



mainroads
WESTERN AUSTRALIA

Compliance Report

EPBC 2016/7665

*We're working for
Western Australia.*

Toodyay Road widening and upgrade project

Reporting period: 21 January 2023 to 20 January 2024

Document Control


Report Compilation & Review	Position	Document Revision	Date
Author:	DH, Environment Officer	Draft vA	04/04/2024
Reviewer:	TC, Principal Environment Officer	Draft vB	11/04/2024
Author:	DH, Environment Officer	Rev 0	15/4/2024

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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  (approval holder)

Full name (please print) Andrew Ives

Position (please print) Project Director

Organisation (please print including ABN/ACN if applicable) Main Roads

Date 16 / 4 / 2024

1 Introduction

1.1 Project Background, Location and Status

Main Roads Western Australia (Main Roads) is currently undertaking widening and upgrade of Toodyay Road between 12.71 and 40.14 Straight Line Kilometre (SLK), in the Shire of Toodyay (the Project). The upgrade intends to improve the safety and efficiency of Toodyay Road by widening the road to meet current design standards, realigning sections to remove substandard curves and increase sightlines, intersection improvements, new overtaking lanes and drainage improvements.

Project implementation commenced on 21 January 2019. The Project is being delivered in stages based on funding availability and 2 stages of the project (Stages 3 and 6) have been completed. During the reporting period, the only activity undertaken was service relocation works in preparation for the next stage of road construction.

1.2 Approval under the *Environment Protection and Biodiversity Conservation Act 1999*

The Project was referred for assessment under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in March 2016. The project was determined to be a controlled action on 8 April 2016 due to its potential impacts on listed threatened species and communities. The project was approved subject to conditions under the EPBC Act on 4 December 2018 (EPBC 2016/7665).

1.3 Purpose of this Report

This compliance report has been produced to satisfy Condition 12 of approval EPBC 2016/7665.

2 Summary of Compliance

The Project was found to be fully compliant with the requirements of approval EPBC 2016/7665. Table 1 of this report details the project's compliance with regard to each approval condition over the 12 month reporting period: 21 January 2023 to 20 January 2024. Conditions deemed completed are shaded grey.

2.1 New Environmental Risks

No new environmental risks for the project have become apparent during the reporting period.

Table 1: Compliance with Conditions of EPBC Approval 2016/7665

Condition Number	Condition	Status	Evidence/Comments
1	<p>For the protection of the protected matters in the project area, the approval holder must not clear more than:</p> <ul style="list-style-type: none"> a. 54.87 hectares within the project area; and b. 94 suitable nesting hollows. 	Compliant	<ul style="list-style-type: none"> a. A total of 0.26 hectares of clearing was undertaken in the reporting period. Since the commencement of the action a total of 8.36 hectares has been cleared within the project area. No clearing has occurred outside the project area. b. No suitable nesting hollows were cleared during the reporting period. Since the commencement of the action a total of 2 suitable nesting hollows have been cleared. <p>Details of clearing is shown in Attachment A.</p>
2	<p>If the approval holder intends to clear one or two known nesting hollows, it must demonstrate that all avoidance and mitigation measures have been implemented and obtain separate written agreement of the Department before commencing such clearing.</p>	Not Applicable	<p>No known nesting hollows have been cleared during the reporting period. Since the commencement of the action no known nesting hollows have been cleared.</p>
3	<p>The approval holder must establish and maintain a register of the locations and other relevant details of all suitable nesting hollows and known nesting hollows identified within the project area.</p> <p>Within 48 hours prior to clearing of suitable nesting hollows and known nesting hollows during the Black Cockatoo breeding season (between 1 June and 28 February of every year) the approval holder must:</p> <ul style="list-style-type: none"> a. clearly identify suitable nesting hollows and known nesting hollows within the project area and update the register; b. ensure that a suitably qualified person monitors all known nesting hollows to determine when chick(s) have fledged. 	Compliant	<p>A register of all suitable nesting hollows and known nesting hollows identified within the project area has been established. Trees within the register are shown in Attachment A and a copy of the register can be made available to the Department upon request.</p> <p>No suitable or known nesting hollows were removed during the reporting period and therefore no inspections were undertaken.</p>

Condition Number	Condition	Status	Evidence/Comments
4	The approval holder must not clear any vegetation within a 10 metre radius of known nesting hollows until a suitably qualified person has verified that the Black Cockatoo chick(s) in that known nesting hollow has fledged.	Not Applicable	No works were undertaken within 10 metres of a known nesting tree during the reporting period.
5	<p>To mitigate and offset the impacts to Black Cockatoos, within six months of clearing suitable nesting hollows and known nesting hollows, the approval holder must install at least two artificial nesting hollows for each suitable nesting hollow cleared and five artificial nesting hollows for each known nesting hollow cleared. Each artificial nesting hollow must:</p> <ul style="list-style-type: none"> a. be installed either within the offset area, DBCA legislated lands and Waters or another location approved in writing by the Minister; b. be inspected by a suitably qualified person on at least two days (separated by at least a week) during the peak breeding season every year for the life of the approval. The suitably qualified person must record any evidence of use by Black Cockatoos and identify and report to the approval holder any maintenance required to ensure that all artificial nesting hollows remain suitable for use by Black Cockatoos; c. be installed, monitored and maintained in accordance with artificial hollow guidance for the life of the approval, with maintenance actions, if required, undertaken outside of the peak breeding season and before the commencement of the next breeding season; and <p>not be installed in a manner that requires clearing of Black Cockatoo habitat or (to reduce the risk of vehicle strike) within 10 metres of the edge of any road corridor.</p>	Compliant	<p><u>Installation</u></p> <p>No suitable or known nesting hollows were cleared in 2023 and therefore no artificial nesting hollows were required to be installed during the reporting period.</p> <p>To date all hollows have been installed in DBCA legislated lands (Julimar State Forest) according to DBCA's (formerly DPAW) guideline for installation and all hollows are more than 10 metres from the edge of any road corridor.</p> <p><u>Monitoring</u></p> <p>An inspection of all installed nesting hollows was undertaken by Rick Dawson from Australian Black Cockatoo Specialists (refer to Condition 13 for qualifications) on 13-14 October 2023 and 11 December 2023. The monitoring was conducted in accordance with DBCA's and CSIRO monitoring guidelines and the outcome of this monitoring and the recommended maintenance actions are provided in Attachment B and Attachment C.</p> <p><u>Maintenance</u></p> <p>The recommended maintenance and repairs from the 2022 artificial hollow monitoring report were conducted during the week of 22 May 2023 (Attachment D).</p> <p>A contractor has been engaged to complete the recommendations from the 2023 artificial hollow monitoring. This maintenance is planned to be conducted before the next breeding season and will be reported in the next compliance report.</p>

Condition Number	Condition	Status	Evidence/Comments
6	<p>To offset residual significant impacts to the protected matters, within one year of the commencement of the action the approval holder must provide the following to the Department:</p> <ul style="list-style-type: none"> a. title search results demonstrating that the title for at least 196 ha of Black Cockatoo habitat and at least 128 ha of Chuditch habitat within the offset area has been transferred by the approval holder to the DBCA; b. evidence that the offset area contains at least 196 ha of Black Cockatoo habitat and at least 128 ha of Chuditch habitat; c. the offset attributes and a shapefile for the offset area required by condition 6.a; d. documentation demonstrating that the DBCA is satisfied with the amount and timing of management funding to be provided by the approval holder for the ongoing management of the offset area. 	Compliant	<p>Main Roads previously reported partial non-compliance with this condition to the Department on 5 March 2020. This related to the submission of all relevant documentation later than one year of the commencement of the action (i.e., after 21 January 2021). All requirements of this condition have been completed since February 2022:</p> <ul style="list-style-type: none"> a. As reported in the 2019-20 compliance report, the title search results were provided to the Department on 12 March 2020. b. Evidence of the suitability of the offset site for Black Cockatoos and the Chuditch was provided to the Department on 29 March 2018, 19 November 2018, and 12 March 2020. c. The final offset attributes and a shapefile of the offset area were provided to the Department on 12 March 2020. d. Evidence of DBCA’s management requirements and Main Roads agreement to these was provided to the Department on 12 March 2020. A Memorandum of Understanding (MoU) between Main Roads and DBCA to formalise this agreement was signed in September 2020. A copy of this MoU was provided to Main Roads in March 2021 and was provided to the Department on 3 February 2022.
7	The approval holder must notify the Department in writing of the date of commencement of the action within 10 business days after the date of commencement of the action.	Compliant	The action commenced on 21 January 2019. Main Roads notified the Department of commencement of the action in writing on 31 January 2019 (8 business days, considering public holiday on 28 January). All requirements of this condition have been completed.
8	If the commencement of the action does not occur within 5 years from the date of this approval, then the approval holder must not commence the action without the prior written agreement of the Minister.	Not applicable	The project was approved on 4 December 2018 and the action was commenced on 21 January 2019. All requirements of this condition have been completed.
9	The approval holder must maintain accurate and complete compliance records.	Compliant	Main Roads has maintained records in accordance with this condition and their legal obligations, under the State Records Act 2000 (Western Australia). Records of compliance with the approval are maintained in Main Roads’ Electronic Document & Records Management System (TRIM).

Condition Number	Condition	Status	Evidence/Comments
10	If the Department makes a request in writing, the approval holder must provide electronic copies of compliance records to the Department within the timeframe specified in the request.	Not Applicable	To date, the Department has not requested electronic copies of any compliance records.
11	The approval holder must ensure that any monitoring data (including sensitive ecological data), surveys, maps, and other spatial and metadata required under conditions of this approval, is prepared in accordance with the Department's <i>Guidelines for biological survey and mapped data (2018)</i> and submitted electronically to the Department within three months of the submission of the compliance report.	Not Applicable	To date, no biological survey data has been required to be submitted under conditions of this approval.

Condition Number	Condition	Status	Evidence/Comments
12	<p>The approval holder must prepare a compliance report for each 12 month period following the date of commencement of the action, or as otherwise agreed to in writing by the Minister. The approval holder must:</p> <ol style="list-style-type: none"> a. publish each compliance report on the website within 60 business days following the relevant 12 month period; b. notify the Department by email that a compliance report has been published on the website within five business days of the date of publication; c. keep all compliance reports publicly available on the website until this approval expires; d. exclude or redact sensitive ecological data from compliance reports published on the website; and e. where any sensitive ecological data has been excluded from the version published, submit the full compliance report to the Department within 5 business days of publication. 		<p>This report has been prepared to cover the 12 month period from 21 January 2023 to 20 January 2024. Due to WA public holidays, 60 working days from the commencement date (21 January) is 17 April 2024. An assessment of compliance with meeting the reporting requirements for this report will be included in the next year’s annual compliance report.</p> <p>The 2022-23 Compliance report covered the period from 21 January 2022 to 20 January 2023. Publishing of the report met all requirements:</p> <ol style="list-style-type: none"> a. In 2023, due to WA public holidays, 60 working days from the commencement date (21 January) was 20 April 2024. The 2022-23 Compliance report was published on the website on 14 April 2023. b. The Department was notified by email on 14 April 2023 that the 2022-23 Compliance report was published. c. All previous reports remain publicly available on the Main Roads website until the expiration date of the project approval (At the time of preparing this report all previous reports are available at https://www.mainroads.wa.gov.au/community-environment/environment/construction-project-reports/). d. No sensitive ecological data has been included in this report. e. No sensitive ecological data has been included in this report.

Condition Number	Condition	Status	Evidence/Comments
13	<p>The compliance report prepared under condition 12 must include, but is not limited to:</p> <ol style="list-style-type: none"> the avoidance and mitigation measures applied under condition 2, where applicable; the location of the suitable nesting hollows and known nesting hollows identified under condition 3; the evidence by which it was determined that known nesting hollows were being utilised, including the date each such determination; the evidence by which it was determined any chick(s) had fledged including the date of each such determination and location of the particular hollow(s); the installation date, location and a photo of each artificial nesting hollow installed under condition 5; a description of how the design and placement of each artificial nesting hollow was determined; the dates, methodology, maintenance activities and results of artificial nesting hollow monitoring undertaken; and <p>the relevant qualifications and experience of the suitably qualified person(s) involved.</p>		<p><u>Avoidance and mitigation measures for clearing known nesting hollows (a)</u></p> <ul style="list-style-type: none"> No known nesting hollows were cleared during the reporting period and therefore no additional avoidance measures have been required. <p><u>Locations and inspection methods of suitable and known nesting hollows (b, c, d)</u></p> <ul style="list-style-type: none"> Locations of suitable and known nesting hollows identified under condition 3 is provided in Attachment A. No suitable or known nesting hollows were removed during the reporting period and there was no need to determine if hollows were in use or whether chicks had fledged. <p><u>Artificial hollow installation details (e, f)</u></p> <ul style="list-style-type: none"> No artificial nesting hollows were installed during the reporting period. <p><u>Artificial hollow monitoring and maintenance details (g)</u></p> <ul style="list-style-type: none"> The dates and methodology and results of monitoring and maintenance activities undertaken during the reporting period are provided in Attachment B, Attachment C, and Attachment D. <p><u>Qualifications of suitably qualified persons</u></p> <p>All artificial hollow installation, monitoring and maintenance has undertaken by Rick Dawson, Director, Australian Black Cockatoo Specialists (ABCS). ABCS has over 23 years' experience in conducting black cockatoo nesting surveys and has installed, monitored, and maintained over 350 artificial hollows. Rick Dawson is black cockatoo specialist with over 20 years of experience as a DBCA Wildlife Officer and member of the Carnabys Cockatoo and Forest Red-tailed Black Cockatoo recovery teams. Rick managed all DBCA black cockatoo breeding and rehabilitation for 15 years.</p>

Condition Number	Condition	Status	Evidence/Comments
14	<p>The approval holder must notify the Department in writing of any: incident; non-compliance with the conditions; or non-compliance with the commitments made in plans. The notification must be given as soon as practicable, and no later than five business days after becoming aware of the incident or non-compliance. The notification must specify:</p> <ul style="list-style-type: none"> a. the condition which is or may be in breach; and <p>a short description of the incident and/or non-compliance.</p>	Not Applicable	No incidents or non-compliances are known to have occurred within this reporting period.
15	<p>The approval holder must provide to the Department the details of any incident or non-compliance with the conditions or commitments made in plans as soon as practicable and no later than 10 business days after becoming aware of the incident or non-compliance, specifying:</p> <ul style="list-style-type: none"> a. any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future; b. the potential impacts of the incident or non-compliance; and <p>the method and timing of any remedial action that will be undertaken by the approval holder.</p>	Not applicable	No incidents or non-compliances are known to have occurred within this reporting period.
16	<p>The approval holder must ensure that independent audits of compliance with the conditions are conducted as requested in writing by the Minister.</p>	Not applicable	The Minister has not requested an independent audit to be undertaken.

Condition Number	Condition	Status	Evidence/Comments
17	<p>For each independent audit, the approval holder must:</p> <ul style="list-style-type: none"> a. provide the name and qualifications of the independent auditor and the draft audit criteria to the Department; b. only commence the independent audit once the audit criteria have been approved in writing by the Department; and <p>submit an audit report to the Department within the timeframe specified in the approved audit criteria.</p>	Not applicable	The Minister has not requested an independent audit to be undertaken.
18	<p>The approval holder must publish the audit report on the website within 10 business days of receiving the Department's approval of the audit report and keep the audit report published on the website until the end date of this approval.</p>	Not applicable	The Minister has not requested an independent audit to be undertaken.
19	<p>Within 30 days after the completion of the action, the approval holder must notify the Department in writing and provide completion data.</p>	Not applicable	The action has not been completed.

