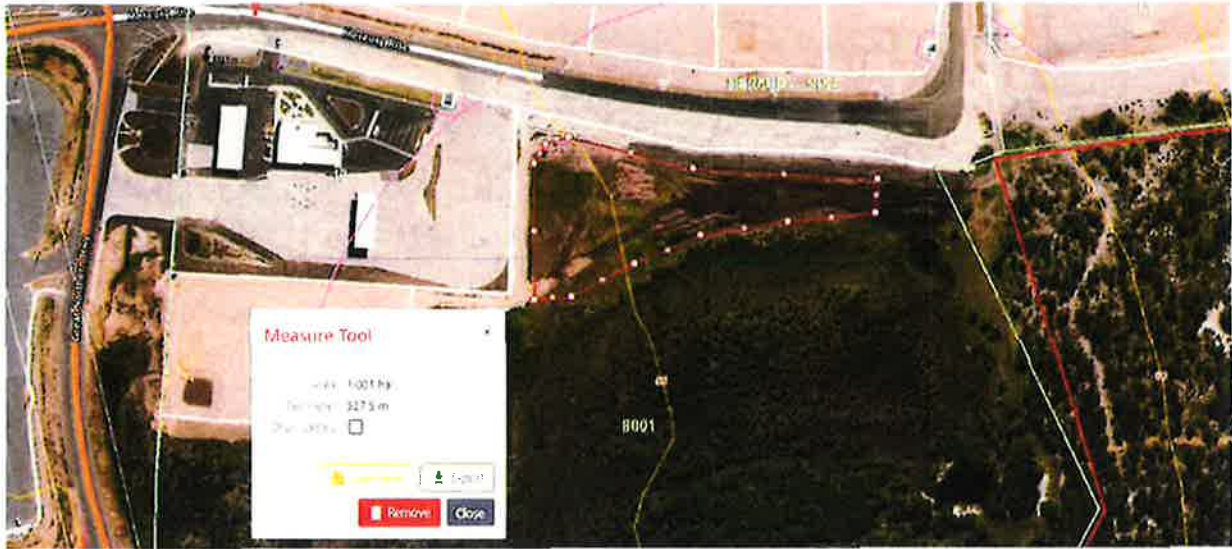
Kelvin Flynn  
Managing Director  
Harvis Capital Pty Ltd,  
As trustee for the Northern Gateway Unit Trust No 2

## Attachment A: Location Map - Commenced Revegetation





## Attachment B: Images - Commenced Revegetation



*Image 1 - Initial 1ha Planting Area*



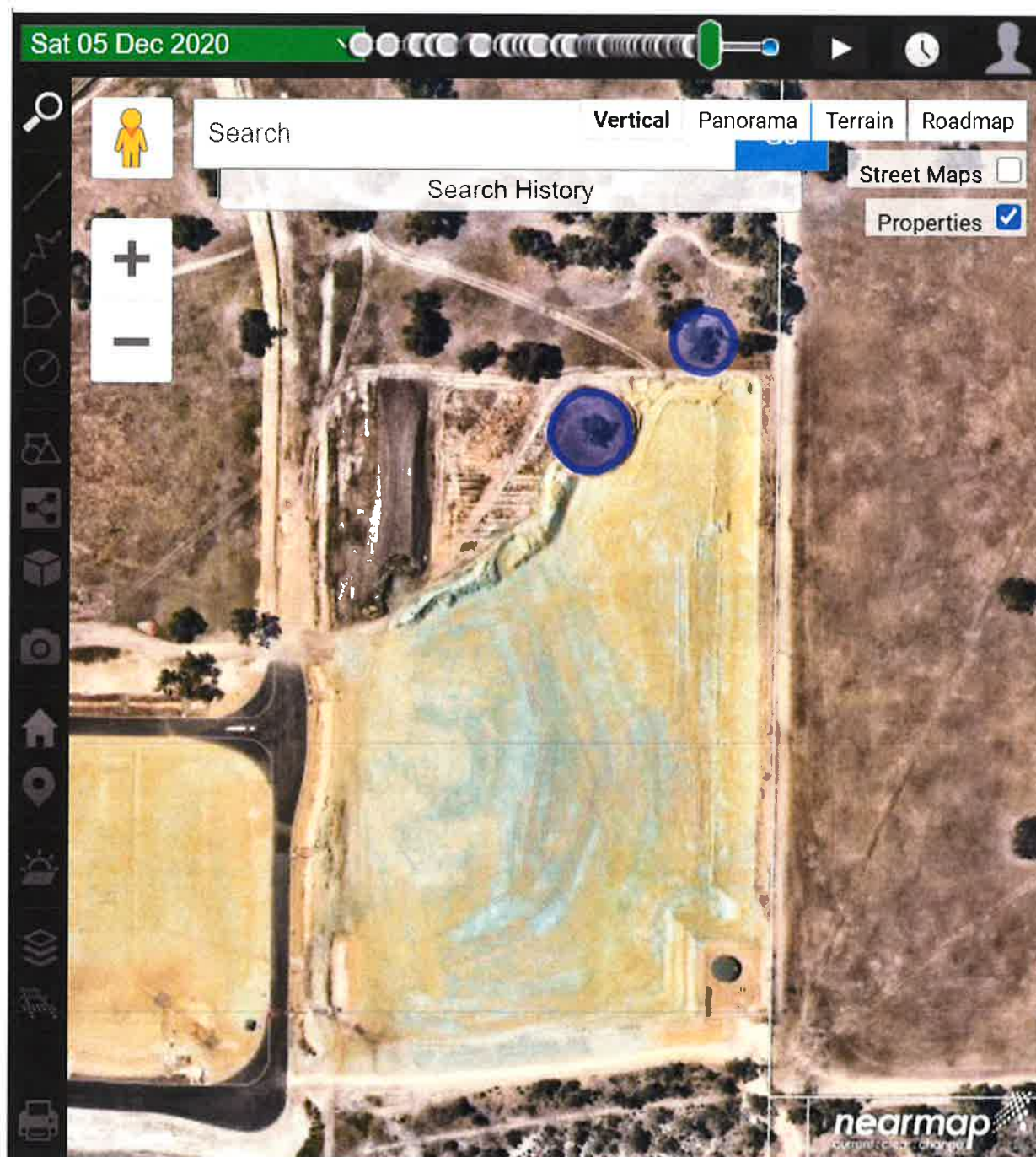
*Image 2 – 640 marked Corymbia Calophylla (Marri) plantings*



*Image 3 – Close-up of cane staked Marri planting*






Annexure D - Evidence of 2x Potential Nesting Trees Currently Retained



Aerial Photo of 2x Potential Nesting Trees, Currently Retained in Place – Image Date 05 December 2020  
(Source: Nearmap)

## Annexure E - Confirmation Email of 6x Artificial Nesting Hollows Installation & Inspections

 Reply  Reply All  Forward



Wed 6/01/2021 2:35 PM

Rachel Weber <Rachel.Weber@emergeassociates.com.au>

Muchea artificial hollows

To Daniel Chatley

Cc Tom Atkinson; Andreas Biddiscombe

Hi Daniel,

As requested for your records here are some details regarding the artificial hollows within Lot 809 Great Northern Highway in Muchea.

Six artificial hollows ('cockatubes') were installed on existing trees on 23 June 2020. The hollows were monitored twice in 2020, on 30 September and 16 December. No evidence of black cockatoo nesting was observed within the hollows.

More detailed information will be provided in the forthcoming hollow monitoring report.

Please let me know if you require any more information.

Kind regards,

Rachel



**Rachel Weber**

Senior Environmental Consultant - Ecology

e [Rachel.Weber@emergeassociates.com.au](mailto:Rachel.Weber@emergeassociates.com.au)

Suite 4, 26 Railway Road, Subiaco WA 6008

w [emergeassociates.com.au](http://emergeassociates.com.au) // t +61 8 9380 4988

We acknowledge all the respective Traditional Owners of Country throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past and present.



We are a preferred supplier under WALGA's Preferred Supply Program for Parks and Gardens Consultancy Services, Environmental Consulting Services (NAM) and Engineering Consulting Services (Water Management Engineering and Arboriculture & Horticultural Consultancy).



Recent recipients of:

2019 UDIA WA EnviroDevelopment Chairman's Choice Award, Allara for Satterley Property Group and Landcorp

2019 UDIA WA Environmental Excellence Award, The Amble Estate for Volk Property Group and Department of Communities

2019 UDIA WA Residential Development 250 lots or less, The Amble Estate for Volk Property Group and Department of Communities

2019 UDIA WA Seniors Living Award, Australis at Rossmoyne for Hames Sharley and Adventist Care

2019 UDIA WA Masterplanned Development Award, Dalvellon Beach Estate for Satterley Property Group and Department of Communities



Annexure F - Black Cockatoo Artificial Hollow Installation and Monitoring Letter

Document Reference: EP17-089(26)--052 MS

Emerge contact: Tom Atkinson

14 January 2021

PERTH OFFICE  
Suite 4, 26 Railway Road  
Subiaco  
Western Australia 6008

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F +61 8 9380 9636  
emergeassociates.com.au

Emerge Environmental Services Pty Ltd ARN  
57144772510 trading as Emmerge Associates

Attention: Daniel Chatley  
Harvis  
Level 9, 190 St George's Terrace,  
PERTH WA 6000

*Delivered by email to: Daniel@harvis.com.au*

Dear Daniel

## **BLACK COCKATOO ARTIFICIAL HOLLOW INSTALLATION AND MONITORING – LOT 809 GREAT NORTHERN HIGHWAY, MUCHEA**

This letter provides the results of black cockatoo artificial hollow installation and monitoring undertaken within Lot 809 Great Northern Highway in Muchea in 2020. The location of the site and the artificial hollows is shown in **Figure 1**.

