# EPBC Annual Compliance Report 2025 Lynwood Quarry, EPBC 2012/6560

Holcim

ecological AUSTRALIA
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## Document Tracking

Project Name: EPBC Annual Compliance Report 2025 Lynwood Quarry, EPBC 2012/6560

Project Number: 25GWS10241

Project Manager: Michael Gregor

| Version | Prepared by | Reviewed by | Approved by | Status | Date |
|---|---|---|---|---|---|
| V5 | Michael Gregor | Andrew Whitford | Andrew Whitford | Final | 24/03/2026 |

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## Acknowledgements

This document has been prepared by Eco Logical Australia Pty Ltd with support from Holcim.

# Contents



## List of Tables



## List of Appendices

# Abbreviations

| Abbreviation | Description |
|---|---|
| BGWMP | Box-Gum Woodland Management Plan |
| CEEC | Critically Endangered Ecological Community |
| DAWE | Commonwealth Department of Agriculture, Water and the Environment |
| DCCEEW | Department of Climate Change Energy, the Environment and Water |
| EP&A Act | NSW *Environmental Planning and Assessment Act 1979* |
| EPBC Act | Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* |
| LQBGWMP | Lynwood Quarry Box-Gum Woodland Management Plan |
| MNES | Matters of National Environmental Significance |
| RLMP | Rehabilitation and Landscape Management Plan |

# 1. Introduction

Lynwood Quarry (the quarry) is a hard rock quarry owned and operated by Holcim (Australia) Pty Ltd (Holcim) located west of Marulan, New South Wales (NSW). Holcim is the trading name for Holcim (Australia) Pty Ltd which, as a member of the Holcim group, is one of the leading suppliers of heavy construction material products in Australia; operating over 80 quarries, over 200 fixed concrete plants and a fleet of over 900 concrete delivery trucks. Holcim began quarry operations at Lynwood Quarry in 2015 and since this time it has provided high quality sand and aggregates for use in construction and landscaping across the local, regional and Sydney markets.

## 1.1. Project history

Development consent under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) was originally granted for the quarry in December 2005.

Consideration of listed matters of national environmental significance (MNES) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) was undertaken in 2005 as part of the original EPBC Act environmental assessment for the quarry. This assessment did not identify any MNES pertinent to the development. Holcim commenced construction of the quarry in late 2010 with operations commencing in October 2015.

However, MNES were identified part way through construction works as a result of pre-clearance site inspections by environmental personnel. They included the *Leucochrysum albicans* var*. tricolor* (Hoary Sunray) and *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* which is listed as a Critically Endangered Ecological Community (CEEC). The Hoary Sunray is listed as an endangered species under the EPBC Act. At the time of the original ecological assessment in 2005 the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland community was not listed as threatened under the EPBC Act. The ecological community was subsequently listed under the EPBC Act in May 2006. Approximately 19.6 ha of the CEEC was identified within the Project Area, of which 7.9 hectares was approved to be impacted by the quarry development.

Following the identification of MNES, two referrals were prepared for the quarry and approved under the EPBC Act:

- The first referral (EPBC 2012/6560) related to the impacts of Lynwood Quarry on MNES associated with the NSW approved quarry at the time of the referral. That referral was found to be a controlled action and on 13 September 2013 was granted approval subject to conditions.
- The second referral (EPBC 2016/7653) related to a second quarrying area at Lynwood Quarry referred to as the Granite Pit. The extension of quarrying into the Granite Pit was referred in 2016 and was found to not be a controlled action.

On 10 November 2021, Holcim received a notice of a breach of conditions of their EPBC Act approval from the Commonwealth Department of Agriculture, Water and the Environment (DAWE), now Department of Climate Change Energy, the Environment and Water (DCCEEW). This notice specified that the Box Gum Woodland Management Plan (BGWMP) had not been implemented as required and that the monitoring and record keeping of works had not been done as per the conditions of approval.

A variation of conditions for 2012/6560 was issued March 2025 by the Commonwealth DCCEEW which added additional conditions to the approval, including the requirement for an updated Lynwood Quarry Box Gum Woodland Management Plan (LQBGWMP) and compliance reporting (Appendix A).

An updated LQBGWMP was prepared to satisfy the variation of conditions for 2012/6560 issued in March 2025 (Appendix B). This update LQBGWMP provides an updated implementation schedule for management tasks within the BOA including revegetation, weed control and monitoring until 2038. The *Lynwood Quarry Box Gum Woodland Management Plan Update: v4 19 January 2026* was approved on the 20th of February 2026 (Appendix C).

This document provides an annual compliance report for EPBC Approval 2012/6560.

## 1.2. Description of activities

The approved controlled action (2012/6560) comprises aspects of the quarry resulting in surface disturbance as shown in Appendix D. Ecological impacts associated with the action include impacts on the identified MNES, specifically, the removal of:

- a total of 7.9 hectares of the EPBC listed White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC (Box Gum Woodland).
- approximately 160 individuals of *Leucochrysum albicans* var. *tricolor* (Hoary Sunray)

A range of measures to avoid or mitigate impacts on MNES were implemented as part of the Lynwood Quarry development, and a Biodiversity Offset Package has been approved to compensate for residual and unavoidable impacts (refer to Appendix D which outlines the Biodiversity Offset Area).

## 1.3. Purpose

This annual compliance report for January to December 2025 has been prepared to meet the reporting requirements of Condition 8 of the EPBC Approval 2012/6560. Condition 8 of the EPBC Approval 2012/6560 states:

> '*The approval holder must prepare a compliance report for each Annual Compliance Report period (ACR period)..*'

Holcim is required to submit an annual report by 20 March of each year.