3 Attachments

Attachment A Clearing Maps



Legend

- ▭ EPBC2016/7665 Project Area (Toodyay Road Envelope)
- Vegetation Clearing (21/1/2023 - 20/1/2024)
- Previously reported clearing

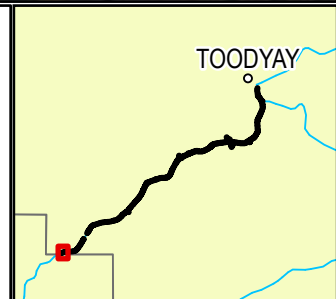
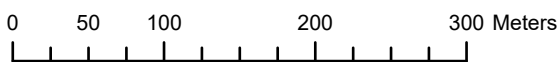
Suitable and known hollows within 10m of Project Area

- Suitable nesting hollow
- Known nesting hollow
- Suitable nesting hollow (previously cleared)

N
 Coordinate System: GCS GDA 1994
 Scale: 1:5,000 @ A4
 Created Date: 12/04/2024
 Author: C10853

Toodyay Road Widening and Upgrade Project

2023-24 Clearing Areas



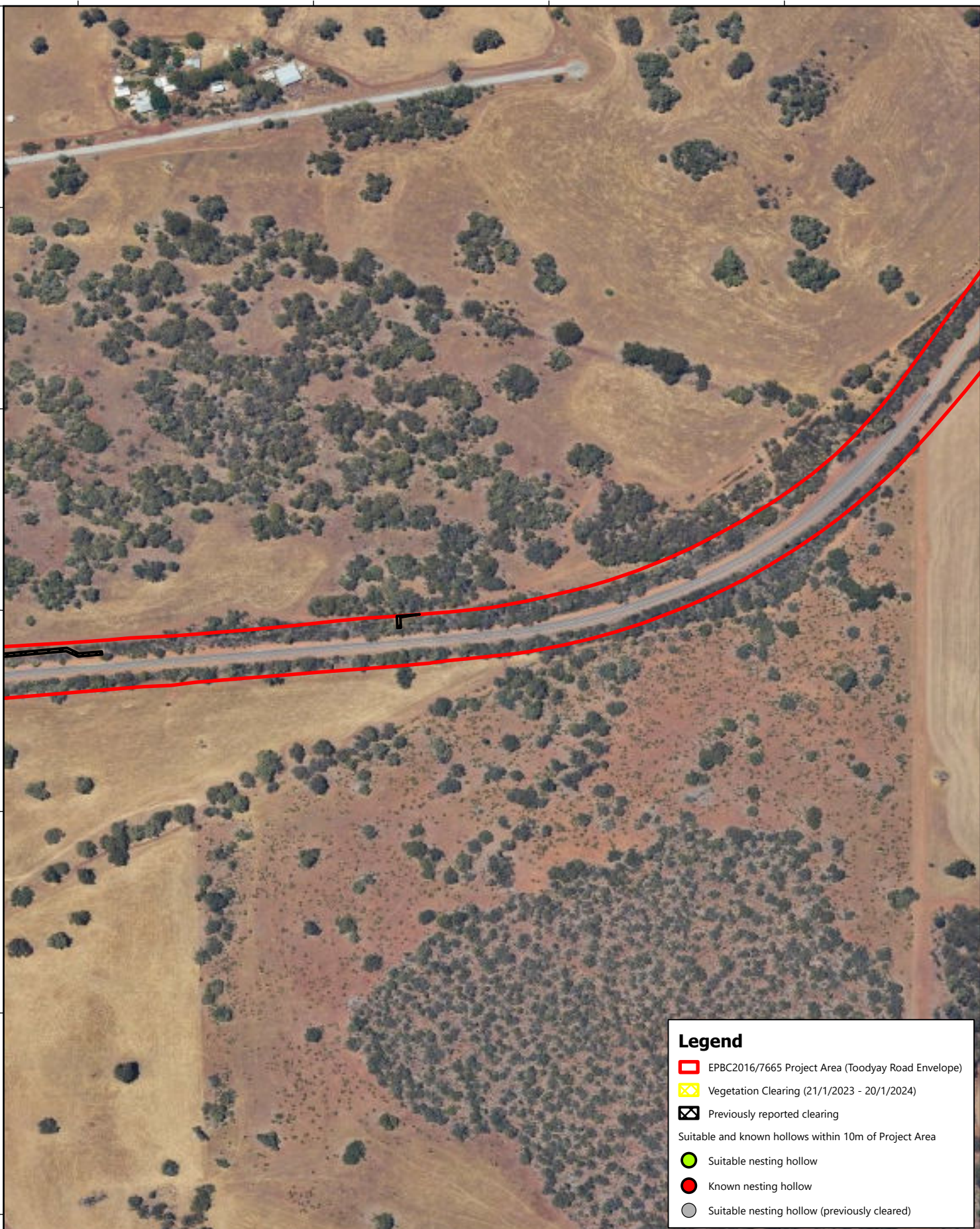
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434,600

434,800

435,000

6,492,800
6,492,600
6,492,400
6,492,200
6,492,000
6,491,800
6,491,600



Legend

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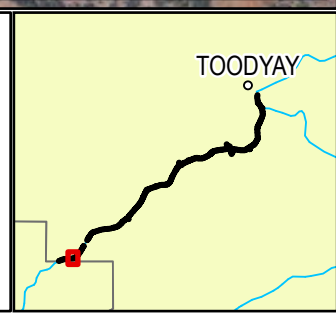
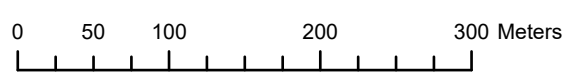
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435,600

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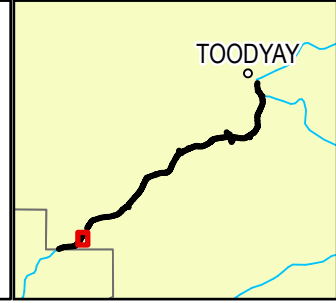
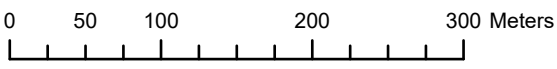
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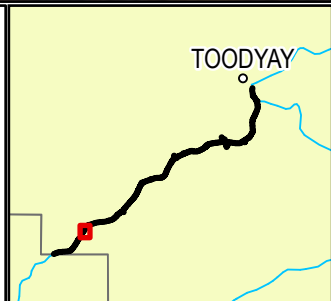
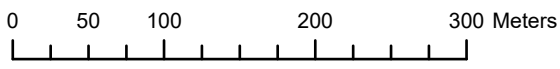
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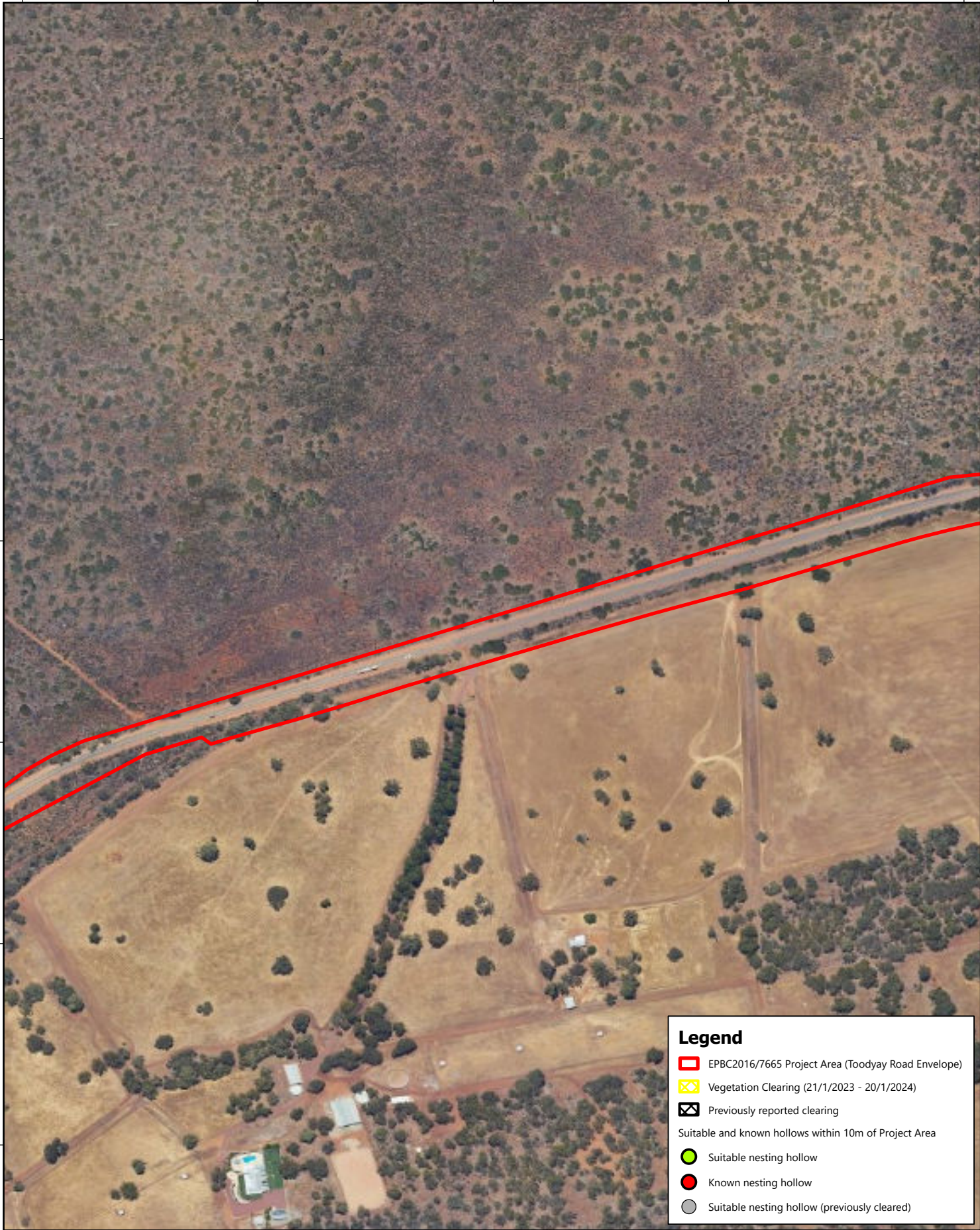
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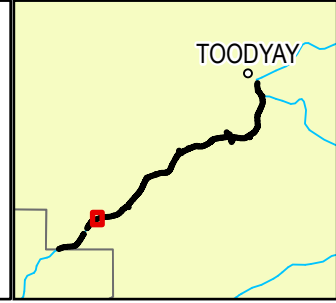
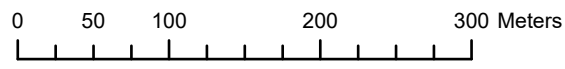
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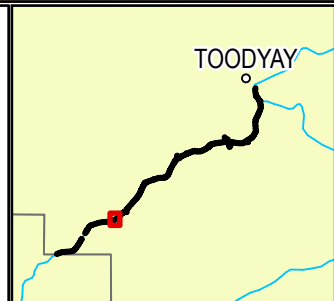
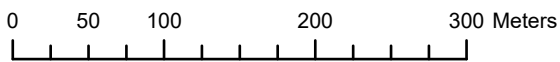
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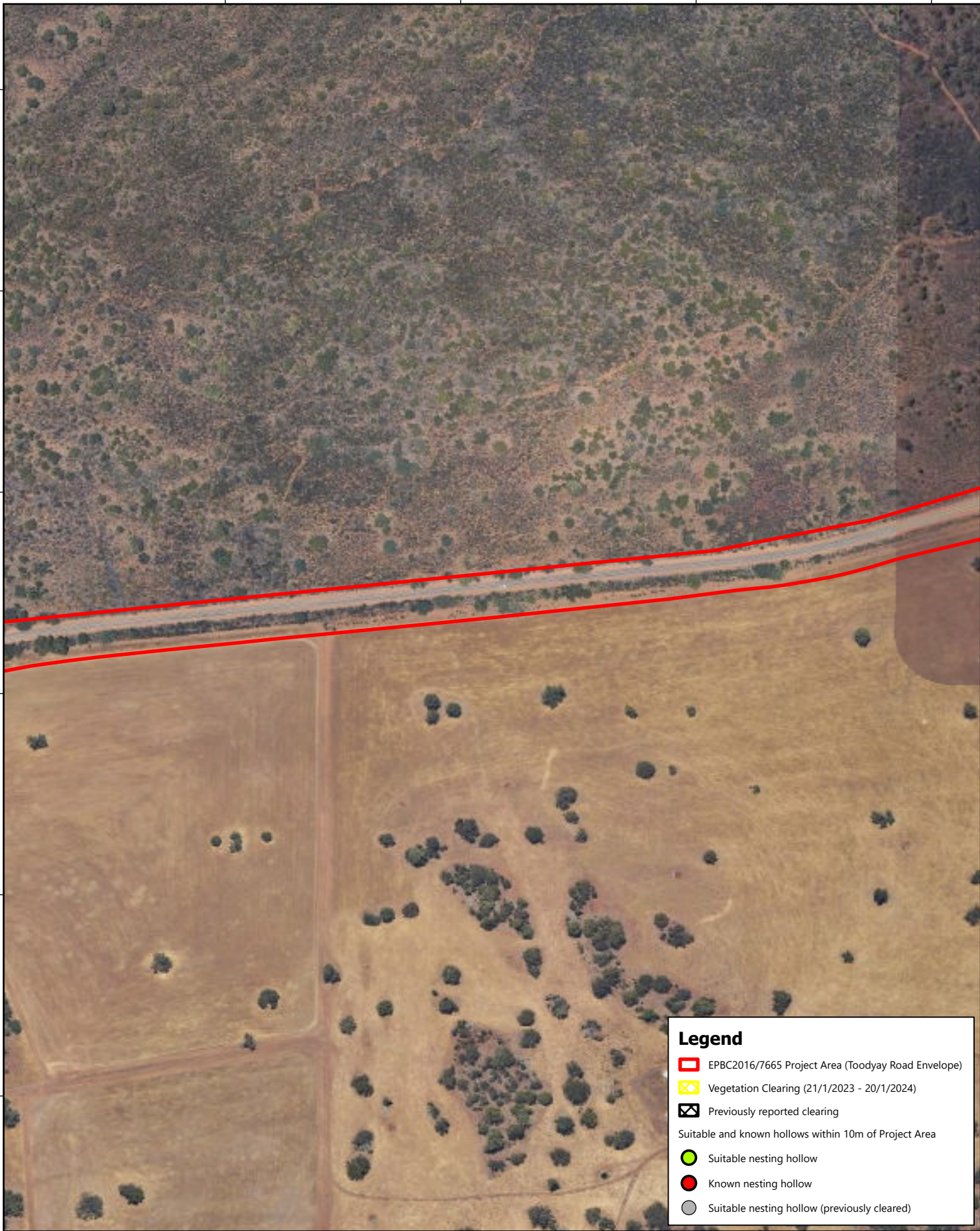


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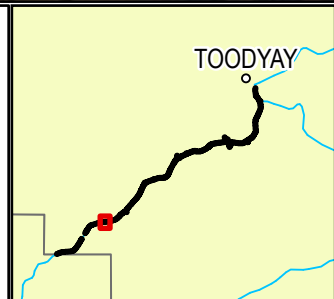
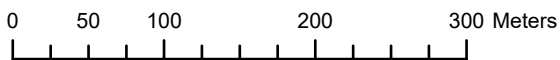
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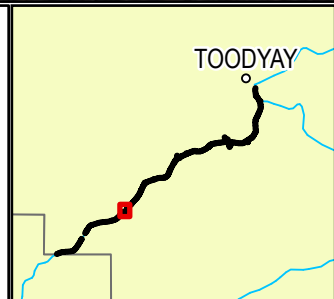
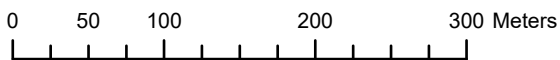
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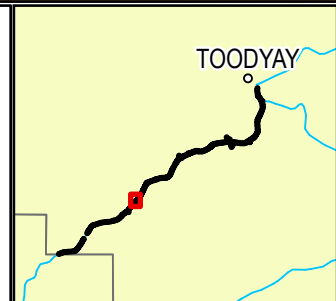
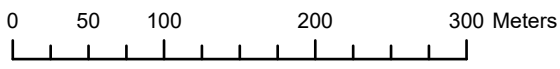
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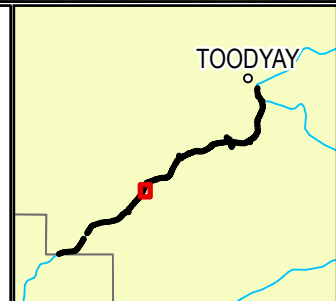
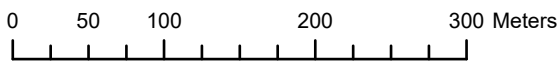
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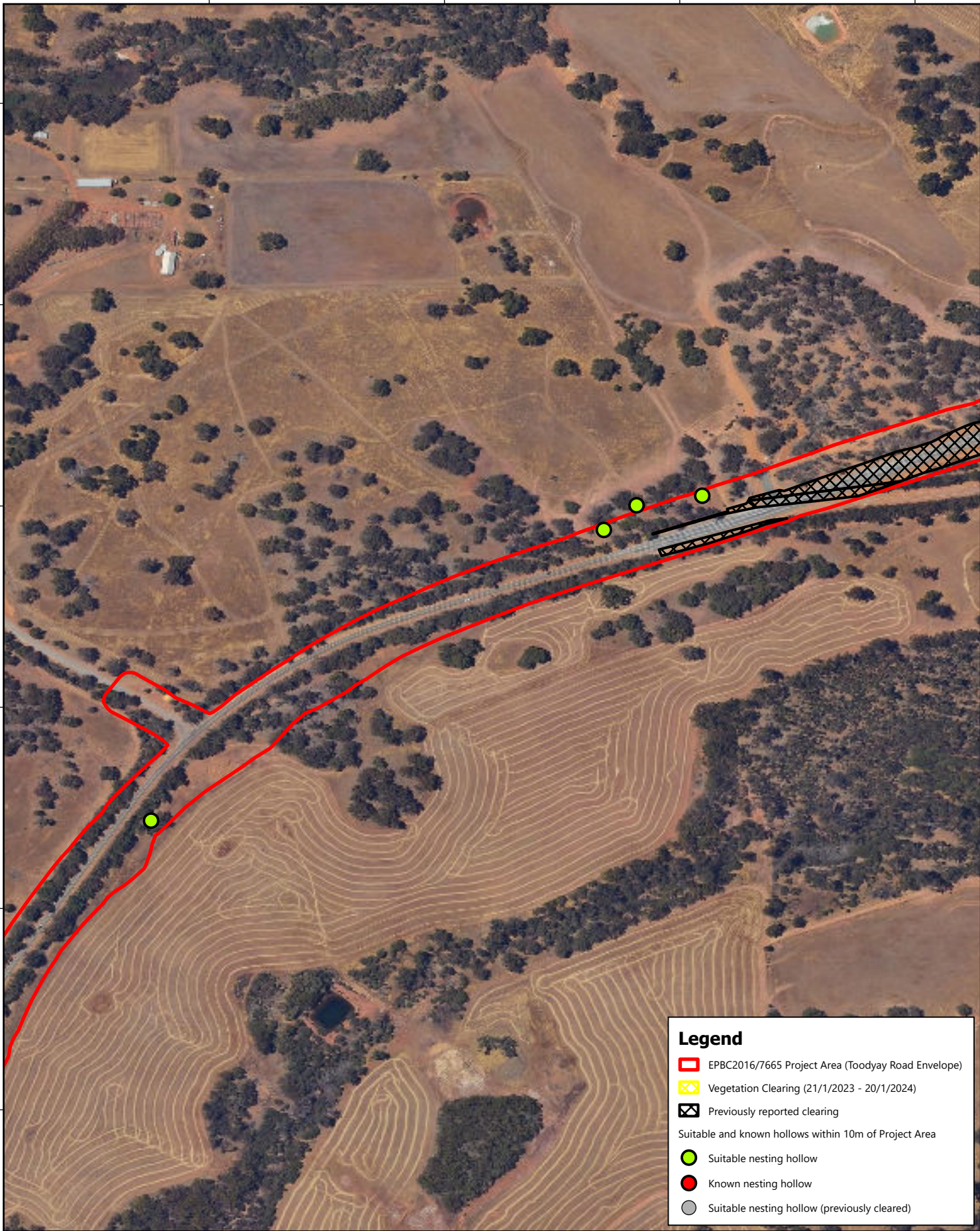
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 Author: C10853