### **1 BACKGROUND**

Harvis are currently developing the Muchea Industrial Precinct which comprises Lot 809 Great Northern Highway in Muchea, Western Australia (hereafter referred to as the 'site'). Emmerge have previously undertaken multiple ecological surveys within the site and recorded habitat trees for threatened species of black cockatoo listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Implementation of the Muchea Industrial Precinct project is subject to an environmental approval issued under the EPBC Act, which was granted on 8 November 2019 (EPBC 2017/8119). The approval relates to potential impacts of the project on EPBC Act listed matters of national environmental significance (MNES), including threatened species of black cockatoo and the Banksia Woodland ecological community.

The approval includes multiple conditions related to trees with hollows that may be utilised by threatened species of black cockatoo as breeding habitat, including requirements to install, maintain and monitor six artificial breeding hollows within the site. These conditions include the following:

6. *To mitigate and offset the loss of two known nesting hollows within the project area, the approval holder must install, within the conservation reserves and in accordance with artificial hollow installation guidelines, at least six artificial nesting hollows. To maximise the likelihood of the installed artificial nesting hollows being used by black cockatoos, the approval holder must:*
  - a) *install at least six artificial nesting hollows prior to the beginning of the next breeding season following the commencement of the action*
  - b) *undertake adaptive management of the artificial nesting hollows, and as a component of adaptive management, ensure that each installed artificial nesting hollow is:*

- i. *monitored and maintained in accordance with relevant artificial hollow maintenance guidelines for the life of the approval, with maintenance actions undertaken outside of the breeding season and before the commencement of the next breeding season*
  - ii. *not install in a manner that requires additional clearing of black cockatoo habitat or within 10 metres of the edge of the road seals or buildings, to reduce the risk of vehicle strike and human disturbance.*
- c) *prior to clearing the known nesting hollows, have a suitably qualified ecologist undertake a hollow inspection of the known nesting hollows during the peak breeding season across three consecutive years, to confirm whether black cockatoo nesting is occurring. If a suitably qualified ecologist certifies in writing that no black cockatoo nesting occurred in any of the three consecutive years, then compliance with Condition 6d, 6e and 7 is not required.*
  - d) *ensure that each installed artificial nesting hollow is inspected at least twice each year, and at least 4 weeks apart, by a suitably qualified ecologist during the peak breeding season for nine years to record any evidence of use by black cockatoos and to identify any maintenance requirements.*
  - e) *not cease adaptive management of artificial nesting hollows until at least one artificial nesting hollow<sup>1</sup> for each known nesting hollow identified with evidence of black cockatoo nesting under Condition 6.c. has shown evidence of black cockatoo nesting, as verified in writing by a suitably qualified ecologist, for three consecutive years.*
7. *If, after nine years from commencement of the action, the approval holder is unable to provide the verification by a suitably qualified ecologist required under Condition 6.e., the approval holder must, within ten years after commencement of the action:*
    - a) *submit to the Minister, for approval, the details of an offset that meets the requirements of the EPBC Environment Offsets Policy and will compensate for the permanent loss of the two known nesting hollows.*
    - b) *submit to the Department a detailed assessment of the factors that caused the failure to achieve black cockatoo nesting in at least one artificial nesting hollow for each suitable nesting hollow for three consecutive years.*
  8. *All data, enquiries and findings of the monitoring required by Condition 6 must be provided to the Department to contribute to broader research into the use of artificial nesting hollows by black cockatoos. Provision must occur within one year of the verification by a suitably qualified ecologist required under Condition 6.e. being obtained, or within 25 business days after submitting the assessment report required under Condition 7.b.*

## 2 SCOPE OF WORK

Emerge Associates (Emerge) were engaged by Harvis to undertake works to satisfy conditions 6a, 6b, 6d and 8 above. Specifically, the scope of work comprised the following tasks:

- Coordinate the supply and installation of six artificial hollows prior to 1 July 2020 (beginning of breeding season, based on the definitions provided in the EPBC Act approval conditions).
- Monitor artificial hollows twice a year at least four weeks apart during the 2020 peak black cockatoo breeding season (between September and December, based on the definitions provided in the EPBC Act approval conditions).
- Documentation of the artificial hollow monitoring results.

---

<sup>1</sup> *The artificial nesting hollow in use for three consecutive years need not be the same artificial nest hollow each year.*

### 3 METHODS

#### 3.1 Hollow installation

Six artificial hollows ('cockatube' nesting box) were installed on suitable trees within the site on 23 June 2020. One artificial hollow was installed on each tree in a vertical orientation, at approximately 7 m high and on the southern side of the tree. Each artificial hollow contained a wooden chewing post, mulch on the internal floor and a metal mesh ladder.

#### 3.2 Hollow monitoring

Two ecologists from Emerge visited the site to undertake hollow monitoring on 30 September and 16 December 2020.

During these surveys the six artificial hollows were inspected using a drone mounted camera (Mavic Pro2) and/or pole mounted camera (GoPro). The internal hollow inspection searched for signs of hollow use such as chicks, brooding birds or chew marks on the wooden post, nesting material such as feathers and presence of birds perching at the entrance or entering the hollow.

#### 3.3 Data analysis

Following the field survey the photographs of the artificial hollows were further examined for signs of use by black cockatoos.

### 4 RESULTS AND DISCUSSION

#### 4.1 Hollow installation

A total of six artificial hollows were installed within the site, the locations of which are shown in **Figure 1**. Photographs of each artificial hollow are provided as **Attachment 2**.

#### 4.2 Hollow monitoring

None of the six artificial hollows installed within the site were observed to be in use by black cockatoos or any other fauna species during the 2020 monitoring events.

Secondary evidence of bird activity in the form of chew marks was noted on three of the artificial hollows during the December monitoring event. The chew marks could not be attributed to a particular bird species, as multiple species produce chew marks for a number of reasons. Photographs of each artificial hollow from each monitoring event are provided as **Attachment 2**.

All six artificial hollows were in good condition and securely installed with no maintenance required at this time.

A summary of the results of the artificial hollow monitoring is provided in **Table 1**.

**Table 1: Summary of the artificial hollow monitoring results**

Tree ID	Monitoring results	
	30/09/2020	16/12/2020
844B	No evidence of use by black cockatoos (or any other bird species).	No evidence of use by black cockatoos (or any other bird species).
845B	No evidence of use by black cockatoos (or any other bird species).	Chew marks were observed but could not be attributed to a species.
849B	No evidence of use by black cockatoos (or any other bird species).	Chew marks were observed but could not be attributed to a species.
850B	No evidence of use by black cockatoos (or any other bird species).	No evidence of use by black cockatoos (or any other bird species).

**Table 2: Summary of the artificial hollow monitoring results (continued)**

Tree ID	Monitoring results	
	30/09/2020	16/12/2020
854B	No evidence of use by black cockatoos (or any other bird species).	No evidence of use by black cockatoos (or any other bird species).
855B	No evidence of use by black cockatoos (or any other bird species).	Chew marks were observed but could not be attributed to a species.

## 5 CONCLUSIONS

A total of 6 artificial hollows were installed within the site in June 2020.

No active use of the artificial hollows by black cockatoos or any other fauna species was recorded during the 2020 monitoring events. Secondary evidence of bird activity in the form of chew marks was noted on three of the artificial hollows. However, the chew marks could not be attributed to a particular bird species.

All artificial hollows were in good condition with no maintenance required at this time.

### Summary and closing

We trust that this letter provides sufficient information on the artificial hollow monitoring in 2020. Should you have any questions regarding the content of this letter, please do not hesitate to contact the undersigned.

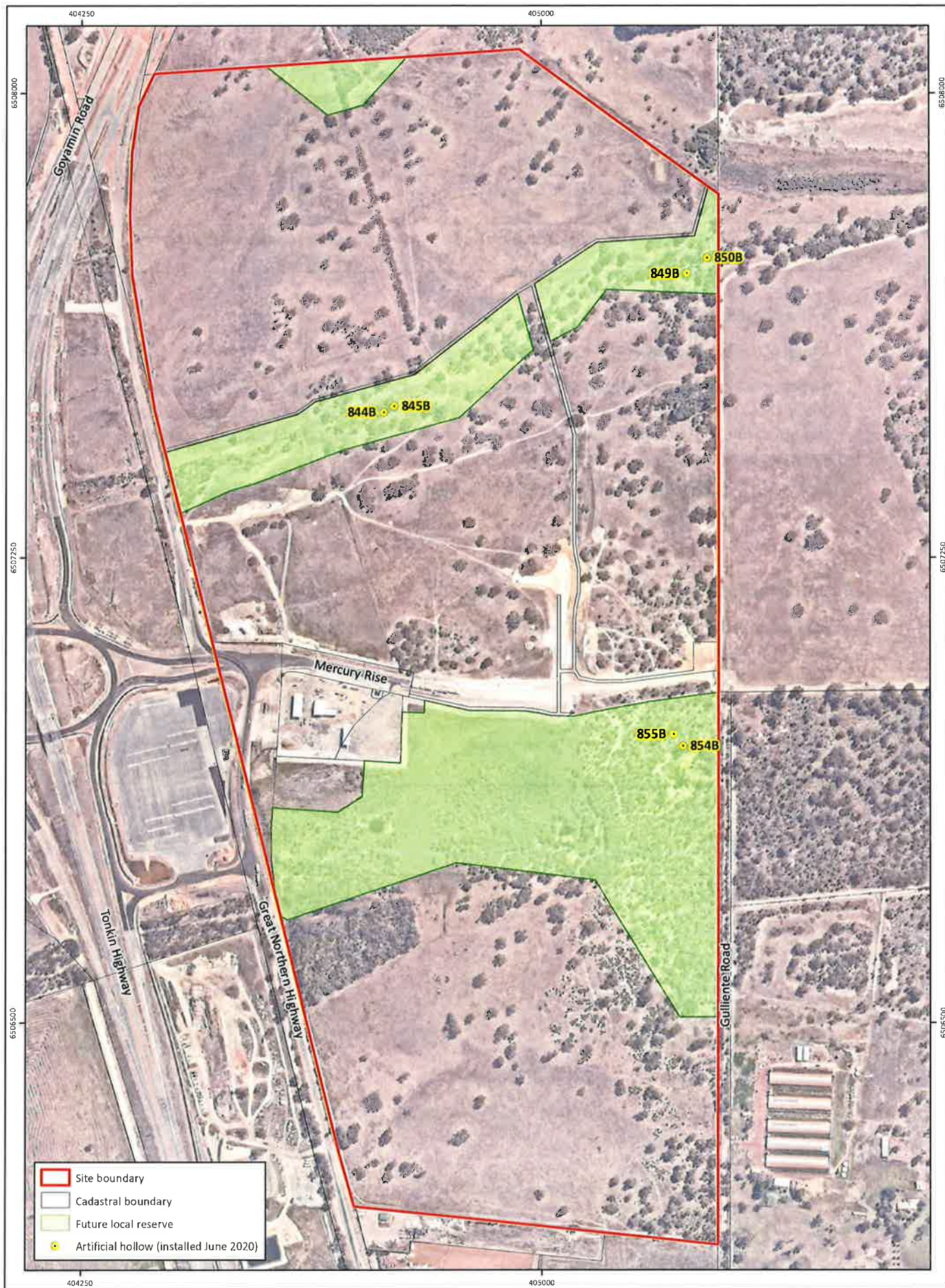
Yours sincerely  
Emerge Associates



**Tom Atkinson**  
PRINCIPAL ENVIRONMENTAL CONSULTANT

Encl: Figure 1: Artificial Black Cockatoo Hollow Locations  
Attachment 1: Photographs of Artificial Hollows (Thomas Contracting 2020)  
Attachment 2: Photographs of Artificial Hollow Monitoring





**Figure 1: Artificial Black Cockatoo Hollow Location**

**Project:** Black Cockatoo Hollow Monitoring  
 Lot 809 Great Northern Highway, Muchea

**Client:** Harvis Capital Pty Ltd

**Plan Number:** EP17-089(26)-F85  
**Drawn:** GAR  
**Date:** 12/01/2021  
**Checked:** MS  
**Approved:** ADB  
**Date:** 15/01/2021



0 100 200  
 Metres  
 Scale: 1:8,000@A4  
 GDA 1994 MGA Zone 50

**emerge**  
 ASSOCIATES

# Attachment A

Photographs of Artificial Hollows (Thomas Contracting 2020)





## COCKATUBE INSTALLATION

### PHOTO RECORDS

DATE	23 June 2020	TREE NO.	Muchea - 844 box 528
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#### NOTES

Easting 404,574m  
Northing 6,507,488

PHOTO # 1



PHOTO # 2



## COCKATUBE INSTALLATION

### PHOTO RECORDS

DATE	23 June 2020	TREE NO.	Muchea - 845 box 482
------	--------------	----------	----------------------

#### NOTES

Easting 405,216m  
Northing 6,506,975m

PHOTO # 1	PHOTO # 2
	

## COCKATUBE INSTALLATION

### PHOTO RECORDS

DATE	23 June 2020	TREE NO.	Muchea - 845 box 676
------	--------------	----------	----------------------

#### NOTES

Easting 404,760m  
Northing 6,507,490m

PHOTO # 1



PHOTO # 2



## COCKATUBE INSTALLATION

### PHOTO RECORDS

DATE	23 June 2020	TREE NO.	Muchea - 849 box 685
------	--------------	----------	----------------------

#### NOTES

Easting 405,237m  
Northing 6,507,700m

PHOTO # 1



PHOTO # 2





## COCKATUBE INSTALLATION

### PHOTO RECORDS

DATE	23 June 2020	TREE NO.	Muchea - 850 box 661
------	--------------	----------	----------------------

#### NOTES

Easting 405,264m  
Northing 6,507,724m

PHOTO # 1





PHOTO # 2



**COCKATUBE INSTALLATION**  
**PHOTO RECORDS**

<b>DATE</b>	23 June 2020	<b>TREE NO.</b>	Muchea - 855 box 686
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<b>NOTES</b>
Easting 405,218m Northing 6,506,970m

<b>PHOTO # 1</b>	<b>PHOTO # 2</b>
	

# Attachment B

Photographs of Artificial Hollow Monitoring





**Tree ID**

**844B**

**Project no.:** EP17-089(26)

**Inspection date** 30/09/2020

**Occupancy:** None

**Signs of use:** None



**Tree ID**

**844B**

**Project no.:** EP17-089(26)

**Inspection date** 16/12/2020

**Occupancy:** None

**Signs of use:** None



**Tree ID**

**845B**

**Project no.:** EP17-089(26)

**Inspection date** 30/09/2020

**Occupancy:** None

**Signs of use:** None





**Tree ID**

**845B**

**Project no.:** EP17-089(26)

**Inspection date** 16/12/2020

**Occupancy:** None

**Signs of use:** Chew marks



**Tree ID**

**849B**

**Project no.:** EP17-089(26)

**Inspection date** 30/09/2020

**Occupancy:** None

**Signs of use:** None





**Tree ID**

**849B**

**Project no.:** EP17-089(26)

**Inspection date** 16/12/2020

**Occupancy:** None

**Signs of use:** Chew marks



**Tree ID**

**850B**

**Project no.:** EP17-089(26)

**Inspection date:** 30/09/2020

**Occupancy:** None

**Signs of use:** None





**Tree ID**

**850B**

**Project no.:** EP17-089(26)

**Inspection date:** 16/12/2020

**Occupancy:** None

**Signs of use:** None



**Tree ID**

**854B**

**Project no.:** EP17-089(26)

**Inspection date** 30/09/2020

**Occupancy:** None

**Signs of use:** None





**Tree ID**

**854B**

**Project no.:** EP17-089(26)

**Inspection date** 16/12/2020

**Occupancy:** None

**Signs of use:** None



**Tree ID**

**855B**

**Project no.:** EP17-089(26)

**Inspection date** 30/09/2020

**Occupancy:** None

**Signs of use:** None



**Tree ID**

**855B**

**Project no.:** EP17-089(26)

**Inspection date** 16/12/2020

**Occupancy:** None

**Signs of use:** Chew marks



Annexure G – Black Cockatoo Natural Hollow Monitoring Results Letter (3-Years)



Document Reference: EP17-089(26)--051 RAW

Emerge contact: Tom Atkinson

15 January 2021

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Suite 4, 26 Railway Road  
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Western Australia 6008

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F +61 8 9380 9636  
emergeassociates.com.au

Emerge Environmental Services Pty Ltd ABN  
57144772510 trading as Emmerge Associates

Attention: Daniel Chatley  
Harvis  
Level 9, 190 St George's Terrace,  
PERTH WA 6000

*Delivered by email to: Daniel@harvis.com.au*

Dear Daniel

## **BLACK COCKATOO NATURAL HOLLOW MONITORING – LOT 809 GREAT NORTHERN HIGHWAY, MUCHEA**

This letter provides the results of the natural black cockatoo hollow monitoring undertaken within Lot 809 Great Northern Highway in Muchea between 2018 and 2020. The location of the site and the natural hollows is shown in **Figure 1**.

### **1 BACKGROUND**

Harvis are currently developing the Muchea Industrial Precinct which comprises Lot 809 Great Northern Highway in Muchea, Western Australia (hereafter referred to as the 'site'). Emmerge have previously undertaken multiple ecological surveys within the site and recorded habitat trees for threatened species of black cockatoo listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Implementation of the Muchea Industrial Precinct project is subject to an environmental approval issued under the EPBC Act, which was granted on 8 November 2019 (EPBC 2017/8119). The approval relates to potential impacts of the project on EPBC Act listed matters of national environmental significance (MNES), including threatened species of black cockatoo and the Banksia Woodland ecological community.

The approval includes multiple conditions related to trees with hollows that may be utilised by threatened species of black cockatoo as breeding habitat, including requirements to monitor two 'known nesting hollows' within the site. These conditions include the following:

6. *To mitigate and offset the loss of two known nesting hollows within the project area, the approval holder must install, within the conservation reserves and in accordance with artificial hollow installation guidelines, at least six artificial nesting hollows. To maximise the likelihood of the installed artificial nesting hollows being used by black cockatoos, the approval holder must:*
  - a) *install at least six artificial nesting hollows prior to the beginning of the next breeding season following the commencement of the action*
  - b) *undertake adaptive management of the artificial nesting hollows, and as a component of adaptive management, ensure that each installed artificial nesting hollow is:*

- i. *monitored and maintained in accordance with relevant artificial hollow maintenance guidelines for the life of the approval, with maintenance actions undertaken outside of the breeding season and before the commencement of the next breeding season*
- ii. *not install in a manner that requires additional clearing of black cockatoo habitat or within 10 metres of the edge of the road seals or buildings, to reduce the risk of vehicle strike and human disturbance.*
- c) *prior to clearing the known nesting hollows, have a suitably qualified ecologist undertake a hollow inspection of the known nesting hollows during the peak breeding season across three consecutive years, to confirm whether black cockatoo nesting is occurring. If a suitably qualified ecologist certifies in writing that no black cockatoo nesting occurred in any of the three consecutive years, then compliance with Condition 6d, 6e and 7 is not required.*
- d) *ensure that each installed artificial nesting hollow is inspected at least twice each year, and at least 4 weeks apart, by a suitably qualified ecologist during the peak breeding season for nine years to record any evidence of use by black cockatoos and to identify any maintenance requirements*
- e) *not cease adaptive management of artificial nesting hollows until at least one artificial nesting hollow<sup>1</sup> for each known nesting hollow identified with evidence of black cockatoo nesting under Condition 6.c. has shown evidence of black cockatoo nesting, as verified in writing by a suitably qualified ecologist, for three consecutive years.*
- 7. *If, after nine years from commencement of the action, the approval holder is unable to provide the verification by a suitably qualified ecologist required under Condition 6.e., the approval holder must, within ten years after commencement of the action:*
  - a) *submit to the Minister, for approval, the details of an offset that meets the requirements of the EPBC Environment Offsets Policy and will compensate for the permanent loss of the two known nesting hollows*
  - b) *submit to the Department a detailed assessment of the factors that caused the failure to achieve black cockatoo nesting in at least one artificial nesting hollow<sup>1</sup> for each suitable nesting hollow for three consecutive years.*
- 8. *All data, enquiries and findings of the monitoring required by Condition 6 must be provided to the Department to contribute to broader research into the use of artificial nesting hollows by black cockatoos. Provision must occur within one year of the verification by a suitably qualified ecologist required under Condition 6.e. being obtained, or within 25 business days after submitting the assessment report required under Condition 7.b.*

## 2 SCOPE OF WORK

Emerge Associates (Emerge) were engaged by Harvis to undertake surveys and provide a report to satisfy conditions 6c and 8 above.