Toodyay Road Widening and Upgrade Project

2023-24 Clearing Areas





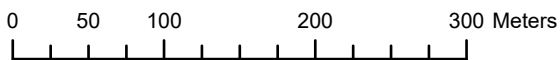
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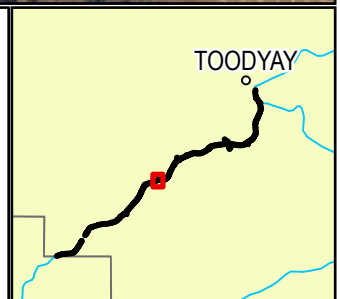
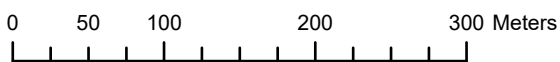
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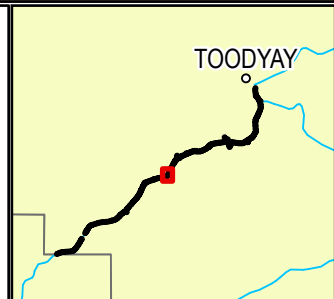
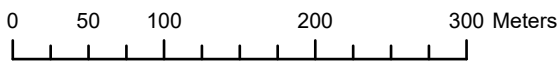
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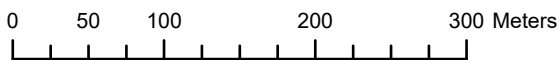
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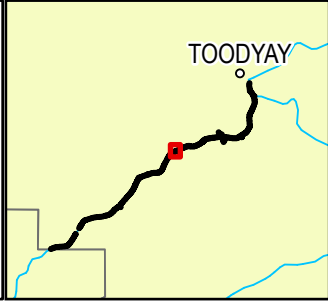
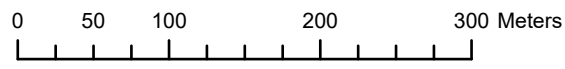
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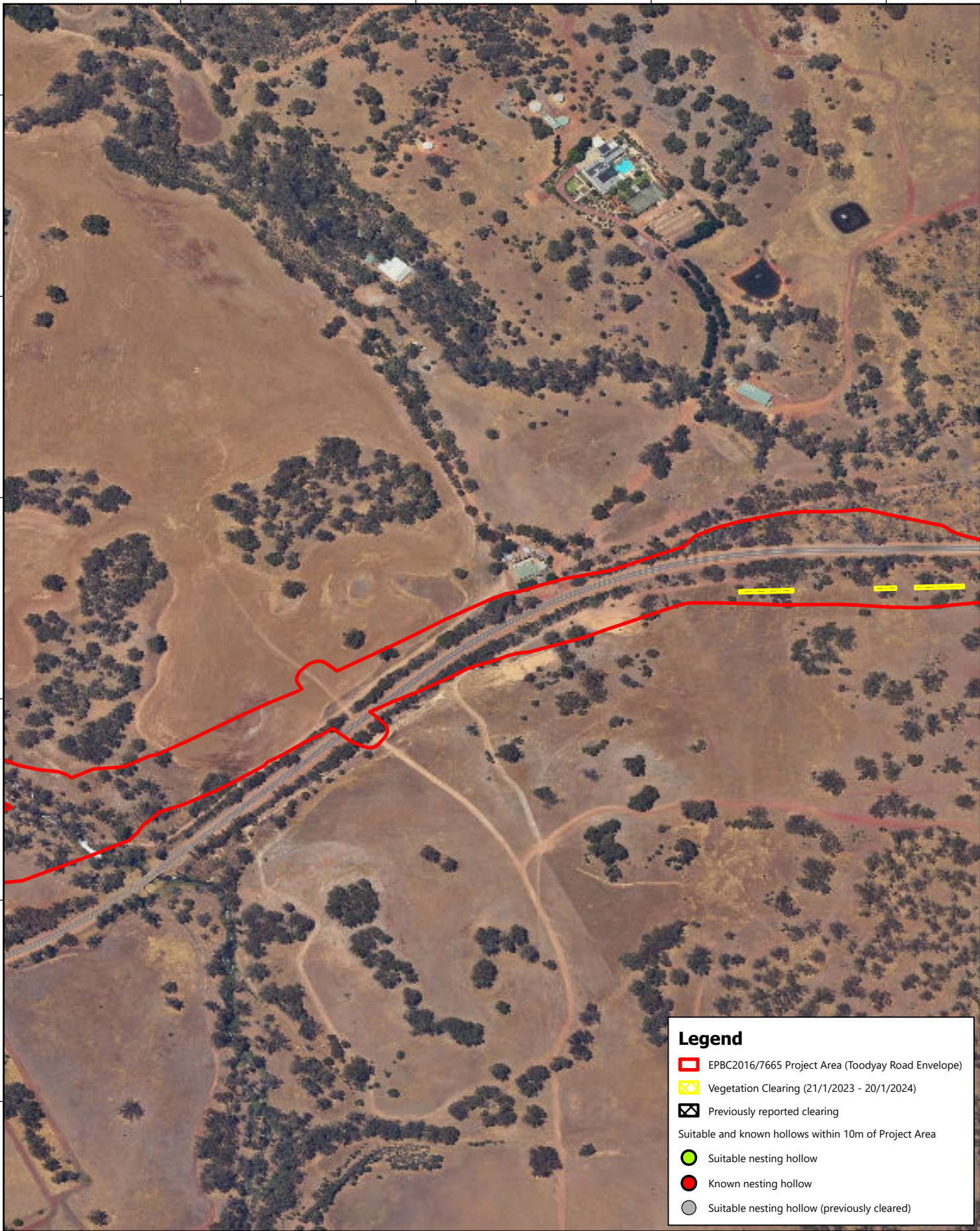
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Toodyay Road Widening and Upgrade Project

2023-24 Clearing Areas





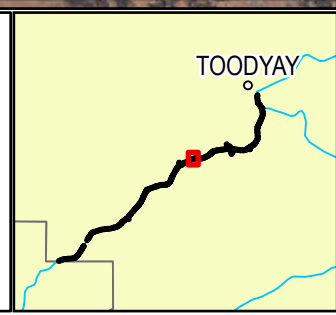
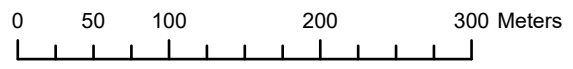
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Toodyay Road Widening and Upgrade Project

2023-24 Clearing Areas



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445,600

445,800

446,000

6,502,600

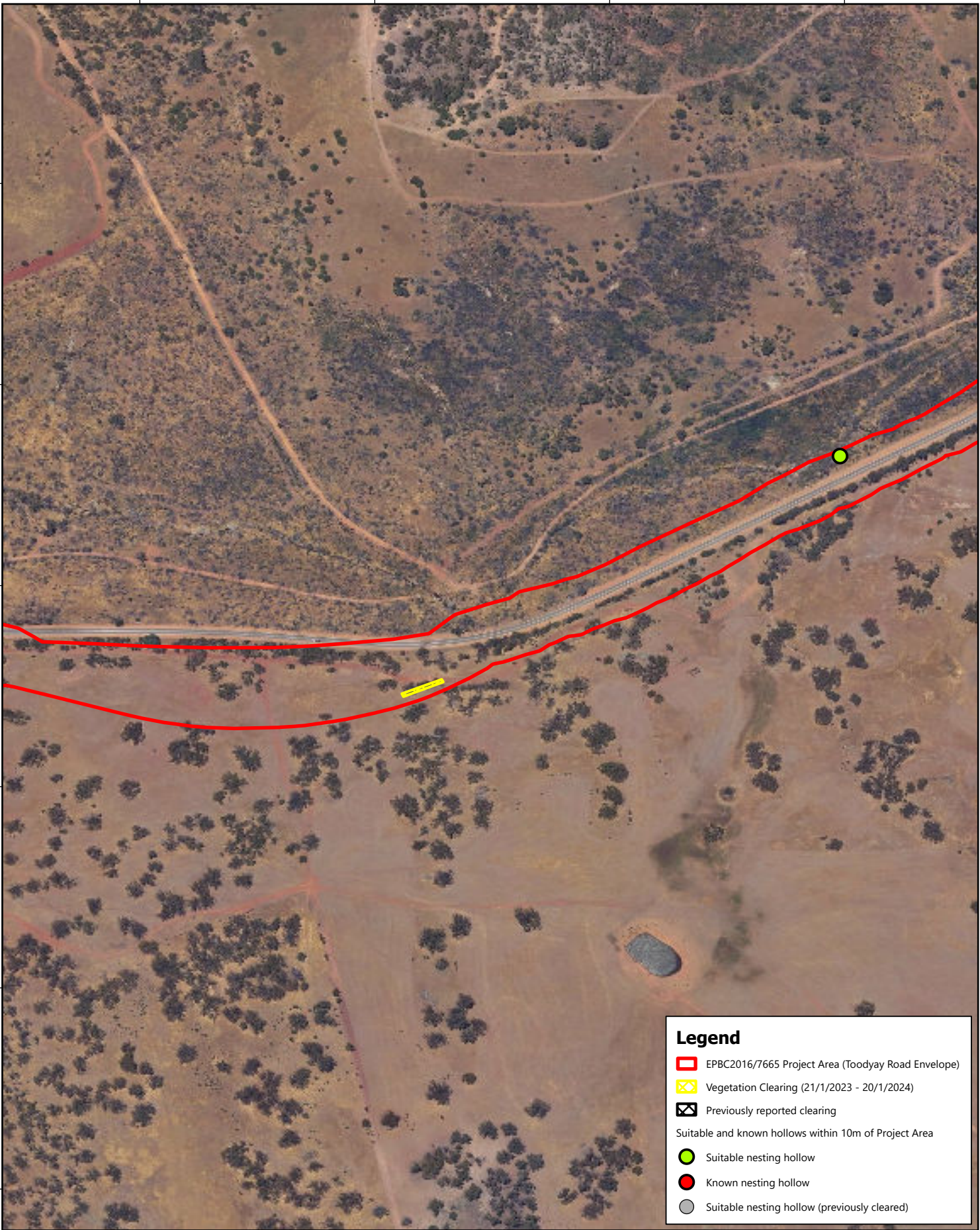
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6,502,200

6,502,000

6,501,800

6,501,600



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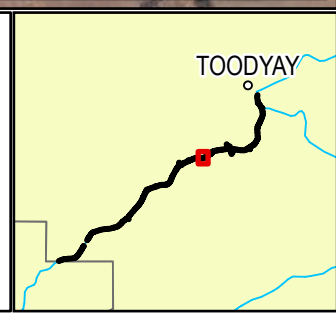
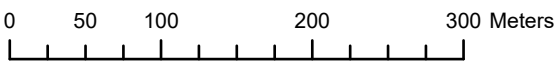
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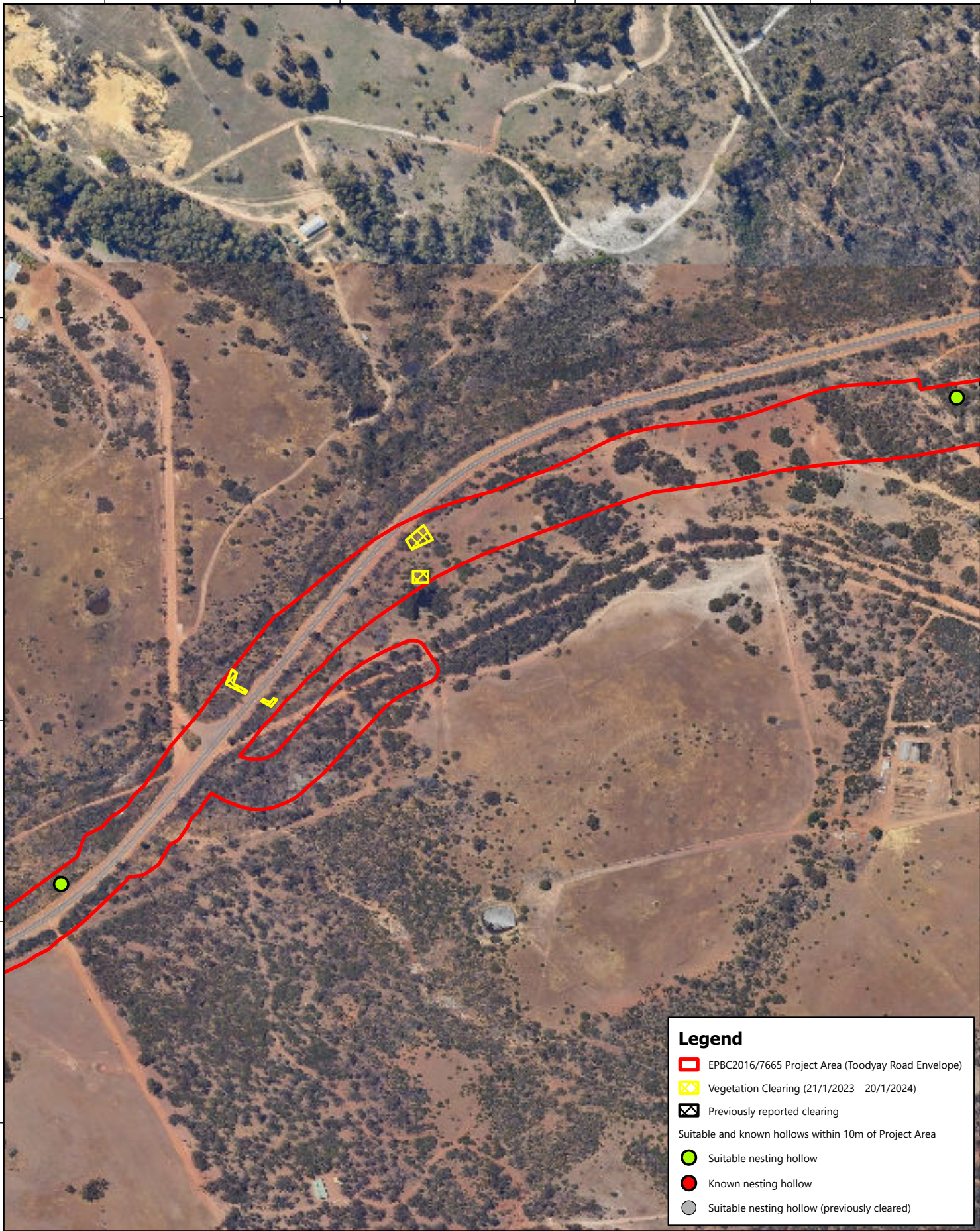
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Toodyay Road Widening and Upgrade Project

2023-24 Clearing Areas





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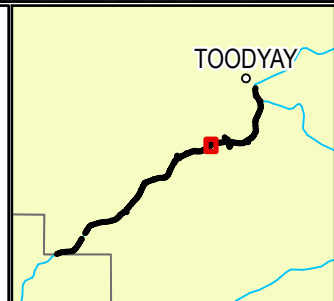
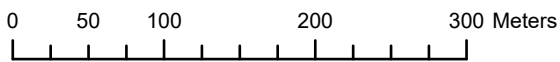
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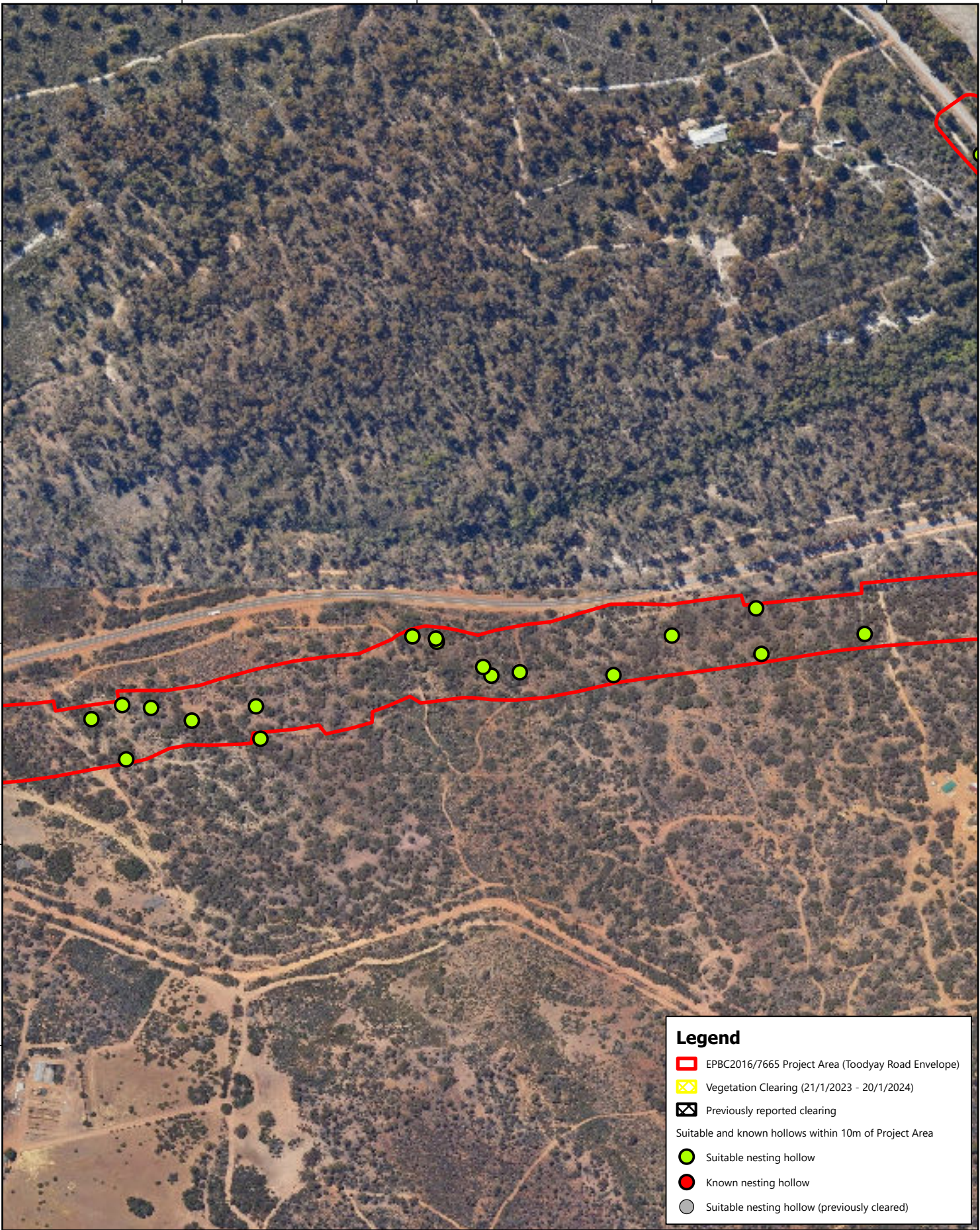