Specifically, the scope of work comprised the following tasks:

- Monitor two natural hollows<sup>2</sup> prior to clearing for one year (2019) using a drone mounted camera and/or pole mounted camera in the peak breeding season (between September and December).

---

<sup>1</sup> The artificial nesting hollow in use for three consecutive years need not be the same artificial nest hollow each year.

<sup>2</sup> These hollows were initially recorded in 2018 as detailed in **Section 3.1.1**

- Monitor two natural hollows prior to clearing for one year (2020) using a drone mounted camera and/or pole mounted camera in the peak breeding season (between September and December).
- Document results of three years of hollow monitoring data, comprising monitoring undertaken by Bamford Consulting Ecologists in 2018 and monitoring undertaken by Emerge in 2019 and 2020.

### 3 METHODS

#### 3.1 Hollow monitoring

##### 3.1.1 Bamford Consulting Ecologists (2018)

Bamford Consulting Ecologists (BCE) visited the site to undertake a targeted black cockatoo survey on 7 August, 11 and 13 September 2018. Tree hollows that were deemed potentially suitable for breeding by species of black cockatoo through a ground-based assessment were inspected and assessed internally on 5 November 2018 which falls within the *Calyptrorhynchus latirostris* (Carnaby's cockatoo) peak breeding season (1 September to 31 December).

During the survey BCE inspected twelve trees with potentially suitable hollow(s) using a pole-mounted camera (GoPro). During the inspection hollows were assessed for their suitability for breeding by black cockatoos and for evidence of hollow use such as chicks, brooding birds or chew marks around the hollow entrance, nesting material such as feathers and presence of birds perching at the entrance or entering the hollow. Two trees were identified as containing hollows which were considered to be suitable for use by black cockatoos.

No black cockatoos were recorded nesting within any of the inspected hollows. The two trees with hollows considered suitable for use by black cockatoos (each tree contained one such hollow each) were observed by Bamford to have chew marks around their respective hollow entrances, which may have been caused by a bird species, however the chew marks could not be attributed to a particular bird species, as multiple species produce chew marks for a number of reasons. These two hollows are referred to as 'known nesting hollows' in the EPBC Act Conditions, and their location is shown in **Figure 1**. These hollows are referred to as 'natural hollows' within this report and have been the subject of subsequent hollow monitoring required under Condition 6c of the EPBC Act approval.

##### 3.1.2 Emerge Associates (2019 – 2020)

Two ecologists from Emerge visited the site to undertake hollow monitoring on 15 October 2019 and 30 September, 5 October and 16 December 2020 which falls within the *Calyptrorhynchus latirostris* (Carnaby's cockatoo) peak breeding season (1 September to 31 December).

During these surveys the two natural hollows were inspected using a drone mounted camera (Mavic Pro2) and/or pole mounted camera (GoPro). The internal hollow inspection searched for signs of hollow use such as chicks, brooding birds or chew marks around the hollow entrance, nesting material such as feathers and presence of birds perching at the entrance or entering the hollow.

#### 3.2 Data analysis

Following the field survey the photographs of the natural hollows were further examined for signs of use by black cockatoos. This included comparison to hollows from other locations which have been confirmed to be used for breeding by black cockatoos as well as technical review of the hollow photos by fauna specialist subconsultant Greg Harewood.

### 4 RESULTS AND DISCUSSION

No direct use of the natural hollows by black cockatoos was observed during monitoring between 2018 and 2020.

Secondary evidence of hollow occupancy by a bird species in the form of chew marks was observed on both natural hollows during all monitoring events. The observed chew marks around the entrance appeared consistent across all three monitoring years with no fresh chew marks noted. Additionally, a chewed stick was observed resting above the hollow in tree ID 1 during the 2020 monitoring. None of the chew marks could be attributed to a bird species, as multiple species produce chew marks for a number of reasons.

Feather and eggshell debris of an unknown bird species were recorded at the base of the natural hollow within tree ID 1 during the 2018 and 2020 monitoring events. It is considered likely that the eggshell observed in 2020 is consistent with the eggshell recorded in 2018. The fact that eggshell and feather debris was not observed in 2019 is likely a limitation of the camera used at the time which was of a lower resolution.

Both the eggshell and the feather observed within the tree ID 1 hollow were assessed to be inconsistent with that of black cockatoos (Bamford Consulting Ecologists 2018). Therefore, the feather and the eggshell are most likely evidence that the hollow was in use by a bird species other than black cockatoos.

The hollow within tree ID 2 contained cobwebs during the 2018 monitoring event, suggesting that was not used during this breeding season. During the 2020 monitoring event duck feathers were observed at the base of this hollow, suggesting that was occupied for breeding by ducks during the 2020 breeding season.

A summary of the results of the hollow monitoring for each year is provided in **Table 1** below and photographs of each natural hollow are provided as **Attachment 1**.

**Table 1: Summary of the natural hollow monitoring results**

Tree ID	Monitoring results		
	2018 (Bamford Consulting Ecologists)	2019 (Emerge)	2020 (Emerge)
1	<ul style="list-style-type: none"> <li>Chew marks were observed at the hollow entrance but could not be attributed to a species.</li> <li>Feather and eggshell debris was seen at the base of the hollow. Neither the eggshell or feather appeared consistent with black cockatoo from photographs (Bamford Consulting Ecologists 2018).</li> </ul>	<ul style="list-style-type: none"> <li>Chew marks were observed at the hollow entrance but could not be attributed to a species. The chew marks appeared consistent with the chew marks observed in 2018.</li> </ul>	<ul style="list-style-type: none"> <li>Chew marks were observed at the hollow entrance but could not be attributed to a species. The chew marks appeared consistent with the chew marks observed in 2018 and 2019.</li> <li>A branch was present across the hollow entrance and appeared have been chewed but the chew marks could not be attributed to a species.</li> <li>Eggshell debris observed at the base of the hollow.</li> <li>Eggshell appears to be consistent with the eggshell observed by Bamford Consulting Ecologists (2018).</li> </ul>
2	<ul style="list-style-type: none"> <li>Chew marks were observed at the hollow entrance but could not be attributed to a species.</li> <li>No evidence of nest debris was observed at the base of the hollow.</li> <li>Cobwebs inside the hollow indicated that hollow was not currently in use (Bamford Consulting Ecologists 2018).</li> </ul>	<ul style="list-style-type: none"> <li>Chew marks were observed at the hollow entrance but could not be attributed to a species. The chew marks appeared consistent with the chew marks observed in 2018.</li> <li>No evidence of nest debris was observed at the base of the hollow.</li> </ul>	<ul style="list-style-type: none"> <li>Chew marks were observed at the hollow entrance but could not be attributed to a species. The chew marks appeared consistent with the chew marks observed in 2018.</li> <li>Feathers attributed to a duck species were observed at the base of the hollow.</li> <li>Cobwebs inside the hollow indicated that hollow was not currently in use.</li> </ul>



## 5 CONCLUSIONS

No use of the two natural hollows by any species of black cockatoo was observed during any of the monitoring events between 2018 and 2020. Both hollows were noted to contain chew marks but they could not be attributed to a particular bird species. Multiple signs of use of both hollows by bird species other than black cockatoos were recorded, including feathers and eggshell debris.

Monitoring of the two natural hollows has been completed during the annual peak breeding season for three consecutive years (2018, 2019 and 2020). Based on the results of this monitoring and interpretation of the inspection photographs by technical experts, no confirmed evidence of black cockatoo nesting was recorded within either hollow during this period.

## 6 SUMMARY AND CLOSING

We trust that this letter provides sufficient information on the hollow monitoring undertaken between 2018 and 2020. Should you have any questions regarding the content of this letter, please do not hesitate to contact the undersigned.

Yours sincerely  
Emerge Associates



**Tom Atkinson**  
PRINCIPAL ENVIRONMENTAL CONSULTANT

Encl: Figure 1: Black Cockatoo Hollow Locations  
Attachment 1: Photographs of Natural Hollows

**References**

Bamford Consulting Ecologists 2018, *Muchea Industrial Precinct Black-cockatoo and Black Striped Minnow Assessment*.



**Figure 1: Black Cockatoo Hollow Location**

**Project:** Black Cockatoo Hollow Monitoring  
**Client:** Lot 809 Great Northern Highway, Muchea  
 Harvis Capital Pty Ltd

**Plan Number:** EP17-089(26)-F86  
**Drawn:** GAR  
**Date:** 12/01/2021  
**Checked:** MS  
**Approved:** ADB  
**Date:** 15/01/2021



0 100 200  
 Metres  
 Scale: 1:8,000@A4  
 GDA 1994 MGA Zone 50

**emerge**  
 ASSOCIATES

# Attachment A

Photographs of Natural Hollows





<b>Tree ID</b>	<b>1</b>	
	Project no.: EP17-089(26)	Tree species: <i>Corymbia calophylla</i>
	No suitable hollows: 1	Signs of use: Chew marks, feather and eggshell debris

Inspection date: 05/11/2018 (Bamford Consulting Ecologists)



<b>Tree ID</b>	<b>1</b>
----------------	----------

<b>Inspection date:</b> 15/10/2019 (Emerge Associates)
--





**Tree ID**

**1**

**Inspection date:** 7/08/2020, 11/08/2020 and 13/09/2020 (Emerge Associates)



**Tree ID**

**2**

**Project no.:** EP17-089(26)

**Tree species:** *Corymbia calophylla*

**No. suitable hollows:** 1

**Signs of use:** Chew marks, duck feathers

**Inspection date:** 05/11/2018 (Bamford Consulting Ecologists)





<b>Tree ID</b>	<b>2</b>
----------------	----------

<b>Inspection date:</b> 15/10/2019 (Emerge Associates)
--



**Tree ID**

**2**

**Inspection date:** 7/08/2020, 11/08/2020 and 13/09/2020 (Emerge Associates)



## Annexure H - Email (of Letter) Advising Commencement of Action

 Reply  Reply All  Forward



Fri 20/12/2019 12:12 PM

Daniel Chatley

Commencement of Action: EPBC 2017/8119 - Muchea Industrial Park

To: matthew.kuntsi@environment.gov.au

Cc: Andreas Biddiscombe

 You replied to this message on 20/12/2019 3:07 PM.



Dear Matthew,

Further to the Approval Decision for EPBC 2017/8119, the attached correspondence has been mailed to the Assistant Secretary, CC'd to you here for reference.

Kind Regards, Dan Chatley

**Daniel Chatley | Senior Development Manager**

Level 9, 190 St George's Terrace, Perth WA 6000 | PO Box 7980, Cloisters Square PO, Perth WA 6850  
M: 0418 881 658 | F: + 61 8 6381 9030 | [daniel@harvis.com.au](mailto:daniel@harvis.com.au) | [www.harvis.com.au](http://www.harvis.com.au)

**H A R V I S**

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16<sup>th</sup> December 2019

Mr Declan O'Connor-Cox  
A/g Assistant Secretary  
Environmental Approvals Division  
GPO Box 787  
Canberra ACT 2601

CC (by email): [matthew.kuntsi@environment.gov.au](mailto:matthew.kuntsi@environment.gov.au)

Dear Mr O'Connor-Cox

**Commencement of Action: EPBC 2017/8119**  
**Muchea Industrial Park, Lot 809 Great Northern Highway, Muchea, WA**

In accordance with the requirements of the Approval Decision for EPBC 2017/8119, I am writing to inform you that we are Commencing the Action as of Monday 16<sup>th</sup> December 2019.

The contact person for administration of the approval decision by Harvis will be Daniel Chatley, who can be contacted on 041 888 1658 or [daniel@harvis.com.au](mailto:daniel@harvis.com.au).

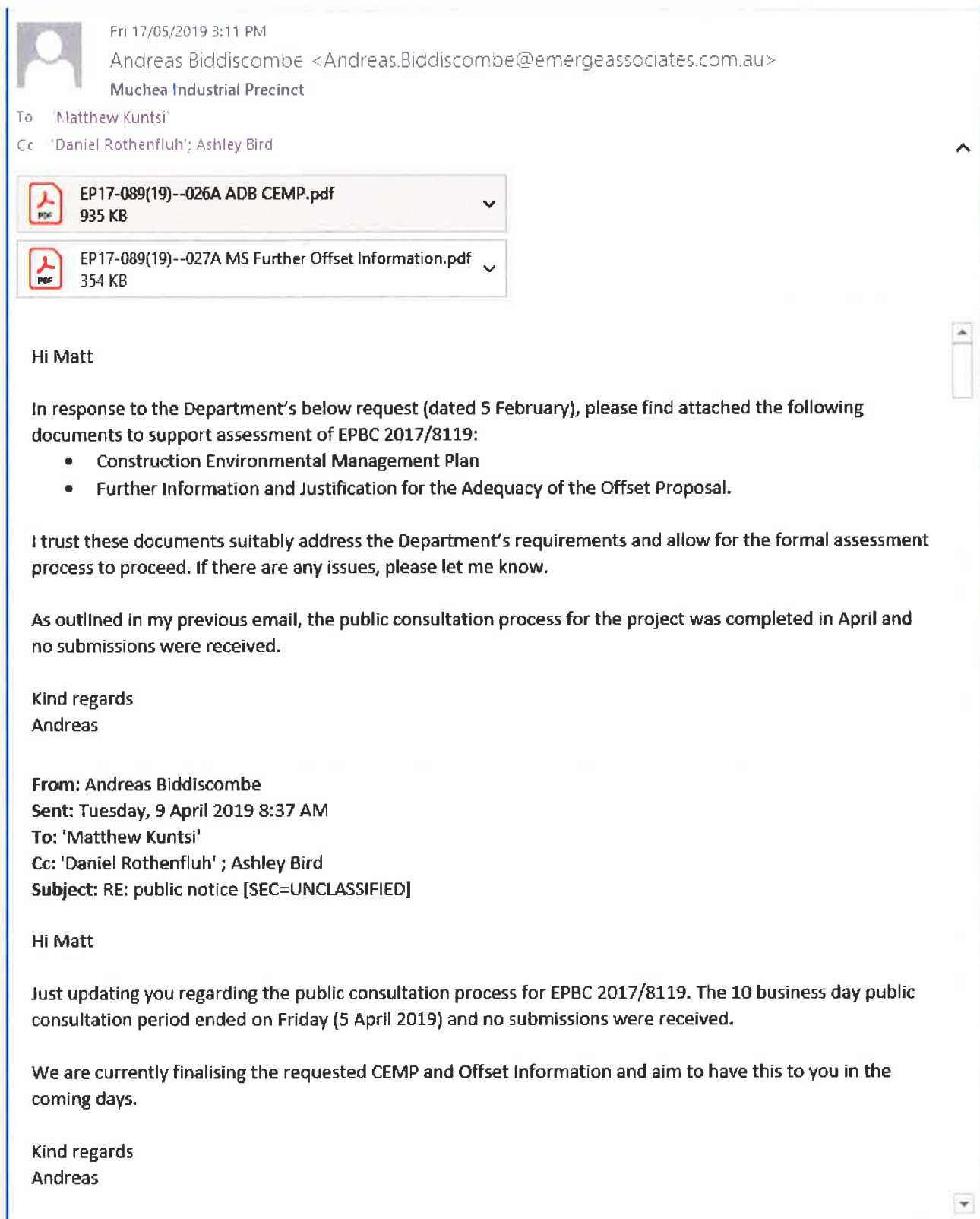
Yours sincerely

A blue ink handwritten signature, appearing to be 'Kelvin Flynn', with a long horizontal stroke extending to the right.

Kelvin Flynn  
Managing Director  
Harvis Capital Pty Ltd,  
As trustee for the Northern Gateway Unit Trust No 2



Annexure I - Email record of Submitted CEMP to Department



## Annexure J - Email Advising of CEMP Upload

Reply Reply All Forward



Fri 20/12/2019 3:08 PM

Daniel Chatley

Commencement of Action: EPBC 2017/8119 - Muchea Industrial Park

To: matthew.kuntsi@environment.gov.au

Cc: 'Andreas Biddiscombe'

Hi Matthew, for you records, please see below evidence that per the conditions of Approval Decision for EPBC 2017/8119, the CEMP document as approved by the Department (during the process of the EPBC), has been uploaded to the public domain of our project website and is available to download by the public.