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Toodyay Road Widening and Upgrade Project

2023-24 Clearing Areas





Legend

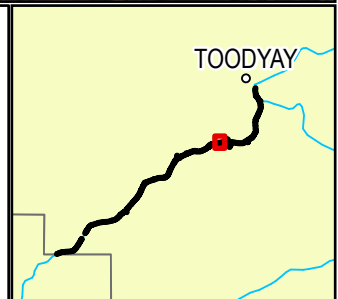
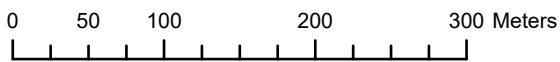
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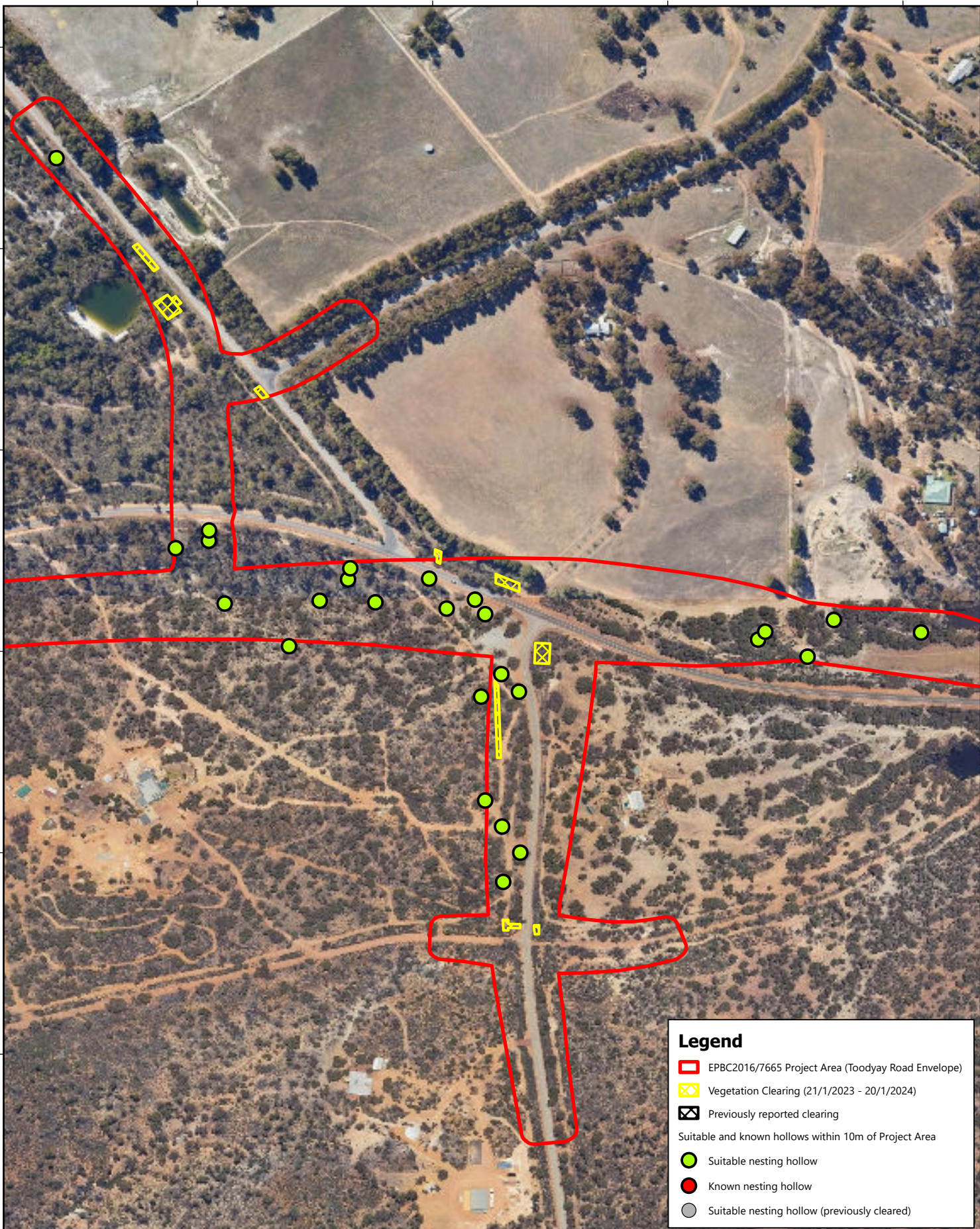


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2023-24 Clearing Areas





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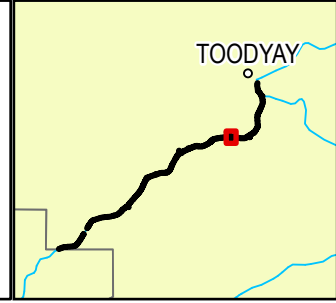
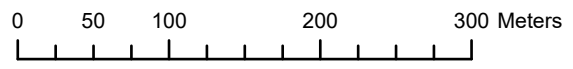
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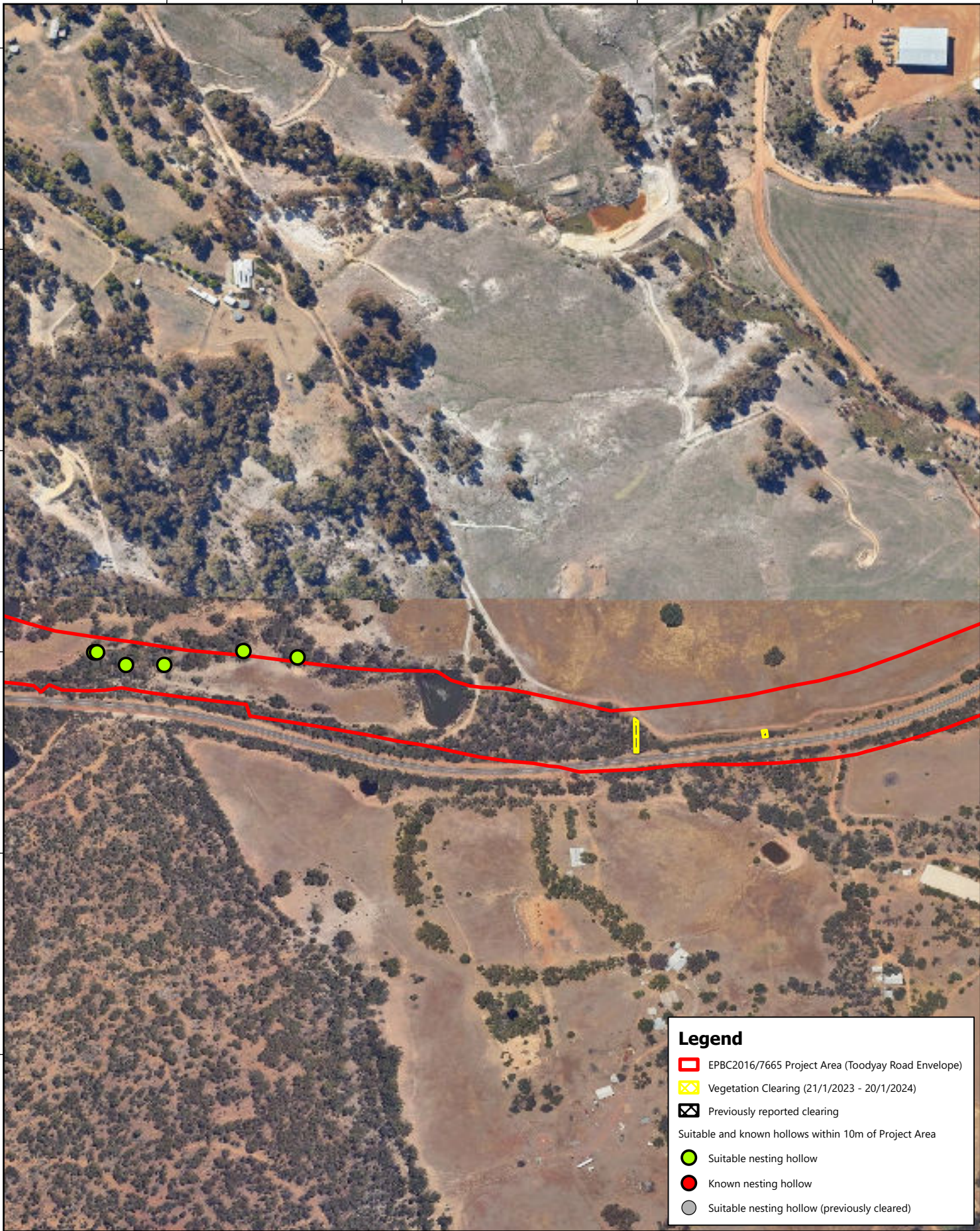
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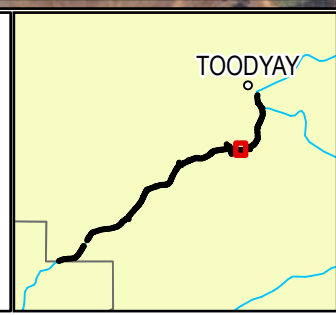
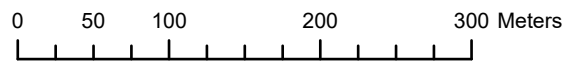
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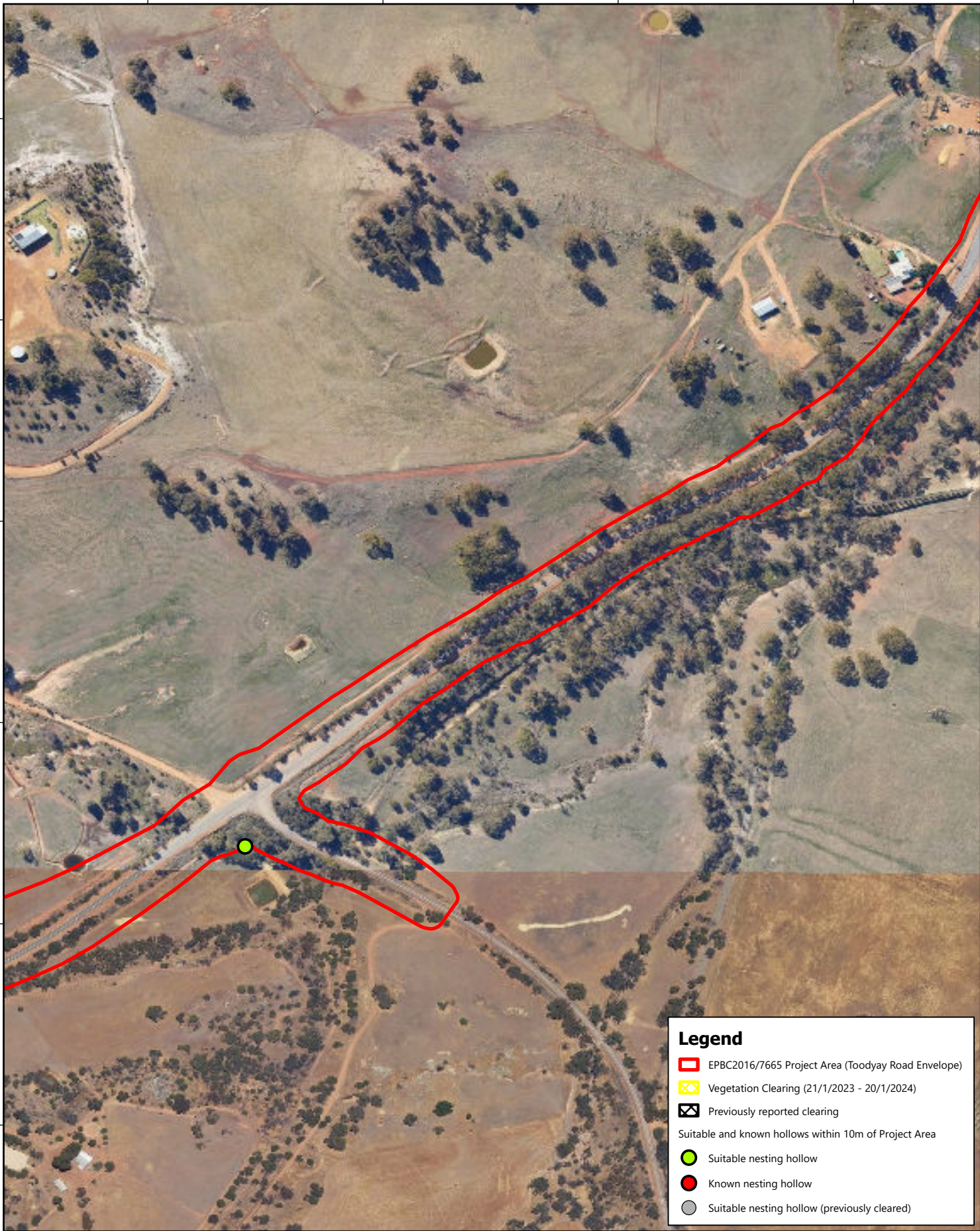
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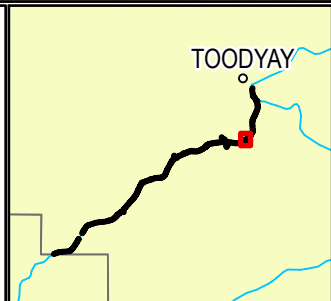
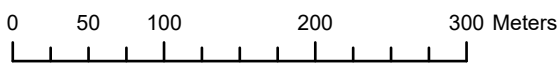
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Toodyay Road Widening and Upgrade Project

2023-24 Clearing Areas



450,000

450,200

450,400

450,600

6,504,600

6,504,600

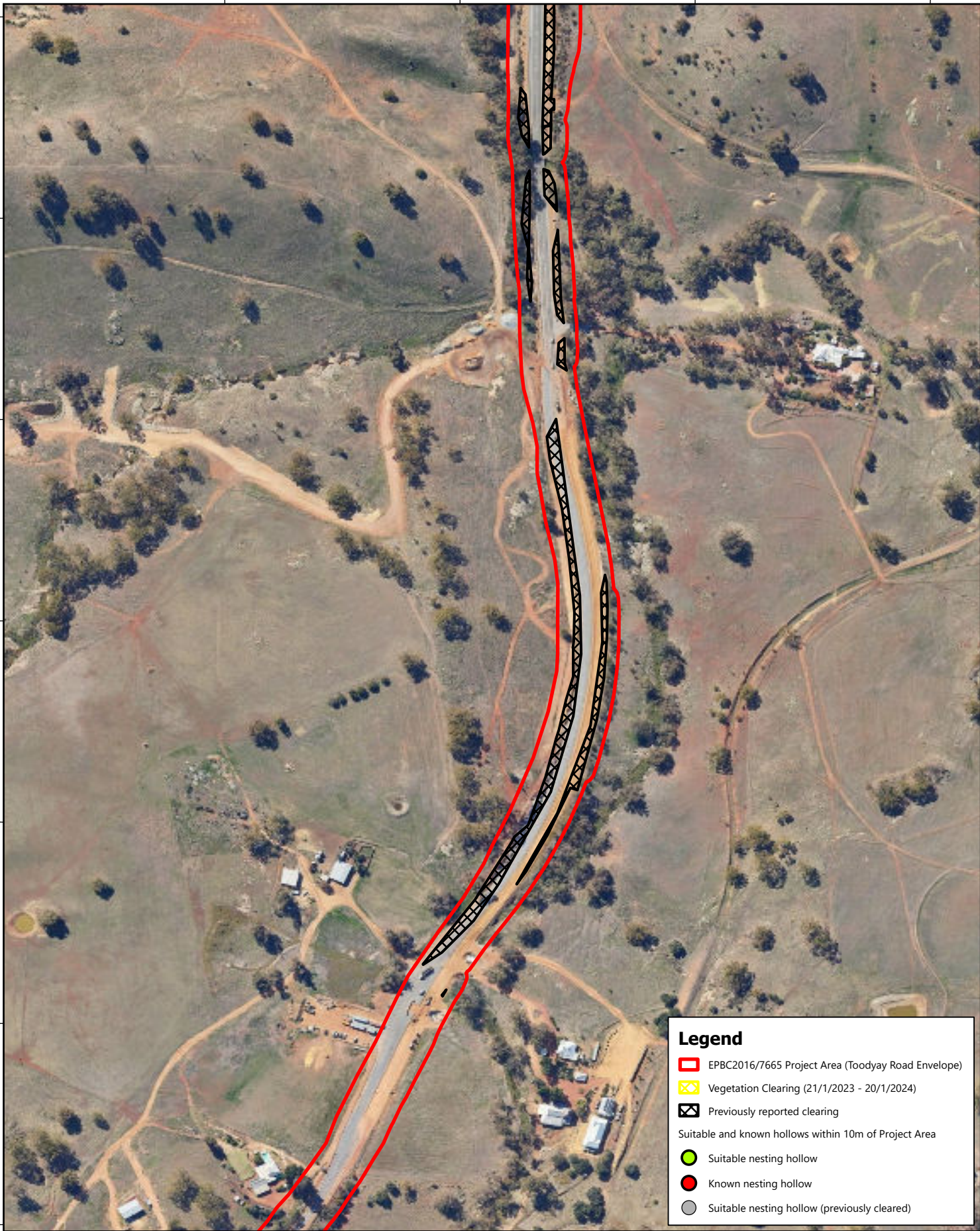
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6,503,600



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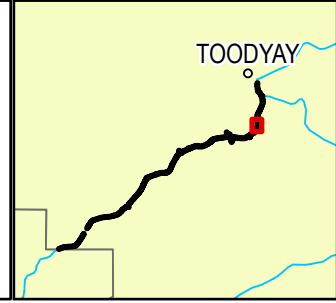
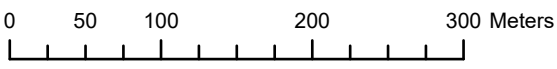
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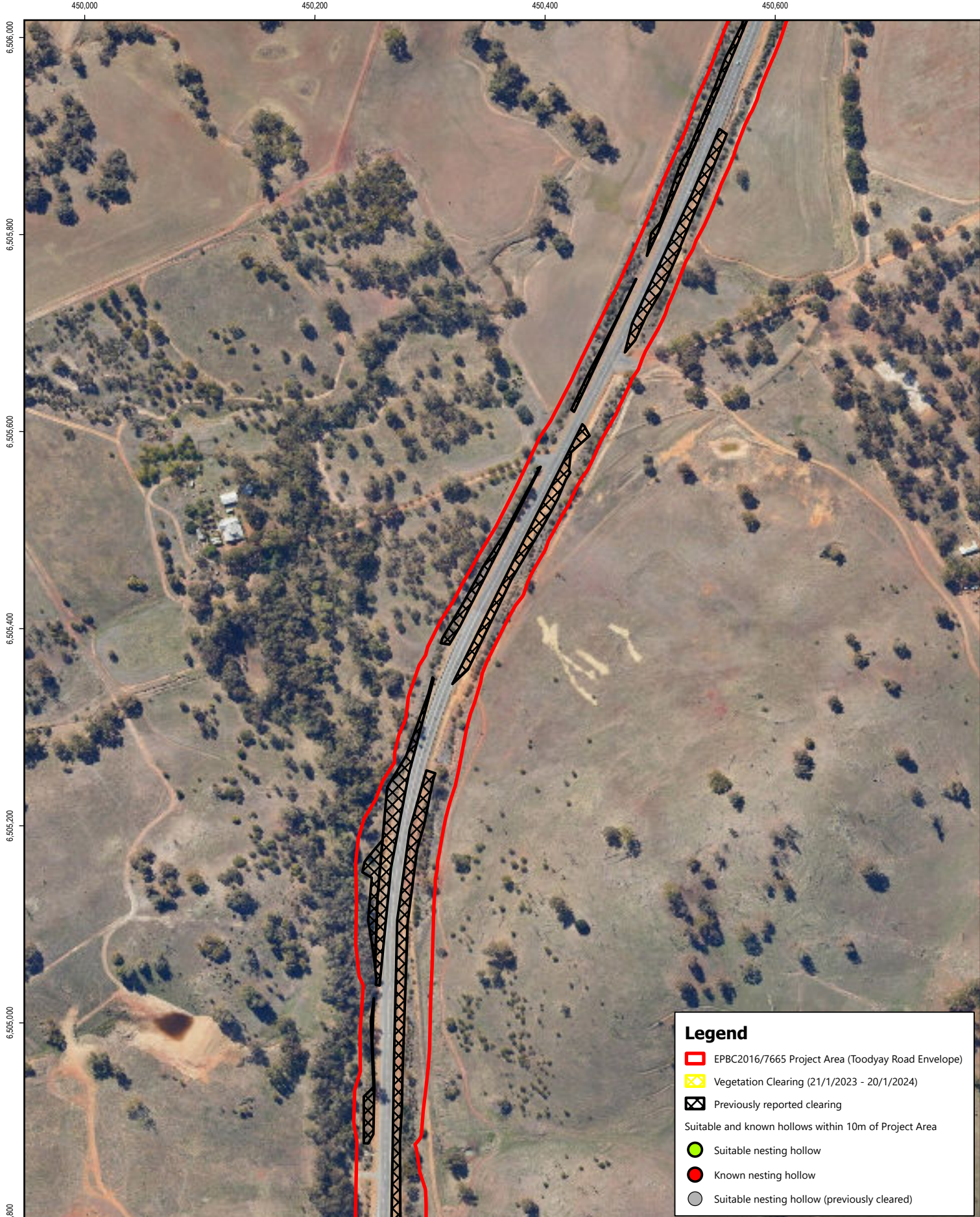
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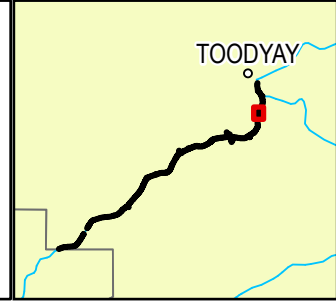
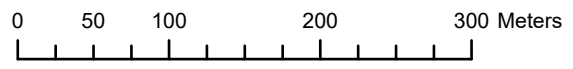
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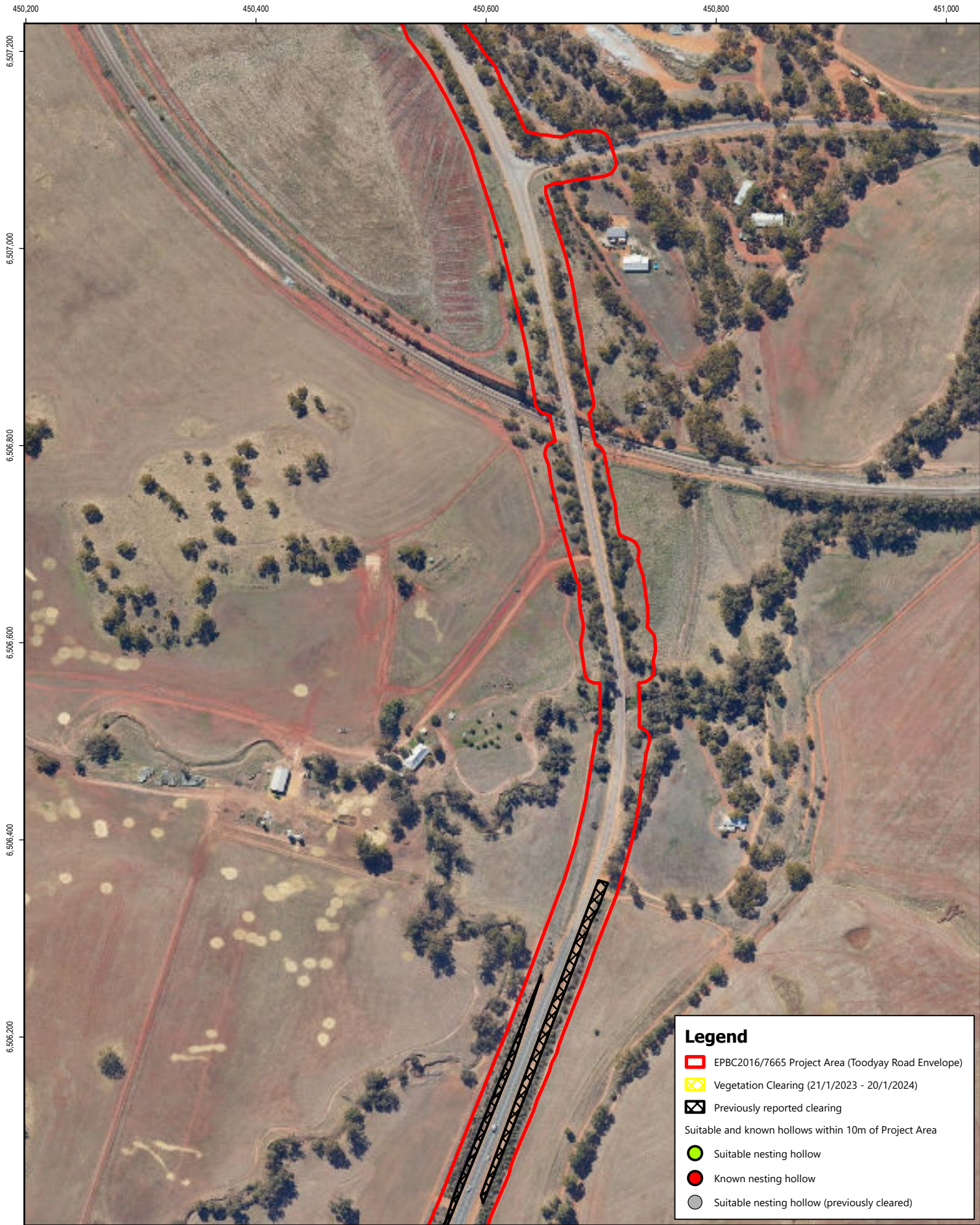
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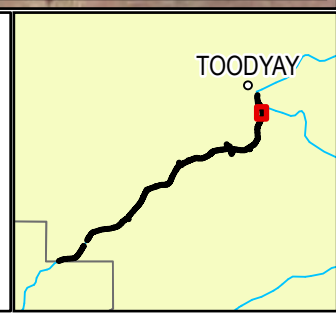
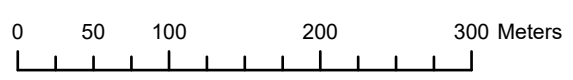
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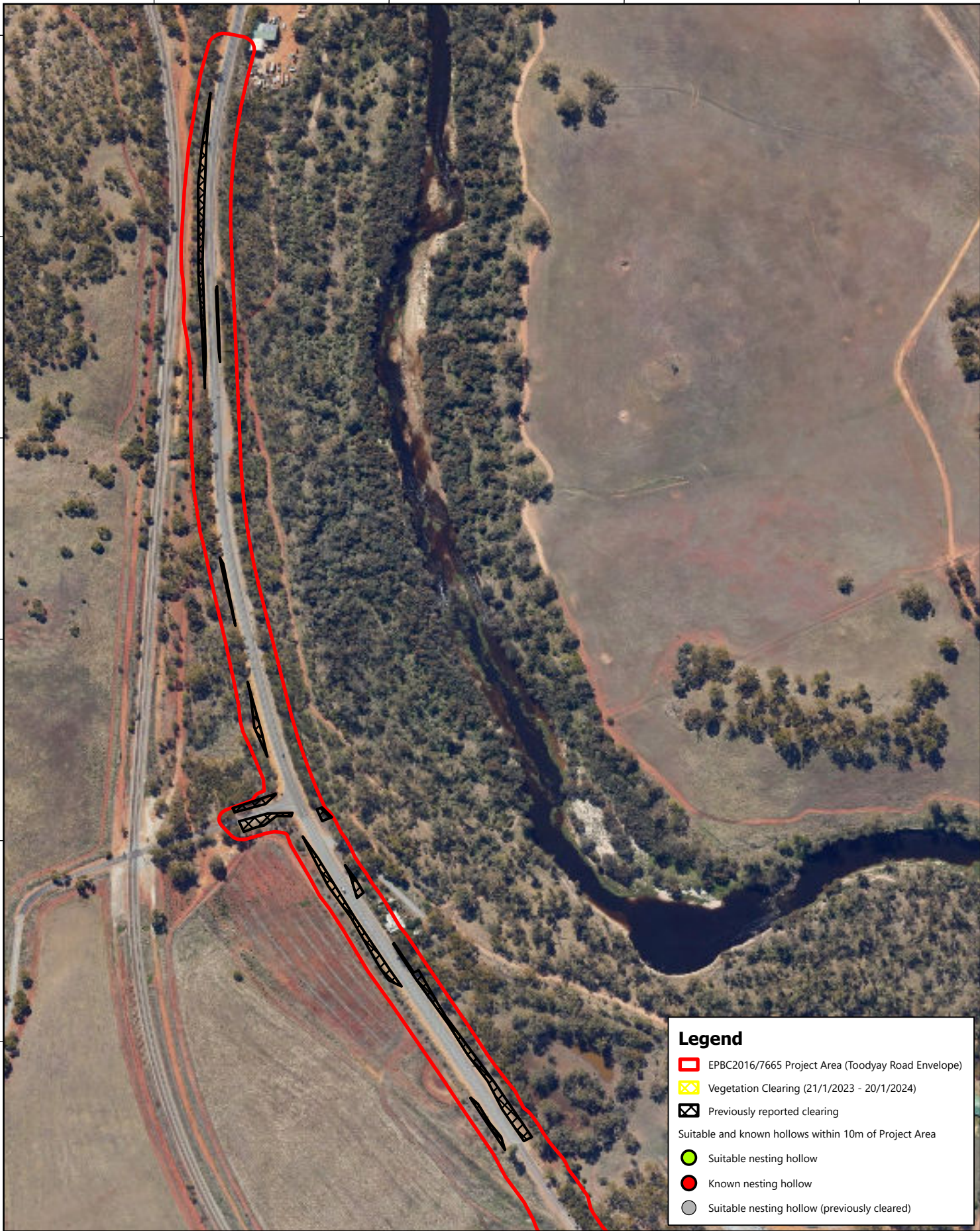
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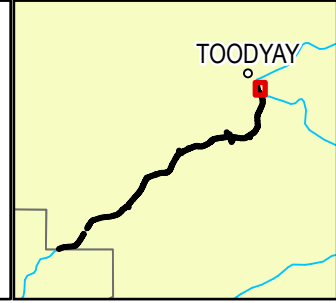
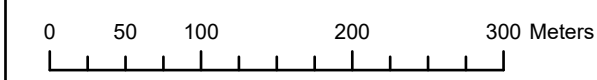
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Toodyay Road Widening and Upgrade Project

2023-24 Clearing Areas



Attachment B Artificial Hollow Monitoring Report – October 2023



Australian Black Cockatoo Specialists

Report: Nesting survey of 70 artificial hollows Julimar State Forest W.A

Main Roads
Western Australia

17 October 2023





Australian Black Cockatoo Specialists

CONTENTS

- **INTRODUCTION 1**
- **INSPECTION METHOD 1**
- **RESULTS..... 1**
- **RECOMMENDED REPAIRS.....2**
- **RECOMMENDATIONS/CONCLUSIONS.....2**
- **CONTACT INFORMATION.....2**
- **APPENDIX 1 AND 2; 3 AND 4 ATTACHED SEPERATELY.....5**

All images source: Rick Dawson

INTRODUCTION

Australian Black Cockatoo Specialists (ABCS) are pleased to submit this report to the Department of Main Roads Western Australia (MRWA) regarding the inspection/nesting survey of 70 Artificial hollows (ANH) in Julimar State Forest on Friday 13th and 14th October 2023.

INSPECTION METHOD

The objective of the survey was to establish if there has been Black Cockatoo 'prospecting' and/or nesting activity. The scope of this project included:

- undertaking a close visual inspection of all ANH's via camera pole and or ladder, any activity detected was then photographed. **(This required two staff).**
- Inspect tree, fixings and hollow condition.
- Any Black Cockatoo nestlings older than 21days, will be photographed, leg banded, measured, weighed, aged (this will give us the date egg laid) and DNA taken, under licences from DPAW.
- Details of any use including non-target species was recorded.



All 70 ANH's were inspected in accordance with protocols used by CSIRO and the Department of Biodiversity, Conservation and Attractions. The inside and above each artificial hollow was viewed using a pole camera and photographs taken of any chipping detected, nesting activity or obstructions. A photograph was also taken from the ground using a 500m lens of the sacrificial posting detailing any chipping or signs of prospecting. Details of observations were recorded and are attached at Annex 2 and 3.

RESULTS

I am very pleased to advise that the following hollows are in use by Carnaby's in the area:

- **J01:** Female was flushed from hollow, two x Carnaby's eggs in the bottom of the hollow, heavy chipping on post by a female Carnaby's



- **J02:** Female was flushed from hollow, one x three-day old nestling and one Carnaby's eggs in the bottom of the hollow, heavy chipping on post by a female Carnaby's



- **J31:** Female was flushed from hollow, one x five-day and one 2 two day old Carnaby's nestling in the bottom of the hollow, heavy chipping on post by a female Carnaby's



- **J32:** Female was flushed from hollow one x three-day old nestling and one two-day old Carnaby's in the bottom of the hollow, very little chipping on post by a female Carnaby's.



- **J51:** Female was flushed from hollow, one x three-day old nestling and one Carnaby's eggs in the bottom of the hollow, chipping on post by a female Carnaby's.



- **J56:** Female not flushed from hollow, two x Carnaby's eggs in the bottom of the hollow, heavy chipping on post by a female Carnaby's



- **J65:** Female was flushed from hollow, one Carnaby's eggs in the bottom of the hollow, chipping on post by a female Carnaby's.



The oldest nestling in J31 will fledge from the week of the 16 December 2023, when it will be approximately 70days old.