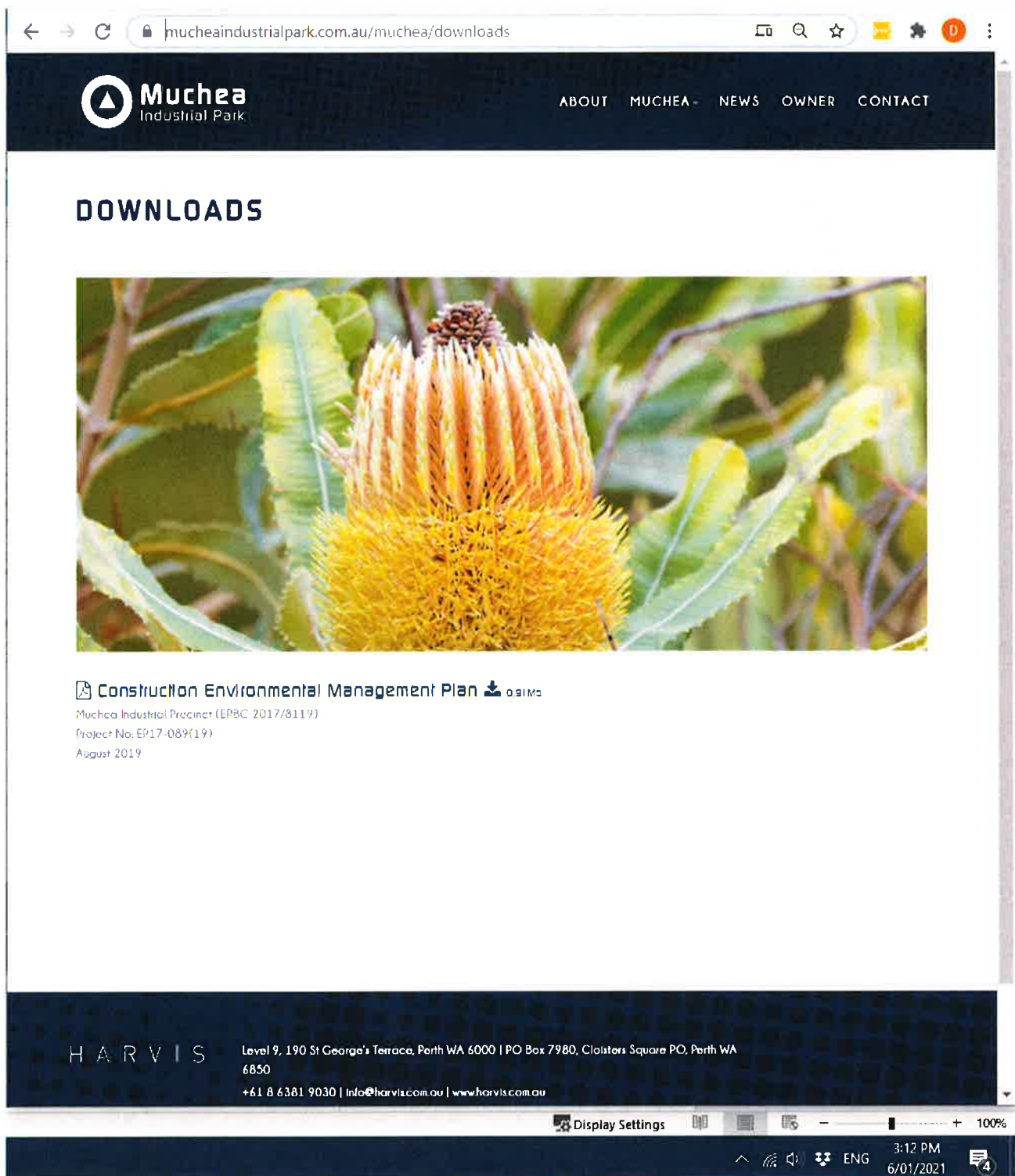


Kind Regards, Dan Chatley

**Daniel Chatley | Senior Development Manager**

Level 9, 190 St George's Terrace, Perth WA 6000 | PO Box 7980, Cloisters Square PO, Perth WA 6850  
M: 0418 881 658 | P: + 61 8 6381 9030 | E: [daniel@harvis.com.au](mailto:daniel@harvis.com.au) | W: [www.harvis.com.au](http://www.harvis.com.au)

Annexure K - Evidence of CEMP Remaining Published to Website (ongoing)



Screen-shot @ 6<sup>th</sup> January 2021

[www.mucheaindustrialpark.com.au/muchea/downloads](http://www.mucheaindustrialpark.com.au/muchea/downloads)

Annexure L – Table 3: Conformance with Construction Environmental Management Plan



Table3: Conformance with Construction Environmental Management Plan

Reference code	Management Action	Compliance Status	Evidence / Comment
CEMP A1	All staff and on-site personnel to be inducted on CEMP and associated management actions before commencement on-site.	Compliant	Contractor (Wormall Civil) inducted all staff and on-site personnel to all matters of the project including CEMP requirements. An excerpt of the list of Inductees is attached. See Annexure M – Excerpt from Wormall Induction Register.
CEMP B1	Local reserve boundaries to be delineated on-site using appropriate methods (e.g. star pickets and coloured tape) to avoid encroachment and unintended clearing within reserves.	Compliant	Area within Southern Reserve where unintended clearing had a (low) risk to occur, was surveyed and pre-fenced with the permanent 'Conservation Area Fencing' (ie the northern boundary of the Banksia Woodlands complex). See Annexure N – Extent of Installed Permanent Southern Reserve Fencing.
CEMP B2	To ensure all potential habitat trees within local reserves are retained, mark all potential habitat trees that are within the local reserve but adjacent to its boundary.	N/A	The current limit of works did not include works adjacent the potential habitat trees within the Southern Reserve. Any potential habitat trees to be retained within the Southern Reserve were well within the permanent 'Conservation Area Fencing'. See Annexure N – Extent of Installed Permanent Southern Reserve Fencing.
CEMP B3	Where trees are proposed to be opportunistically retained within industrial development area, trees are to be marked.	Compliant	Trees proposed to be opportunistically retained were marked and currently remain. Wormall utilised Clearing Permit system with trees all trees potentially to be retained being fenced and/or marked prior to clearing. See Annexure O – Wormall Clearing Permit See Annexure P – Identified Tree Retention Review
CEMP B4	Avoid all trees marked for retention within industrial development area during earthworks and civil construction.	Compliant	No trees 'marked for retention' during works were cleared. Two trees were pre-identified for 'on-site review' for suitability for retention due to detailed engineering design identified level/services issues. One of those trees was selectively deemed incapable of being retained and was cleared under instruction. See Annexure P – Identified Tree Retention Review
CEMP B5	Following the completion of earthworks and civil construction works, confirm all tree identified for retention have been retained.	N/A	Works ongoing. Trees subject to 'possible retention' are still subject to final civil design and lot delivery across the majority of the site.
CEMP C1	Fauna specialist to inspect all trees to be cleared to confirm no fauna is present.	Compliant	Works ongoing. No clearing works of nesting trees was undertaken during current reported scope. However, Emerge were engaged to undertake a pre-clearing check during the initial clearing works. See Annexure Q – Email evidence of Emerge Engagement to Fauna Inspection

Reference code	Management Action	Compliance Status	Evidence / Comment
CEMP C2	In the instance that fauna is observed nesting in a tree, clearing is not to occur until it has been verified that the tree is no longer in use.	N/A	No fauna reported observed nesting in any cleared trees. No clearing works of nesting trees was undertaken during current reported scope. However, Emerge were engaged to undertake a pre-clearing check during the initial clearing works. <i>See Annexure Q– Email evidence of Emerge Engagement to Fauna Inspection</i>
CEMP C3	Fauna specialist to be onsite during clearing works.	N/A	Emerge were engaged to undertake a pre-clearing check during the initial clearing works. <i>See Annexure Q– Email evidence of Emerge Engagement to Fauna Inspection</i>
CEMP C4	Clearing of vegetation and fauna habitat to occur in a single direction.	N/A	Clearing during the reporting period was typically of isolated/scattered trees as opposed to broad-scale clearing of vegetation. Emerge were engaged to undertake a pre-clearing check during the initial clearing works. <i>See Annexure Q– Email evidence of Emerge Engagement to Fauna Inspection</i>
CEMP C5	If any injured fauna species are encountered the DBCA's Wild Care (08 9474 9055) is to be contacted.	N/A	No injured fauna encountered by Emerge or Contractor.
CEMP C6	Speed limit of 40 km/hr will be applied within site for all construction vehicles to reduce risk of fauna strikes and minimise dust generation.	Compliant	Wormall enforces a site-wide speed limit restriction of 15km/hr (<40km/hr required). No breaches of Wormall site vehicle speed protocols were reported.
CEMP C7	Water carts and/or surface stabilisation measures (e.g. hydro mulch) will be used to minimise dust generated from cleared areas to minimise impacts on fauna health and fauna habitat.	Compliant	Wormall's standard site-wide Dust Management Plan provides for the use of various measures including water-carts. Water-cart dust suppression was provided during installation of the works, and no breaches of site dust management protocols were reported. Hydro-mulch was installed over the balance of earth-worked site area at completion of the current contract stage. <i>See Annexure R – Extract from Dust Management Plan.</i> <i>See Annexure S – Hydro-Mulched Areas.</i>
CEMP D1	Install minimum 3 metre firebreak within internal boundary of local reserves to provide access for emergency vehicles and a reserve management interface.	N/A	Ongoing – Local Reserves have not yet been created for final condition/hand-over. Interim 3m fire-breaks are installed for the broader land-holding (ie within paddock edges), including along the northern-edge of the Southern Conservation Reserve (at fence line). Ongoing installation and management of firebreaks will continue to occur until such time as ease local reserve is handed-over to local authority.
CEMP D2	Inspect firebreak to monitor for any debris or vegetation growth.	Compliant	Interim land-holding fire breaks (including to yet to be handed over future conservation reserves) are maintained and monitored annually to required standards.
CEMP D3	Install reserve fencing to restrict public access to reserve, generally consistent with the design specification provided in Appendix B.	Compliant	Specifications for 'Conservation Area Fencing' included as scope for constructed work. Permanent 'Conservation Area Fencing' constructed along entire southern boundary of (now publicly accessible) Mercury Rise. <i>See Annexure N – Extent of Installed Permanent Southern Reserve Fencing.</i>

Reference code	Management Action	Compliance Status	Evidence / Comment
CEMP D4	Inspect constructed reserve boundaries and associated fencing to monitor for damage.	Compliant	Regularly undertaken during attendance to fortnightly construction progress meetings.
CEMP D5	During periods of civil construction work adjacent to reserve boundaries, undertake reserve boundary inspections to monitor for damage and/or encroachment.	Compliant	Regularly undertaken during attendance to fortnightly construction progress meetings.
CEMP E1	Access of vehicles to be restricted to construction areas only and excluded from local reserves. To be included as part of site induction package.	Compliant	Contractor (Wormall Civil) inducted all staff and on-site personnel to all matters of the project including CEMP requirements. An excerpt of the list of Inductees is attached. See <i>Annexure M – Excerpt from Wormall Induction Register</i> .
CEMP E2	All machinery, vehicles and tools to be cleaned down before entering the site and when leaving the site. To be included as part of site induction package.	Compliant	Contractor (Wormall Civil) inducted all staff and on-site personnel to all matters of the project including CEMP requirements. An excerpt of the list of Inductees is attached. See <i>Annexure M – Excerpt from Wormall Induction Register</i> .
CEMP E3	Any fill brought onto site to be disease free.	NA	No fill imported into the site for works pertaining to the EPBC 2017/8119 approval area and the applicable 'Stage 1B' contract works undertaken per the Controlled action. Earth works within the site area delivered by local 'cut-to-fill'.