A Brush-tailed possum was observed sheltering in J67 (see Annex 4).

There was chipping by black cockatoos observed in 36 other hollows with most occurring in five separate areas, indicating that there were at least two other females prospecting in the different areas. A score of 0-10 was used to rate the amount of chipping with '0' being none detected. We have trialled a number of wando post in some of the hollows and they seem to be holding up better than Tuart or Jarrah.

Carnaby's' were heard calling/observed in Julimar State forest in the following locations; J62-67, J48-J49, J54, J32-J37. There was also a flock of 30-40 feeding on Marri on the Bindoon Dewars Pool Rd. Forest Red-tails were heard calling near J53-J54.

REPAIRS

The following repairs are recommended prior to the start of next year's breeding; this will be update in the second survey:

- At the time of this survey no hollows require woodchips.
- The sacrificial post in all seven hollows being used by Carnaby's will need to be replaced post breeding.
- All 70 trees are in good condition and there is no need to relocate any hollows at this stage.
- All fixings and the hollows are in very good condition.

RECOMMENDATIONS

- That the nestlings in J01,02,31,32,51,56 and 65 be processed as detailed above during the December survey

- That next nesting survey should be conducted **prior to the 16th December 2023**, to enable data to be taken from all nestlings to provide valuable information on the health of the birds using the area.

CONCLUSIONS

These results are very encouraging and consistent with other sites that have had ANH's installed in known breeding sites. As there have now been seven nesting attempts and prospecting in another 36 hollows this year, it is very likely that nesting attempts will continue to grow with each year. I wish to thank MRWA and DBCA for their support in allowing me to install ANH in Julimar State Forest

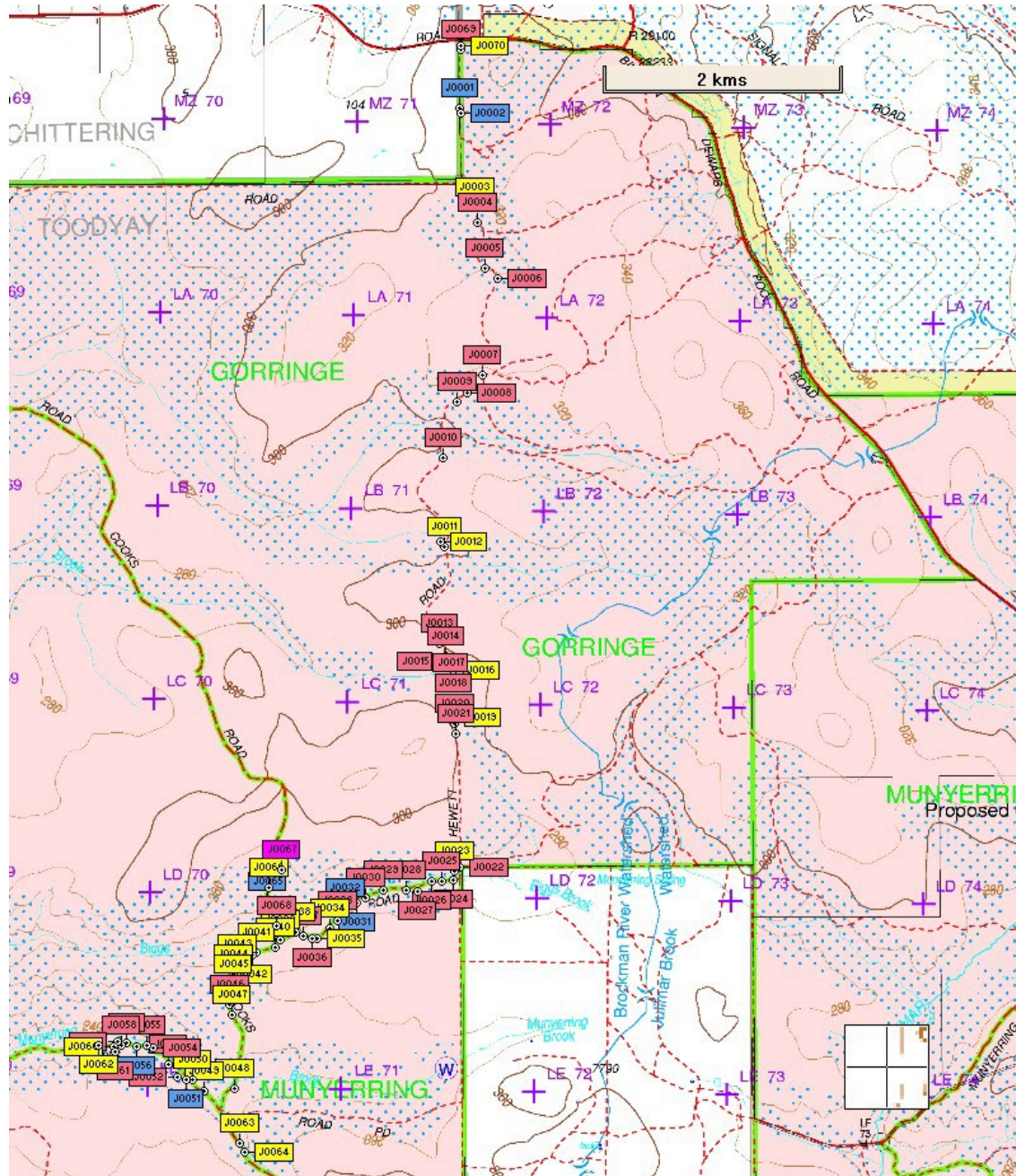
CONTACT INFORMATION

Contact Name: Rick Dawson
Position: Principal Consultant
Phone: 0448 170 670
Email: dawsonrick60@gmail.com



Rick Dawson
Director
Australian Black Cockatoo Specialist
17 October 2023

APPENDIX 1 – MAP OF ANH THAT HAVE CHIPPING (MARKED RED), NESTING (MARKED BLUE) BY BLACK COCKATOOS



Rick Dawson – Report on nesting survey Julimar SF Artificial Hollows MRWA

APPENDIX 2 – DETAILS OF ANH OBSERVATIONS

Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J01	Female flushed, 2 x Carnaby's Eggs	5	5lt	Good	Good	Change post and check substrate post nesting
J02	Female flushed, 1 x 3 day old nestling, and 1 x Carnaby's Eggs	5	5lt	Good	Good	Change post and check substrate post nesting
J03	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	Nil
J04	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J05	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J06	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J07	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J08	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL
J09	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL
J10	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL
J11	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J12	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J13	Chewing on post no signs of Breeding. Cobwebs	2	Nil	Good	Good	NIL
J14	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J15	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J16	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J17	Chewing on post no signs of Breeding	2	Nil	Good	Good	Nil
J18	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J19	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J20	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J21	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J22	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J23	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J24	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J25	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J26	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J27	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J28	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL
J29	Chewing on post no signs of Breeding	2	Nil	Good	Good	Nil
J30	Chewing on post no signs of Breeding	2	Nil	Good	Good	Nil
J31	Female flushed, 1x 5day and 1x 2day old Carnaby's nestling	5	5lt	Good	Good	Change post and check substrate post nesting
J32	Female flushed, 2 x Carnaby's Eggs	1	5lt	Good	Good	CHECK post and substrate post nesting
J33	Chewing on post no signs of Breeding	2	Nil	Good	Good	Nil
J34	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J35	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J36	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J37	Chewing on post no signs of Breeding. SIDE WALL OF HOLLOW CHEWED	1	Nil	Good	Good	NIL
J38	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	NIL
J39	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	NIL
J40	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J41	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J42	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J43	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J44	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J45	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J46	Minor chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J47	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J48	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J49	No signs of nesting or inspection by Black Cockatoos	1	Nil	Good	Good	NIL
J50	No signs of nesting or inspection by Black Cockatoos	1	Nil	Good	Good	NIL
J51	Female flushed, 1x 3 Day old nestling, and 1 x Carnaby's Eggs	4	5lt	Good	Good	CHECK post and check substrate post nesting
J52	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J53	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J54	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J55	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J56	Female not flushed, 2 x Carnaby's Eggs	5	5lt	Good	Good	Change post and check substrate post nesting
J57	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J58	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J59	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J60	No signs of nesting or inspection by Black Cockatoos	1	Nil	Good	Good	NIL

Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J61	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J62	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	NIL
J63	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	NIL
J64	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J65	Female flushed, 1 x Carnaby's Eggs	5	5lt	Good	Good	CHECK post and check substrate post nesting
J66	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J67	No signs of nesting or inspection by Black Cockatoos. Brush-tailed possum roosting	2	Nil	Good	Good	NIL
J68	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J69	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J70	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	NIL

APPENDIX 3 PHOTOGRAPHS AND OBSERVATION DETAILS OF ANH J01 TO J30 – Attached separately.

APPENDIX 4 PHOTOGRAPHS AND OBSERVATION DETAILS OF ANH J31 TO J70– Attached separately.

Artificial Hollow J01



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J01	Female flushed, 2 x Carnaby's Eggs	5	5lt	Good	Good	Change post and check substrate post nesting

Artificial Hollow J02



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J02	Female flushed, 1 x nestling, and 1 x Carnaby's Eggs	5	5lt	Good	Good	Change post and check substrate post nesting

Artificial Hollow J03



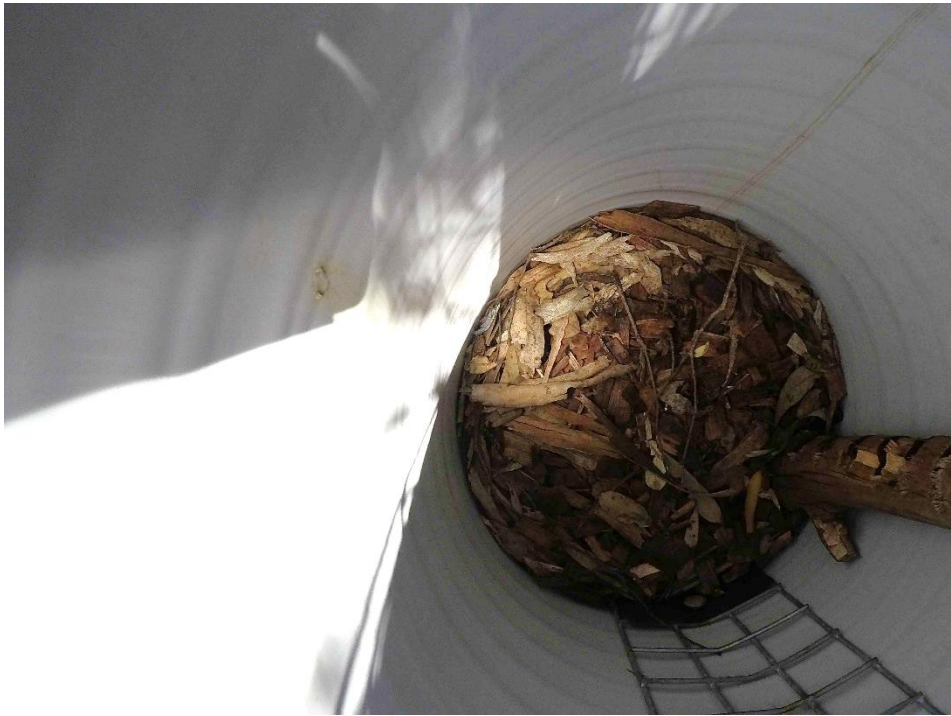
Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J03	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	Nil

Artificial Hollow J04



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J04	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J05



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J05	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J06



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J06	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J07



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J07	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J08



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J08	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL

Artificial Hollow J09



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J09	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL

Artificial Hollow J10



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J10	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL

Artificial Hollow J11



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J11	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J12



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J12	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J13



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J13	Chewing on post no signs of Breeding. Cobwebs	2	Nil	Good	Good	NIL

Artificial Hollow J14



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J14	Chewing on post no signs of Breeding, COBWEBS	1	Nil	Good	Good	NIL

Artificial Hollow J15



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J15	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J16



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J16	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J17



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J17	Chewing on post no signs of Breeding	2	Nil	Good	Good	Nil

Artificial Hollow J18



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J18	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J19



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J19	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J20



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J20	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J21



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J21	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J22



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J22	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J23



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J23	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J24



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J24	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J25



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J25	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J26



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J26	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J27



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J27	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J28



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J28	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL

Artificial Hollow J29



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J29	Chewing on post no signs of Breeding	2	Nil	Good	Good	Nil

Artificial Hollow J30



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J30	Chewing on post no signs of Breeding	2	Nil	Good	Good	Nil

Artificial Hollow J31



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J31	Female flushed, 1x 5 Day old nestling, and 1 x Carnaby's Egg	5	5lt	Good	Good	Change post and check substrate post nesting

Artificial Hollow J32



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J32	Female flushed, 2 x Carnaby's Eggs	1	5lt	Good	Good	CHECK post and substrate post nesting

Artificial Hollow J33



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J33	Chewing on post no signs of Breeding	2	Nil	Good	Good	Nil

Artificial Hollow J34



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J34	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J35



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J35	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J36



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J36	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J37



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J37	Chewing on post no signs of Breeding. SIDE WALL OF HOLLOW CHEWED	1	Nil	Good	Good	NIL

Artificial Hollow J38



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J38	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	NIL

Artificial Hollow J39



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J39	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	NIL

Artificial Hollow J40



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J40	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J41



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J41	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J42



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J42	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J43



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J43	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J44



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J44	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J45



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J45	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J46



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J46	Minor chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J47



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J47	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J48



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J48	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J49



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J49	No signs of nesting or inspection by Black Cockatoos	1	Nil	Good	Good	NIL

Artificial Hollow J50



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J50	No signs of nesting or inspection by Black Cockatoos	1	Nil	Good	Good	NIL

Artificial Hollow J51



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J51	Female flushed, 1x 3 Day old nestling, and 1 x Carnaby's Eggs	4	5lt	Good	Good	CHECK post and check substrate post nesting

Artificial Hollow J52



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J52	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J53



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J53	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J54



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J54	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J55



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J55	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J56



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J56	Female not flushed, 2 x Carnaby's Eggs	5	5lt	Good	Good	Change post and check substrate post nesting

Artificial Hollow J57



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J57	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J58



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J58	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J59



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J59	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J60



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J60	No signs of nesting or inspection by Black Cockatoos	1	Nil	Good	Good	NIL

Artificial Hollow J61



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J61	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J62



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J62	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	NIL

Artificial Hollow J63



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J63	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	NIL

Artificial Hollow J64



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J64	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J65



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J65	Female flushed, 1 x Carnaby's Eggs	5	5lt	Good	Good	CHECK post and check substrate post nesting

Artificial Hollow J66



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J66	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J67



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J67	No signs of nesting or inspection by Black Cockatoos. Brush-tailed possum roosting	2	Nil	Good	Good	NIL

Artificial Hollow J68



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J68	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J69



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J69	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J70



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J70	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	NIL

Attachment C Artificial Hollow Monitoring Report – December 2023



Australian Black Cockatoo Specialists

Final Report:

Nesting survey of 70 artificial hollows Julimar State Forest W.A



Main Roads
Western Australia

11 December 2023



Australian Black Cockatoo Specialists

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All images source: Rick Dawson

1. INTRODUCTION

Australian Black Cockatoo Specialists (ABCS) are pleased to submit this report to the Department of Main Roads Western Australia (MRWA) regarding the inspection/nesting survey of 70 Artificial hollows (ANH) in Julimar State Forest on Monday 11TH December 2023.

2. INSPECTION METHOD

The objective of the survey was to establish if there has been Black Cockatoo 'prospecting' and/or nesting activity. The scope of this project included:

- undertaking a close visual inspection of all ANH's via camera pole and or ladder, any activity detected was then photographed. **(This required two staff).**
- Inspect tree, fixings, and hollow condition.
- Black Cockatoo nestlings older than 21days, were photographed, leg banded, measured, weighed, aged (to determine the date egg laid) and DNA taken, under licences from DPAW.
- Details of any use including non-target species was recorded.



All 70 ANH's were inspected in accordance with protocols used by CSIRO and the Department of Biodiversity, Conservation and Attractions (DBCA). The inside of each artificial hollow was viewed using a pole camera (high quality Gopro images) and photographs taken (which are available on request) of any chipping detected, nesting activity or obstructions. A photograph (>50mb) was taken from the ground using a 500m lens of the sacrificial posting detailing any chipping or signs of prospecting. Details of observations were recorded and are attached at Appendix 2, 4 and 5.

3. RESULTS

I am very pleased to advise that we have nine nesting attempts so far this season as follows: See Appendices 2, 4 and 5 for photographs.

- **J01: One-52 day old male Carnaby's nestling, 1 x Carnaby's Egg removed (not being incubated).**
- **J02: One-56 day old female Carnaby's nestling, heavy chipping on post by a female Carnaby's.**
- **J17: One x Carnaby's egg in centre of hollow, female not flushed or observed. Chewing on post.**
- **J31: One dead 42-day old Carnaby's nestling, removed. Most likely died from large branch falling and hitting hollow, heavy chipping on post by a female Carnaby's.**
- **J32: One 53-day old female Carnaby's nestling., very little chipping on post by a female Carnaby's.**

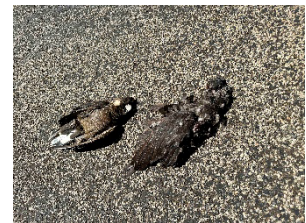
- **J41: One 25-day old male Carnaby's nestling. Dead second nestling removed for DNA, chipping on post.**
- **J51: One 60-day old male Carnaby's nestling., chipping on post by a female Carnaby's.**
- **J56: One 52-day old female Carnaby's nestling., heavy chipping on post by a female Carnaby's.**
- **J65: One dead 35-day old Carnaby's nestling, removed. Most likely predation from Chuditch or possum, chipping on post by a female Carnaby's.**

The oldest nestling is in J02 and will fledge the last week of December 2023, when it will be approximately 77days old.