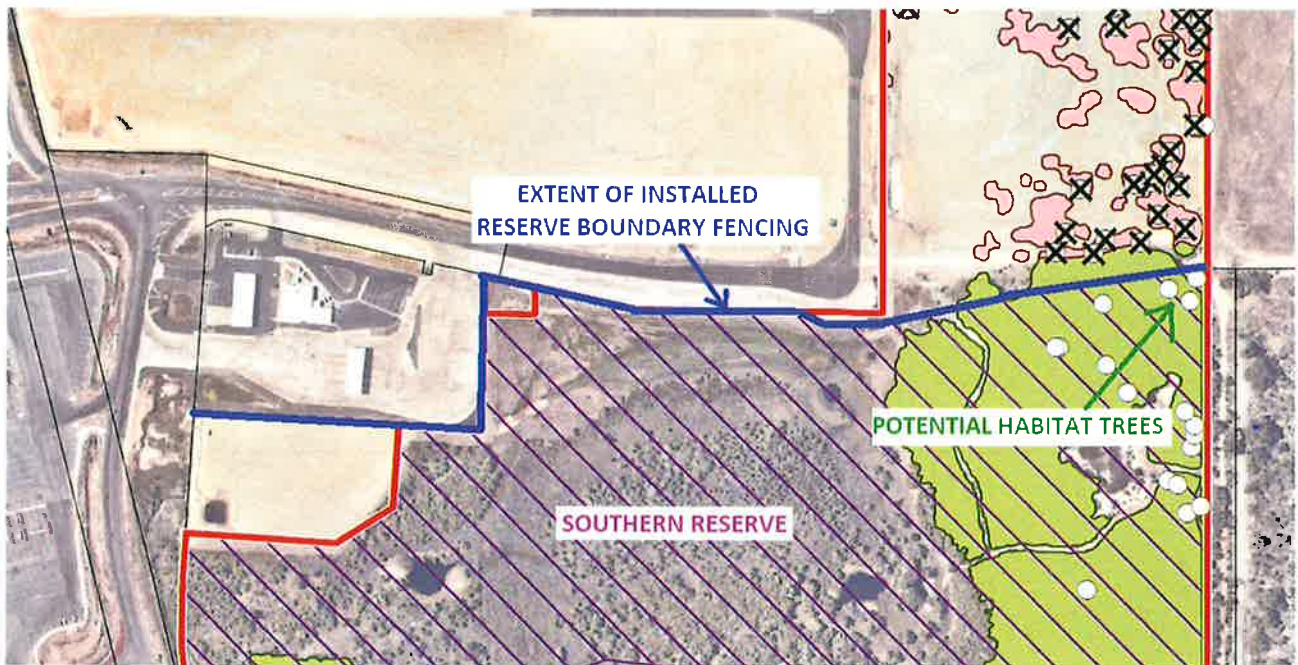
Annexure M - Excerpt from Wormald Induction Register



Surname	First Name	Company	Date	White Card Witnessed	VOC Witnessed	Competencies Witnessed	Online Inducted	Site Specific Inducted	Medical Conditions
Vellios	George	Wormall	25/05/2020	X	X	X	X	X	
Bissin	George	Wormall	26/05/2020	X	X	X	X	X	
White	Vincent	Thomas Contracting	26/05/2020	X	X	X	X	X	
Aperehama	Zeppulyn	Wormall	26/05/2020	X	X	X	X	X	
Sultani	Hamid	Wormall	26/05/2020	X	X	X	X	X	
Bailey	Mason	Wormall	26/05/2020	X	X	X	X	X	
De Filippis	Reece	Electrical Excavations	27/05/2020	X	X	X	X	X	
Famlonga	Noel	Wormall	28/05/2020	X	X	X	X	X	
Rampant	Nick	K R Surveys	28/05/2020	X	X	X	X	X	
Green	Anthony	Wormall	29/05/2020	X	X	X	X	X	
Maddox	Anthony	Wormall	2/06/2020	X	X	X	X	X	
Shinnon	M	Wormall	2/06/2020	X	X	X	X	X	
Chatley	Daniel	Harvis	3/06/2020	X	X	X	X	X	
Jeanes	Samuel	Cossil & Webley	3/06/2020	X	X	X	X	X	
Ranoi	Calvin	Wormall	5/06/2020	X	X	X	X	X	
Burtel	Kurt	Thomas Contracting	5/06/2020	X	X	X	X	X	
Robertson	Kevin	Connect Resources	5/06/2020	X	X	X	X	X	
Cummsky	Jason	Wormall	5/06/2020	X	X	X	X	X	
Reynolds	Chris	Mayday	8/06/2020	X	X	X	X	X	
Sceron	Graham	Beck's Contracting	9/06/2020	X	X	X	X	X	
Olley	Mark	Wormall	9/06/2020	X	X	X	X	X	
Pisani	Kane	Wormall	10/06/2020	X	X	X	X	X	
Fitzmaurice	Troy	Connect Resources	10/06/2020	X	X	X	X	X	X
Murphy	Dave	Wormall	11/06/2020	X	X	X	X	X	
Littlecott	Arty	Wormall	15/06/2020	X	X	X	X	X	
Trevor	Callier	Connect Resources	16/06/2020	X	X	X	X	X	
Sohubent	Melanie	Emerge Associates	16/06/2020	X	X	X	X	X	
Rickman	Darren	Wormall	17/06/2020	X	X	X	X	X	
Roddie	Jacob	Wormall	17/06/2020	X	X	X	X	X	
Hetherington	Kane	Wormall	17/06/2020	X	X	X	X	X	
Mullan	Mick	Wormall	18/06/2020	X	X	X	X	X	
Chapman	Owen	Wormall	18/06/2020	X	X	X	X	X	
Thompson	Mark	Thomas Tree Services	23/06/2020	X	X	X	X	X	
Gibson	Matt	Thomas Tree Services	23/06/2020	X	X	X	X	X	
Traynete	Callum	KR Surveys	25/06/2020	X	X	X	X	X	
Calgity	Dave	Connect Resources	26/06/2020	X	X	X	X	X	
Fitzpatrick	Paddy	Connect Resources	26/06/2020	X	X	X	X	X	
Kelly	Shaun	Connect Resources	29/06/2020	X	X	X	X	X	
Joe-Wells	Peter	Connect Resources	29/06/2020	X	X	X	X	X	
Bearman	Dean	Wormall	29/06/2020	X	X	X	X	X	
Day-Perkins	Joshua	KR Surveys	1/07/2020	X	X	X	X	X	
Tek	Justin	Wormall	1/07/2020	X	X	X	X	X	
Matthews	Cody	Wormall	2/07/2020	X	X	X	X	X	
Stevens	Brayden	Wormall	2/07/2020	X	X	X	X	X	
Mitchell	Paul	Connect Resources	3/07/2020	X	X	X	X	X	
Call	Adam	Connect Resources	6/07/2020	X	X	X	X	X	
Kandola	Pavan	KR Surveys	6/07/2020	X	X	X	X	X	
Phelps	Cliff	EXP Resources	7/07/2020	X	X	X	X	X	
Howard	Mark	Final Trim	8/07/2020	X	X	X	X	X	
Hoskin	Alex	Wormall	9/07/2020	X	X	X	X	X	
Atkinson	Connor	Wormall	9/07/2020	X	X	X	X	X	
Becker	Peter	Final Trim	9/07/2020	X	X	X	X	X	
Allen	Jason	Agrimate Fencing	14/07/2020	X	X	X	X	X	
McCann	Dylan	Agrimate Fencing	14/07/2020	X	X	X	X	X	
Cox	Corey	EXP Resources	15/07/2020	X	X	X	X	X	
	Nick	EXP Resources	17/07/2020	X	X	X	X	X	
Innes	Chris	Wormall	17/07/2020	X	X	X	X	X	
Domoraud	Roland	Wormall	17/07/2020	X	X	X	X	X	
Bollen	James	Wormall	17/07/2020	X	X	X	X	X	X
Hodgkinson	Michael	Wormall	17/07/2020	X	X	X	X	X	
Barker	Andrew	Wormall	17/07/2020	X	X	X	X	X	
Oberholzer	Jacobus	Wormall	17/07/2020	X	X	X	X	X	X
Davies	Jordan	Wormall	17/07/2020	X	X	X	X	X	X
Wadley	Klaye	Wormall	17/07/2020	X	X	X	X	X	X
Nanna	Jeremy	Wormall	20/07/2020	X	X	X	X	X	
Oelofse	Jan	Wormall	20/07/2020	X	X	X	X	X	
Lewis	Jesse	Wormall	20/07/2020	X	X	X	X	X	
Walke	Adam	Wormall	21/07/2020	X	X	X	X	X	
Pilitati	Joshua	Connect Resources	22/07/2020	X	X	X	X	X	
Grant	Chris	Baines Drilling	27/07/2020	X	X	X	X	X	
Bombara	Thomas	Baines Drilling	27/07/2020	X	X	X	X	X	
Baines	Clinton	Baines Drilling	27/07/2020	X	X	X	X	X	
Kehoe	Dylan	KR Surveys	29/07/2020	X	X	X	X	X	
Standring	Josh	Kerbing West	30/07/2020	X	X	X	X	X	
Ackland	Nicholas	Kerbing West	30/07/2020	X	X	X	X	X	
Hutchings	Nathan	Kerbing West	30/07/2020	X	X	X	X	X	
Lee	Allan	Kerbing West	30/07/2020	X	X	X	X	X	
Kersting	Kevin	Omega Asphalt	3/08/2020	X	X	X	X	X	
Wilson	Gus	Omega Asphalt	3/08/2020	X	X	X	X	X	
Watson	Allen	Omega Asphalt	3/08/2020	X	X	X	X	X	
Gutsell	Greg	Omega Asphalt	3/08/2020	X	X	X	X	X	
Townsend	Peter	Omega Asphalt	3/08/2020	X	X	X	X	X	
Gandola	Paul	Omega Asphalt	3/08/2020	X	X	X	X	X	
Shepard	Leigh	Omega Asphalt	3/08/2020	X	X	X	X	X	
Tanasari	Phonthep	Omega Asphalt	3/08/2020	X	X	X	X	X	
Mariot	Terry	Excavation Excellence	6/08/2020	X	X	X	X	X	
King	Rchard	Tracklink	7/08/2020	X	X	X	X	X	
Morfit	Clayton	Wormall	11/08/2020	X	X	X	X	X	
Snook	Dave	Connect Resources	13/08/2020	X	X	X	X	X	
tebb	jake	ACP	3/09/2020	X	X	X	X	X	
costle	rider	ACP	3/09/2020	X	X	X	X	X	
moms	Vincent	Vince Boncase	3/09/2020	X	X	X	X	X	
Casserly	Michael	ACP	3/09/2020	X	X	X	X	X	
stoddart	Mark	ACP	3/09/2020	X	X	X	X	X	X
Clinckers	Zac	ACP	3/09/2020	X	X	X	X	X	