The Brush-tailed possum that was observed sheltering in J67, was not present however the hollow floor is compacted, and the sacrificial post is very smooth and has been cleaned smooth of all the bark.

There was chipping by black cockatoos observed in 39 other hollows with most occurring in five separate areas, indicating that there were at least two other females prospecting in the different areas. A score of 0-10 was used to rate the amount of chipping with '0' being none detected. We have trialled a number of wando post in some of the hollows and they seem to be holding up better than Tuart or Jarrah.

Carnaby's' were heard calling/observed in Julimar State Forest in the following locations; J62-51. There was also a flock of 30-40 feeding on Marri on the Bindoon Dewars Pool Rd, with two dead on the road.



4. REPAIRS

The following repairs are recommended prior to the start of next year's breeding:

- At the time of this survey no hollows require woodchips, however I recommend that all hollows that had a nesting attempt should be freshened up with 5Lts of Chips.
- The sacrificial post in all nine hollows being used by Carnaby's need to be checked at the end of the season. Posts in J02, 32 and 56 should be replace regardless.
- All 70 trees are in good condition and there is no need to relocate any hollows at this stage.
- All fixings and the hollows are in very good condition.

5. RECOMMENDATIONS

- Check all nine hollows that are in use to provide details on fledging success when repairs are conducted next year.
- That next year's nesting survey are conducted around the same time as this year (Oct and Mid December), to enable data to be taken from all nestlings to provide valuable information on the health of the birds using the area.

6. CONCLUSIONS

These results are very encouraging and consistent with other sites that have had ANH's installed in known breeding sites. As there have now been nine nesting attempts and prospecting in another 39 hollows this year, it is very likely that nesting attempts will continue to grow with each year. I wish to thank MRWA and DBCA for their support in allowing me to install ANH in Julimar State Forest

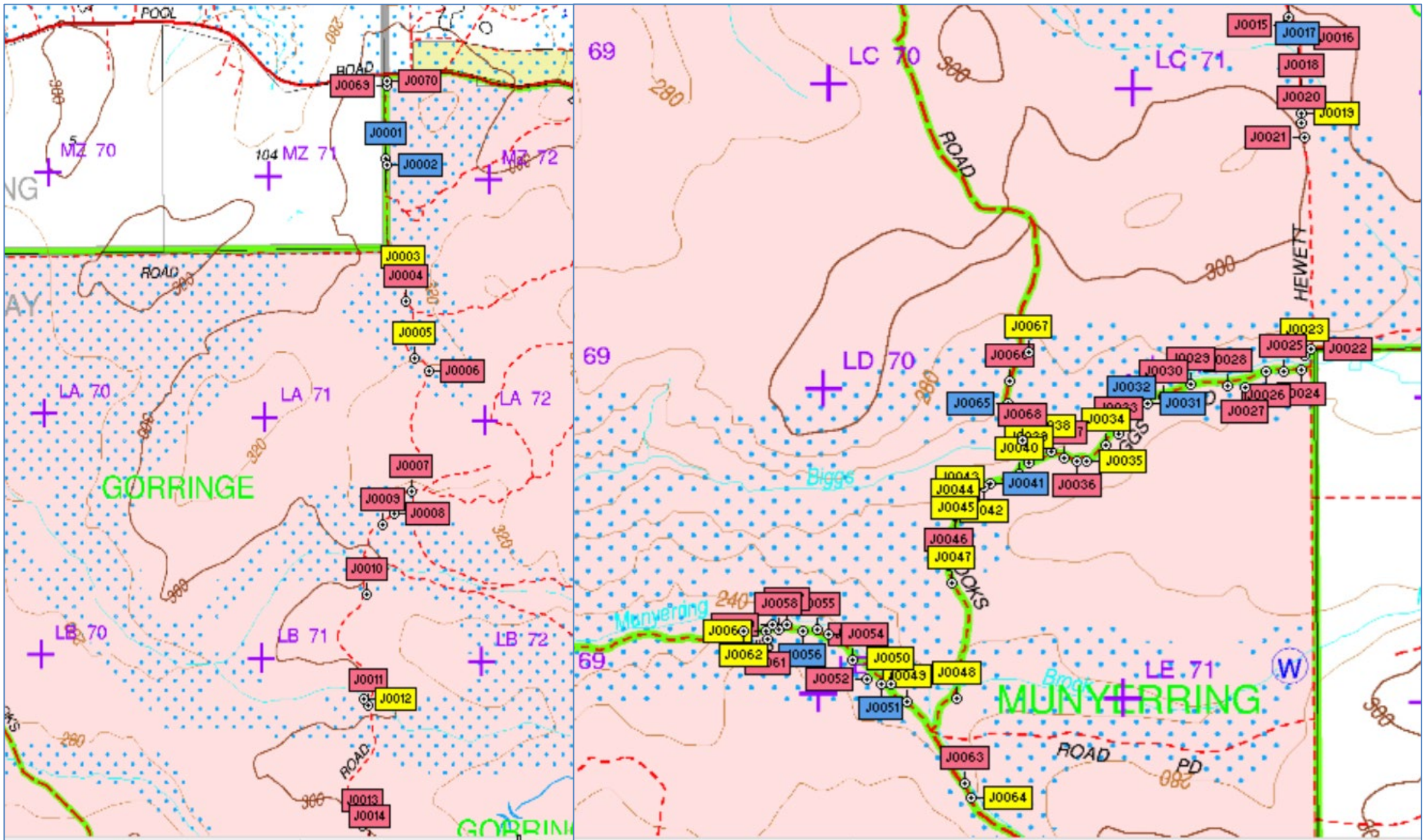
7. CONTACT INFORMATION

Contact Name: Rick Dawson
Position: Principal Consultant
Phone: 0448 170 670
Email: dawsonrick60@gmail.com



Rick Dawson
Director
Australian Black Cockatoo Specialist
17 December 2023

8. APPENDIX 1 – MAP OF ANH THAT HAVE CHIPPING (MARKED RED), NESTING (MARKED BLUE) BY BLACK COCKATOOS



9. APPENDIX 2 – DETAILS OF ANH OBSERVATIONS

Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J01	One 52-day old male Carnaby's nestling, 1 x Carnaby's Egg removed (not being incubated). Chewing on post	3	5lt	Good	Good	Add chips and check post
J02	One 56-day old female Carnaby's nestling. Chewing on post	10	5lt	Good	Good	Add chips and change post
J03	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	Nil
J04	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J05	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J06	Minor chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J07	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J08	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL
J09	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL
J10	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL
J11	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J12	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J13	Chewing on post no signs of Breeding. Cobwebs	2	Nil	Good	Good	NIL
J14	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J15	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J16	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J17	One x Carnaby's egg in centre of hollow, female not flushed, or observed. Chewing on post.	3	5	Good	Good	Check status of egg, add chips.
J18	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J19	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J20	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J21	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J22	Chewing on post no signs of Breeding	2	Nil	Good	Good	NIL

Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J23	Chewing on post no signs of Breeding. COBWEBS	1	Nil	Good	Good	Nil
J24	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J25	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J26	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J27	Chewing on post no signs of Breeding	2	Nil	Good	Good	NIL
J28	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL
J29	Chewing on post no signs of Breeding	2	Nil	Good	Good	Nil
J30	Chewing on post no signs of Breeding	2	Nil	Good	Good	Nil
J31	One <u>dead</u> 42-day old Carnaby's nestling, removed. Most likely died from large branch falling and hitting hollow. Chewing on post	6	5lt	Good	Good	Change post and check substrate post nesting
J32	One 53-day old female Carnaby's nestling. Chewing on post	1	5lt	Good	Good	Add chips
J33	Chewing on post no signs of Breeding	2	Nil	Good	Good	Nil

Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J34	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J35	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J36	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J37	Chewing on post no signs of Breeding. SIDE WALL OF HOLLOW CHEWED. COBWEBS	1	Nil	Good	Good	NIL
J38	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J39	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	NIL
J40	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J41	One 25-day old male Carnaby's nestling. Dead second nestling removed for DNA. Chewing on post	2	Nil	Good	Good	Add chips check post
J42	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J43	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J44	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J45	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J46	Minor chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J47	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J48	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J49	No signs of nesting or inspection by Black Cockatoos	1	Nil	Good	Good	NIL
J50	No signs of nesting or inspection by Black Cockatoos	1	Nil	Good	Good	NIL
J51	One 60-day old male Carnaby's nestling. Chewing on post	4	5lt	Good	Good	CHECK post and check substrate post nesting
J52	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J53	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J54	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J55	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J56	One 52-day old female Carnaby's nestling. Chewing on post	6	5lt	Good	Good	Change post and check substrate post nesting
J57	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J58	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
59	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J60	No signs of nesting or inspection by Black Cockatoos	1	Nil	Good	Good	NIL
J61	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J62	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	NIL
J63	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL
J64	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J65	One <u>dead</u> 35-day old Carnaby's nestling, removed. Most likely predation from Chuditch or Possum Chewing on post	5	5lt	Good	Good	Add chips
J66	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J67	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil
J68	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J69	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil
J70	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

10. APPENDIX 3. DETAILS OF PROCESSED NESTLINGS

Date Inspected	Nest No	Sex	Band No	FLW	Actual weight	Age	DNA	Comments
11/12/2023	J56	F	320-02525	234	520	52	3F	NIL
11/12/2023	J51	M	320-02526	281	590	60	5F	NIL
11/12/2023	J41	F	320-02527	78	360	25	3F	NIL
11/12/2023	J65	?	Dead	125	N/A	35	1 Toe	Suspect Chuditch/Possum Predation
11/12/2023	J32	F	320-02528	243	560	53	3F	Dead Second nestling DNA toe
11/12/2023	J31	?	Dead	175	N/A		1 Toe. EGG	Suspect large fallen branch that struck hollow
11/12/2023	J02	M	320-02529	259	550	56	4F	NIL
11/12/2023	J01	F	320-02530	236	580	52	3F	NIL
11/12/2023	J17	?	1 x Carnaby's eggs	N/A	N/A	N/A	N/A	Female not flushed or observed

Legend:

FLW	Folded Left Wing Measurement in millimetres
DNA	3F = 3 feathers

11. **APPENDIX 4 PHOTOGRAPHS AND OBSERVATION DETAILS OF ANH J01 TO J30 – ATTACHED SEPARATELY.**

12. **APPENDIX 5 PHOTOGRAPHS AND OBSERVATION DETAILS OF ANH J31 TO J70– ATTACHED SEPARATELY.**

Artificial Hollow J01



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J01	One 52 day old male Carnaby's nestling, 1 x Carnaby's Egg removed (not being incubated)	3	5lt	Good	Good	Add chips and check post

Artificial Hollow J02



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J02	One 56 day old female Carnaby's nestling.	10	5lt	Good	Good	Add chips and change post

Artificial Hollow J03



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J03	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	Nil

Artificial Hollow J04



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J04	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J05



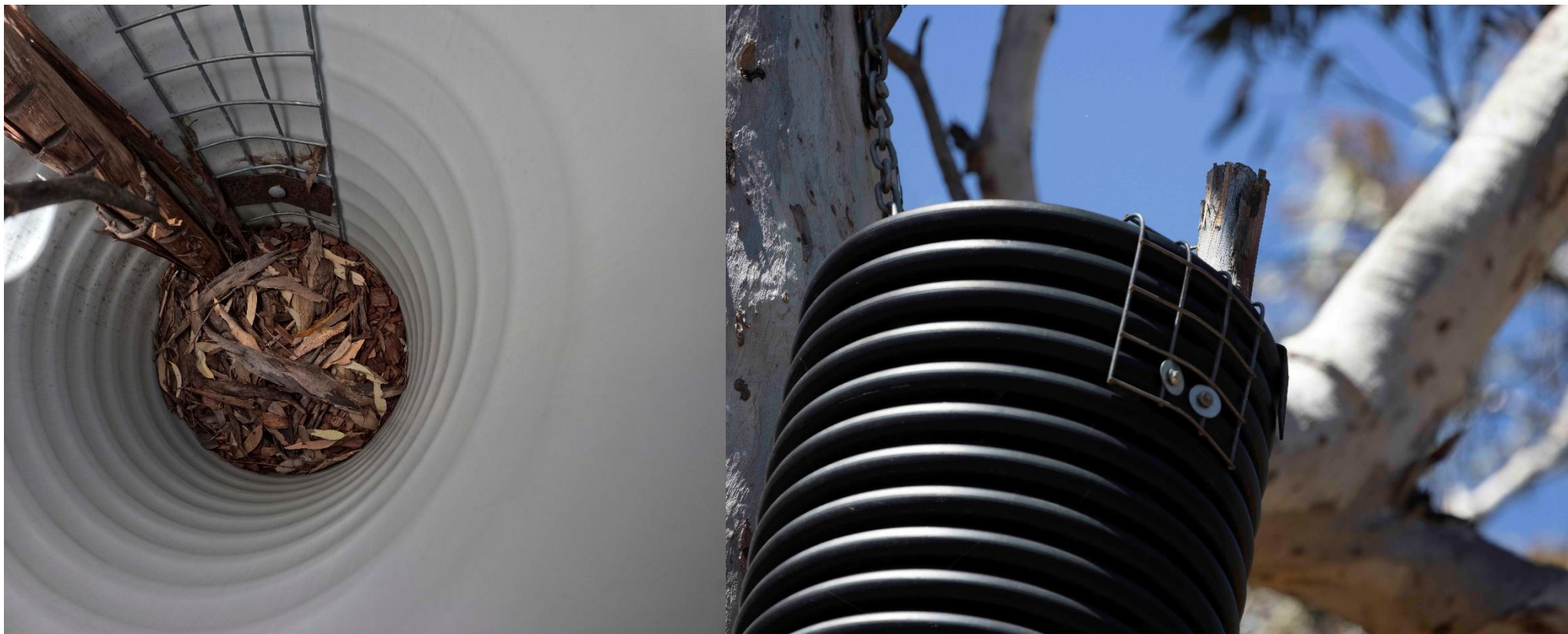
Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J05	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J06



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J06	Minor chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J07



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J07	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J08



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J08	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL

Artificial Hollow J09



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J09	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL

Artificial Hollow J10



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J10	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL

Artificial Hollow J11



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J11	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J12



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J12	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J13



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J13	Chewing on post no signs of Breeding. Cobwebs	2	Nil	Good	Good	NIL

Artificial Hollow J14



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J14	Chewing on post no signs of Breeding, COBWEBS	1	Nil	Good	Good	NIL

Artificial Hollow J15



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J15	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J16



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J16	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J17



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J17	One x Carnaby's egg in centre of hollow, female not flushed. Chewing on post.	3	5	Good	Good	Check status of egg, add chips.

Artificial Hollow J18



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J18	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J19



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J19	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J20



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J20	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J21



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J21	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J22



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J22	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J23



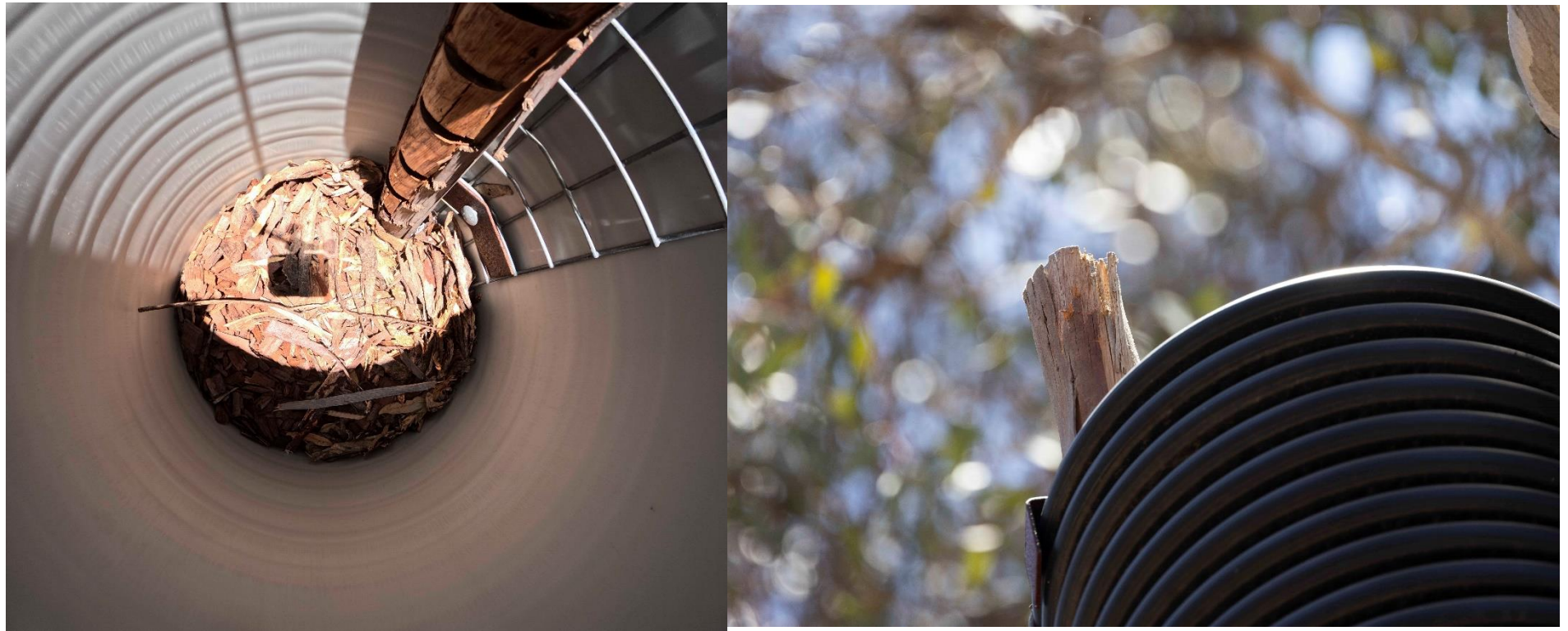
Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J23	No signs of nesting or inspection by Black Cockatoos. COBWEBS	0	Nil	Good	Good	Nil

Artificial Hollow J24



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J24	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J25



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J25	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J26



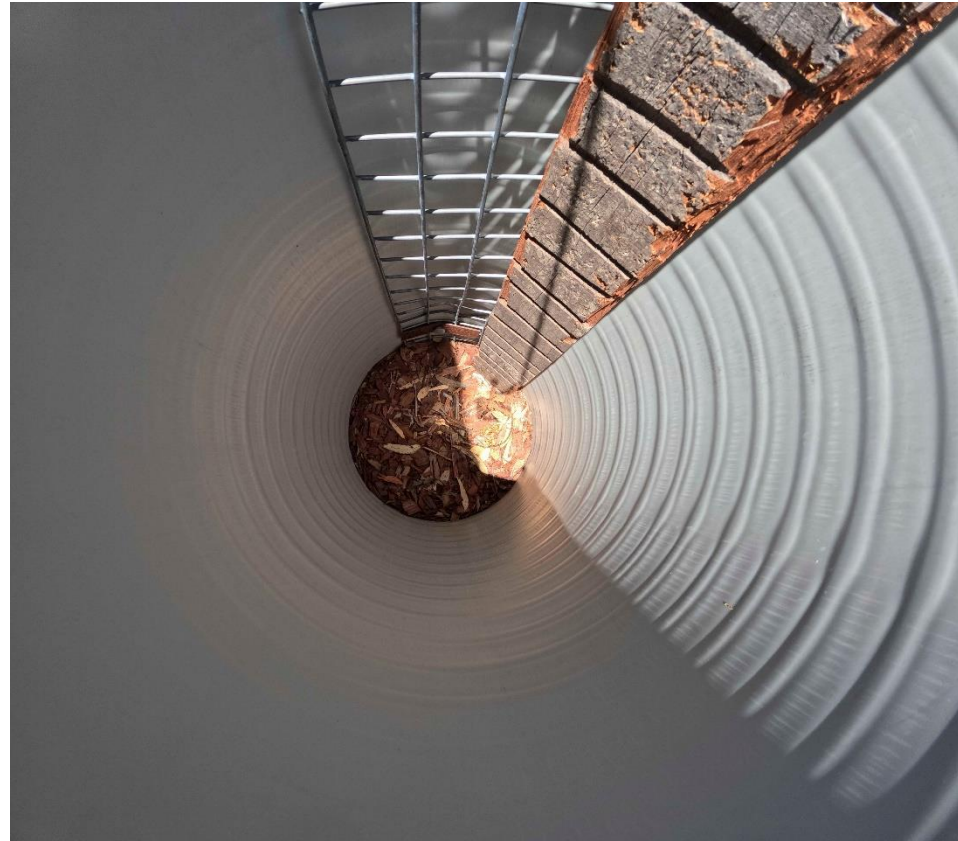
Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J26	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J27



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J27	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J28



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J28	Chewing on post no signs of Breeding	3	Nil	Good	Good	NIL

Artificial Hollow J29



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J29	Chewing on post no signs of Breeding	2	Nil	Good	Good	Nil

Artificial Hollow J30



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J30	Chewing on post no signs of Breeding	2	Nil	Good	Good	Nil

Artificial Hollow J31



LARGE LIMB BROKE AWAY FROM ABOVE HOLLOW

Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J31	One <u>dead</u> 42-day old Carnaby's nestling, removed. Most likely died from large branch falling and hitting hollow.	6	5lt	Good	Good	Change post and check substrate post nesting

Artificial Hollow J32



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J32	One 53 day old female Carnaby's nestling.	1	5lt	Good	Good	Add chips

Artificial Hollow J33



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J33	Chewing on post no signs of Breeding	2	Nil	Good	Good	Nil

Artificial Hollow J34



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J34	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J35



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J35	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J36



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J36	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J37



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J37	Chewing on post no signs of Breeding. SIDE WALL OF HOLLOW CHEWED. COBWEBS	1	Nil	Good	Good	NIL

Artificial Hollow J38



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J38	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J39



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J39	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	NIL

Artificial Hollow J40



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J40	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J41



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J41	One 25-day old male Carnaby's nestling. Dead second nestling removed for DNA	2	Nil	Good	Good	Add chips check post

Artificial Hollow J42



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J42	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J43



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J43	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J44



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J44	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J45



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J45	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J46



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J46	Minor chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J47



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J47	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J48



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J48	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J49



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J49	No signs of nesting or inspection by Black Cockatoos	1	Nil	Good	Good	NIL

Artificial Hollow J50



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J50	No signs of nesting or inspection by Black Cockatoos	1	Nil	Good	Good	NIL

Artificial Hollow J51



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J51	One 60 day old male Carnaby's nestling.	4	5lt	Good	Good	CHECK post and check substrate post nesting

Artificial Hollow J52



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J52	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J53



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J53	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J54



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J54	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J55



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J55	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J56



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J56	One 52 day old female Carnaby's nestling.	6	5lt	Good	Good	Change post and check substrate post nesting

Artificial Hollow J57



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J57	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J58



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J58	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J59



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J59	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J60



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J60	No signs of nesting or inspection by Black Cockatoos	1	Nil	Good	Good	NIL

Artificial Hollow J61



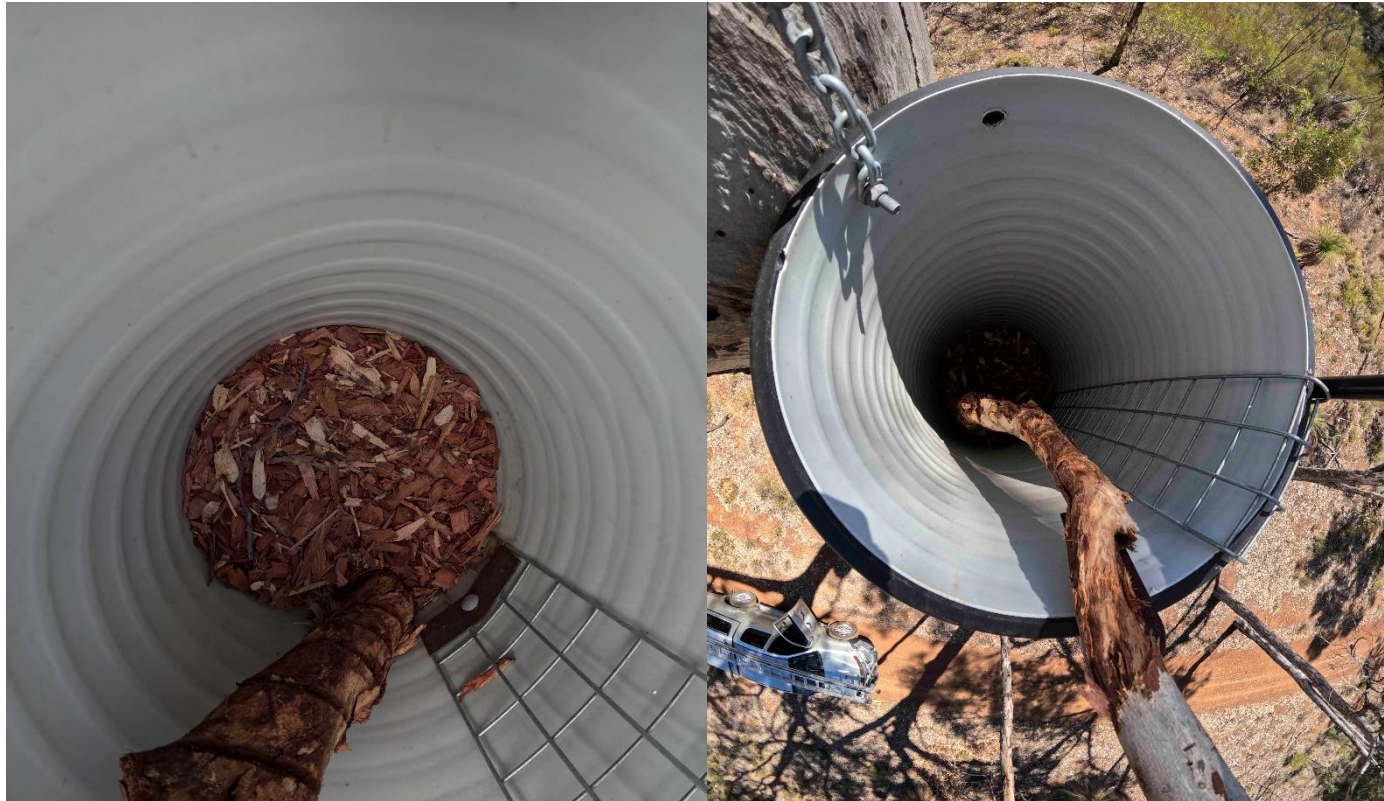
Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J61	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J62



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J62	No signs of nesting or inspection by Black Cockatoos	0	Nil	Good	Good	NIL

Artificial Hollow J63



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J63	Chewing on post no signs of Breeding	1	Nil	Good	Good	NIL

Artificial Hollow J64



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J64	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J65



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J65	One <u>dead</u> 35-day old Carnaby's nestling, removed. Most likely predation from Chuditch or possum.	5	5lt	Good	Good	Add chips

Artificial Hollow J66



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J66	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J67



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J67	No signs of nesting or inspection by Black Cockatoos.	0	Nil	Good	Good	Nil

Artificial Hollow J68



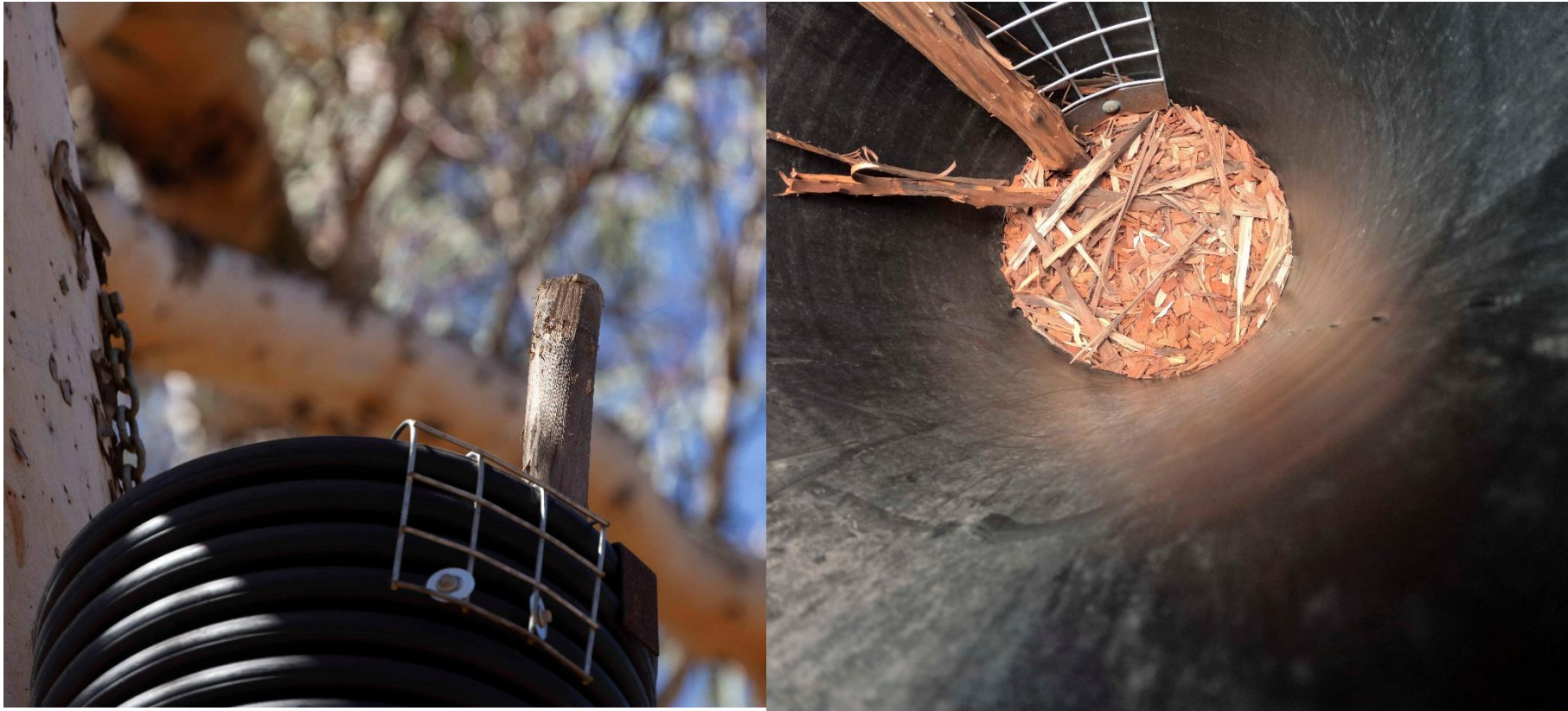
Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J68	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J69



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J69	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Artificial Hollow J70



Hollow No	Comments	Chipping score 0-10	Wood Chips	Tree condition	Fixings and Hollow condition	Recommended repairs
J70	Chewing on post no signs of Breeding	1	Nil	Good	Good	Nil

Attachment D Attachment Black Cockatoo Maintenance Report – 2023



Australian Black Cockatoo Specialists

Report: Repair of five artificial hollows Julimar State Forest W.A



Main Roads
Western Australia

30 May 2023



Australian Black Cockatoo Specialists

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- **INTRODUCTION 1**
- **INSPECTION AND REPAIR METHOD 1**
- **REPAIRS AND RESULTS 2**
- **RECOMMENDATIONS/CONCLUSIONS 2**
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All images source: Rick Dawson

INTRODUCTION

Australian Black Cockatoo Specialists (ABCS) are pleased to submit this report to the Department of Main Roads Western Australia (MRWA) regarding the inspection and repair of five Artificial hollows (ANH) in Julimar State Forest WA, during the week of 22 May 2023.

REPAIR AND INSPECTION METHOD

These inspection and repairs were completed as part of the 40 ANH's being installed in Julimar State Forest during the week of the 22 May 2023

The objective was to ensure that every hollow was in peak condition, and to establish if there has been any Black Cockatoo 'prospecting' and/or nesting activity and inspect and repair the artificial hollows as required. The scope of this project included:

- undertaking a close visual inspection of all artificial hollows via EWP, any activity detected was then photographed.
- Inspect tree, fixings and hollow condition.
- Place up to 15lts of course Jarrah wood chips in hollows as required, posts reset and obstruction removed.

Black Cockatoos are known to 'prospect' (inspect a hollow for suitability) a number of hollows in the nesting area. This can be done over many days. Prospecting can be one or all of the following:

- Chewing the top of the hollow or sacrificial post,
- Entering hollow,
- Chewing the post at base,
- Compacting hollow floor, and
- Digging a depression in the hollow floor.



REPAIRS AND RESULTS

The following repairs were conducted:

- As part of the normal compacting/decay up to 15lts of wood chips was placed in each hollow. as per Annex 1. Research has shown that if the substrate becomes too low Carnaby's Cockatoos have chewed the base which has resulted in eggs falling through (Pers Obs Rick Dawson and Dr Denis Saunders)
- The sacrificial posts in J30 and J01 were replaced, no other posts required replacing at this time. Five and ten litres of chips were added respectively.
- J21 had broken Carnaby's eggs which were removed and 15 Lts of chips added.
- J02 and J20 had obstructions removed.
- All 30 trees are in good condition and there is no need to relocate any hollows at this stage.
- All fixings and the hollows are in very good condition.



RECOMMENDATIONS

- There should be no requirement to add any further substrate to the nests for at least two years, unless compaction and/or decay from nesting attempts occurs.

- All fixings and hollows should last 50 years, and
- That a nesting surveys should be conducted in October late/mid December 2023, to ensure all nesting attempts and recorded and to enable data to be taken from nestlings to provide valuable information on the health of the birds using the area.

CONCLUSIONS

All hollows are now in peak condition and ready for this year's breeding season.

These results are very encouraging and consistent with other sites that have had artificial hollows installed for the first time in known breeding sites. In these sites it has taken a couple of years for the birds to become comfortable enough to breed in them. As there have now been several successful breeding attempts and prospecting in most hollows, it is very likely that nesting attempts will continue to grow with each year.

MRWA are to be commended for maintaining the hollows in optimal condition and monitoring each year to date.

CONTACT INFORMATION

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Rick Dawson
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30 May 2023

APPENDIX 1 – LIST OF REPAIRS.

Hollow No	Observations December 2022	Recommended Repairs December 2022.	Action/comments May 2023
J01	1 x abandoned Carnaby's eggs in the bottom of the hollow, 1x Male nestlings 38 days old, Leg banded 32002064, it weighed 390gm which over 100gm underweight	Change post and check substrate post nesting	New Wando Post and 10lts of chips
J02	Chewing on post no signs of, no sign of nesting	Remove obstruction	Minor chewing on post, obstruction removed, no sign of nesting
J20	No signs of nesting or inspection by Black Cockatoos	Remove stick obstruction	Minor chewing on post, obstruction removed, no sign of nesting
J21	Female was flushed from hollow, 2 x Carnaby's eggs in the bottom of the hollow, Chipping on post by a female Carnaby's.	Inspect and repair as required	15lts of Woodchips, cracked eggs removed. Post not needed to be changed
J30	1x Male nestlings 54 days old, Leg banded 32002065, it weighed 680gm	Change post and check substrate post nesting	10ts of Woodchips, New Wando Post

APPENDIX 2 – PHOTOGRAPHS OF REPAIRS TO FIVE HOLLOWES.