Annexure N - Extent of Installed Permanent Southern Reserve Fencing



Map of Extent of Installed Permanent Reserve Boundary Fencing vs Southern Reserve Potential Habitat Trees



Photograph of Installed Permanent Reserve Fencing (meeting CEMP required standard)

Annexure O - Example Wormald Clearing Permit



# Clearing Permit

**Instructions:** This clearing permit must be completed by the Site Supervisor or Project Manager in consultation with the person/s completing the works prior to the commencement of any clearing onsite. "Clearing" for the purpose of this permit is defined as any impact to vegetation (Including Trees, shrubs and grasses).

Works Start Date	27.05.2020	Works End Date	16.06.2020
Project Location	Moocha Stage 1B		
Project Number	1333	Date Area Inspected	27.05.2020
Sub-Contractor	Wormall Civil		
Plant/Equipment Used	Excavator, Loader		
Reference Documents (Drawing Numbers)	6327-1B-100		

ALL the below bold points must be answered yes to have authorisation to start work

1	Have the areas to be cleared been positively identified by survey in accordance with client/consultant directions? Has the Consulting Engineer given clear instruction as to which flora is to be retained and/or removed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Comments: Site well cleared completed with all machine operators.
2	Have the no-go zones and/or protected areas been identified and zoned with appropriate fencing and signage?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Comments: Fence erected around trees as marked at drawing 100
3	Has the Site Supervisor and actual staff to be engaged in clearing along with the Consulting Engineer, walked the site to establish the exact location/s and boundaries of areas to be protected and those that are to be cleared?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Comments: As Above.
4	Does the person/s completing the work have a marked up (highlighted) plan clearly showing the extent of work, including any exclusion zones, services etc	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Comments:
5	Any existing services have clearly been flagged off and highlighted on the clearing plan. All workers are aware of any existing services (presence of any services requires a Ground Penetration Permit to be completed)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Comments:
6	Has the Project Manager undertaken a pre-clearing inspection?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Comments: Inspected completed by on-site Supervisor.
7	Has a SWMS been completed and in place for the clearing activity?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Comments:

Person conducting the clearing operation

Name	George Vellios		
Position	Site Supervisor	Date	27.05.2020

Site Supervisor or Project Manager approving the works to commence

Name	George Vellios		
Position	Site Supervisor	Date	27.05.2020

A copy of the approved permit shall be kept in the site office attached to the relevant SWMS

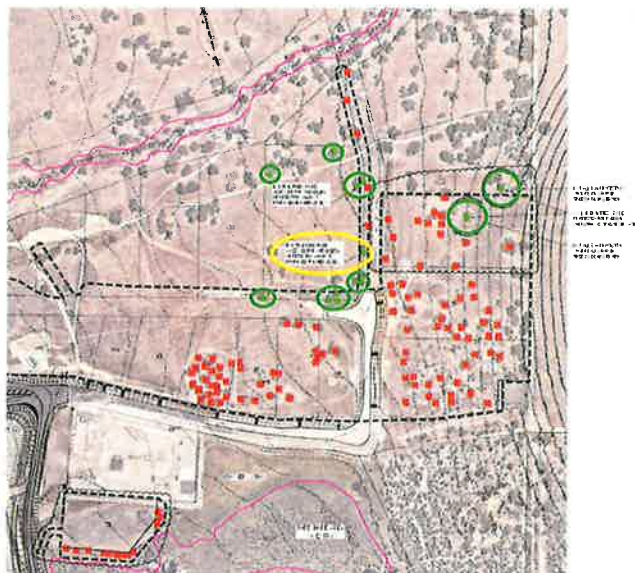






## Annexure P - Identified Tree Retention Review




### Review of Pre-Clearing Plan and Post-Clearing Tree Retention:



Clearing Works Tree Plan (Pre-Clearing Works)



Post Clearing Aerial Reconciliation (@ 05-Dec-2020)

LEGEND	OUTCOME / STATUS
 Existing Tree Identified To Be Removed	Cleared As Planned
 Existing Tree To Be Opportunistically Retained	Currently Retained
 Target Tree To Be Investigate On-Site For Suitability For Retention	Deemed Unsuitable For Retention Due To Detailed Engineering Levels/Service-Clash Issues. Tree Cleared After Assessment.

### Example of Trees Marked for Retention (Location = Proposed Lot 4):



## Annexure Q - Email evidence of Emerge Engagement to Fauna Inspection

Reply Reply All Forward



Thu 12/12/2019 3:22 PM

Tom Atkinson <Tom.Atkinson@emergeassociates.com.au>

RE: EP17-089: Muchea - Fauna Specialist to do clearing pre-check

To Daniel Chatley; Ashley Bird; Ben Dysart; Samuel Jeanes

Cc Andreas Biddiscombe; Justin Fitzpatrick; Melanie Schubert

You replied to this message on 12/12/2019 4:18 PM.

Hi Dan,

Looking at the requirements of the plans in place we really don't need to check any of these trees prior to clearing (the requirements are aimed at cookie trees that may be nested in so working backwards only applies to those with hollows). It would be best to still have a fauna person present to supervise clearing and relocate fauna if observed during clearing as per that requirement.

To that end I will send Mel up on Tuesday and then again Wednesday assuming this clearing will take ~2 days.

I will get Mel to touch base with Mick Tadic from Wormall. But basically she can just be there to respond as required. We would move any fauna to the banksia woodland area on site so all up hopefully simple straight forward exercise.

Let me know any issues / queries with this.

Kind regards,



**Tom Atkinson**

Senior Environmental Consultant, Team Leader - Ecology

e [Tom.Atkinson@emergeassociates.com.au](mailto:Tom.Atkinson@emergeassociates.com.au)

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Please be advised our offices will be closed from 5pm Thursday 19 December 2019 and will reopen 8.30am Thursday 2 January 2020.  
From everyone at Emerge Associates, we wish you a happy and safe holiday season.



We are a preferred supplier under WALGA's Environmental Consulting Services (NAM) and Engineering Consulting Services (Water Management Engineering and Arboriculture & Horticultural Consultancy) Preferred Supply Contracts.

## Annexure R - Extract from Wormald Dust Management Policy

### 18.3 Dust

Dust may be generated by wind, vehicle movements, earthworks, stockpiling and a multitude of other construction activities. Controls shall be implemented which may include:

- Areas of land cleared and the period they remain cleared to be kept to a minimum. Stabilization of cleared areas that are not directly subjected to earthworks will occur promptly.
- Managing and limiting the number of stockpiles and minimizing the time stockpiles are exposed. Keeping topsoil and under-burden stockpiles separate.
- Ensuring stockpiles and batters are designed with slopes no greater than 2:1 (horizontal: vertical)
- Stabilizing of the site will be done upon completion of the earthworks stage and at completion of the project.
- Vehicle paths restricted to well defined, dedicated routes. Plant and vehicles are not to use random routes. Plant will use delineated routes as far as practicable when undertaking specific tasks in each area.
- Appropriate number of water carts allocated to project maintaining site in a damp condition. (Water carts having no less than 10,000-liter capacity per 5 hectares of disturbed site.)
- Site entries and surrounding streets will be swept on a regular basis.
- Regular monitoring of Bureau of Meteorology weather forecasts to consider predicted conditions that may present an increased risk to site operations and potential for dust generation off the site. Appropriate contingency measures to be put in place including the cessation of works that may contribute to increased dust emissions off site during adverse weather/wind conditions. Preventative measures may also be required to be put in place outside of normal working hours.
- No burning off is to occur. All vegetation is to be mulched and re-used on site where possible.
- Any communications generated due to dust will be directed to the project team and recorded on the Project Communication Register. Stabilisation will occur as soon as practicable or within 18 hours.
- Wind fencing shall be stored at Wormald Civils' yard (17 Cardup Siding Road, Cardup) and will be made available for the engineer and on site with 4 hours' notice.

Any exposed surfaces shall be watered regularly, particularly during activities which have the potential to generate high dust levels. If dust levels are deemed to be too high, work will cease until dust levels have decreased or have been controlled.

### 18.4 Stockpiling of Soil

The stockpiling of soil within the site boundaries until such a time as its use as backfill or removal is undertaken will require one or more of the following:

- Stockpiles shall be watered to prevent dust;
- The angle of the stockpile should not permit riling of the material into an active work area;
- Housekeeping to allow safe and unobstructed access and movement in and around stockpiles adjacent to the excavations;
- Safe routes shall be established for personnel to enter and exit excavations;
- Stockpiles should not be placed near overhead power lines or other overhead obstructions;
- Stockpiles should not be placed over underground services; and
- Stockpiles should not be placed where they can obstruct traffic or pedestrians.
- Where soil is identified as being Contaminated then the soil shall be stockpiled and treated separately in accordance and management plans put in place accordingly.

Soil that is excavated and is not intended to be re-used shall be hauled from site to prevent dust being generated inside and external to the Project.



Annexure S - Hydro Mulched Areas



Image @ 24 October 2020 (Source: Nearmap)