# 2. EPBC approval conditions and compliance

The proposed action was granted approval as a controlled action (EPBC 2012/6560) under the EPBC Act subject to conditions to ensure the protection, sustainability and viability of the MNES within the Project Area. The conditions of approval are detailed in Table 1, along with a statement of compliance for the 2025 reporting period.

Table 1: EPBC Approval Conditions – Compliance Status

| Condition no. / ref. | Condition | Compliance status | Evidence/comments |
|---|---|---|---|
| 1 | The approval holder must not clear more than 7.9 hectares Box Gum Woodland within the project area. | Compliant | Less than 7.9 hectares of the ecological community White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland approved to be cleared as part of the controlled action has been removed as of 31 December 2022. |
| 2 | The approval holder must implement the Lynwood Quarry Box Gum Woodland Management Plan (LQBGWMP) at least until the expiry of this approval. | Ongoing | Implementation of the updated LQBGWMP is scheduled to begin in January 2026. |
| 2A | By 1 May 2025 the approval holder must submit a revised LQBGWMP to the department for the Minister's written approval. | Compliant | The LQBGWMP update, prepared by ELA dated 30 April 2025, was submitted 1 May 2025. The approved version (v4) of the report is attached in Appendix B. |
| 2B | The revised LQBGWMP submitted in accordance with condition 2A of this approval, must be prepared by a suitably qualified ecologist and include; | Compliant | Section 1.3 of the LQBGWMP update (Appendix B) states:<br>*"This BGWMP has been prepared by a Restoration Ecologist/s with over 5 years' experience in environmental consultancy and a relevant Bachelor of Science degree and has been prepared in line with the Environmental Management Plan guidelines from DCCEEW (2024)."* |
| 2B cont. | maps and a general description of the offset property, including its size and location; | Complaint | The location and extent of the Biodiversity Offset Area (BOA) is shown in Figure 1 of the LQBGWMP update (Appendix B). The description of the vegetation communities within the BOA is detailed in Section 2.2. |
| 2B cont. | maps that show the following within the offset property:<br>i. the extent of existing Box Gum Woodland; and<br>ii. areas of native pasture that will be regenerated (regeneration areas) to Box Gum Woodland; | Complaint | The extent of existing Box Gum Woodland (BGW) is shown in Figure 3 of the LQBGWMP update (Appendix B). Figure 6 from the LQBGWMP update shows management zone 1 and 2 which will undergo revegetation to BGW EPBC condition. |
| 2B cont. | a table that clearly documents the total area in hectares of:<br>i. the offset property;<br>ii. existing Box Gum Woodland within the offset property; and<br>iii. regeneration areas; | Compliant | Table 5 of the LQBGWMP update (Appendix B) shows the extent of the BGW within the BOA and the full extent of the BOA. |

| Condition no. / ref. | Condition | Compliance status | Evidence/comments |
|---|---|---|---|
| **2B cont.** | ecological survey results that document the baseline ecological quality of the existing Box Gum Woodland and regeneration areas, and the extent of Box Gum Woodland within the offset property; | Compliant | Appendix C of the LQBGWMP details the baseline quality of the existing BGW and the extent within the BOA. |
| **2B cont.** | ecological outcomes for Box Gum Woodland within the offset property that:<br>i. include increasing the extent of Box Gum Woodland within the offset property;<br>ii. include achieving a ratio of grassland form Box Gum Woodland to woodland form Box Gum Woodland of 1:14 or greater; and<br>iii. are derived from improving the baseline ecological quality of Box Gum Woodland within the offset property from baseline; | Compliant | Section 6.6 of the LQBGWMP update (Appendix B) details the extent of BGW being added to the BOA and the ratio of woodland to grassland. |
| **2B cont.** | a commitment to maintain the ecological outcomes for Box Gum Woodland once achieved and for the duration of this approval; | Compliant | Section 5.3 of the LQBGWMP update (Appendix B) details the in-perpetuity management following the completion of works in 2037. |
| **2B cont.** | details of management measures, including the timeframes and circumstances for implementing those measures, that will be implemented to achieve the ecological outcomes for Box Gum Woodland; | Compliant | Table 10 and 11 of the LQBGWMP update (Appendix B) display the implementation schedule for achieving the BGW ecological outcomes. |
| **2B cont.** | details of monitoring measures, including the timeframes and circumstances for implementing those measures, that will:<br>i. detect changes in the extent and ecological quality of Box Gum Woodland within the offset property; and<br>ii. demonstrate progress to achieving the ecological outcomes for Box Gum Woodland; | Compliant | Section 6 of the LQBGWMP update (Appendix B) details the monitoring measures and Table 10 and 11 details the frequency for these tasks. |
| **2B cont.** | details of corrective measures, including timeframes and circumstances for implementing those measures, that will be implemented in the event the ecological outcomes for Box Gum Woodland are not being achieved or maintained; | Compliant | Table 16 of the LQBGWMP update (Appendix B) details the risks to achieving the ecological outcomes for the BOA, it also contains remedial actions to each potential risks. |
| **2B cont.** | a risk management strategy that includes:<br>i. an assessment of the events or circumstances (risk events) that may prejudice attainment of the offset outcomes; | Compliant | Table 16 of the LQBGWMP update (Appendix B) details the risks to achieving the ecological outcomes for the BOA, it also contains remedial actions to each potential risks. |

| Condition no. / ref. | Condition | Compliance status | Evidence/comments |
|---|---|---|---|
| | ii. a risk rating for each identified risk event based on the likelihood and consequence of occurrence;<br>iii. measures that will mitigate identified risk events (mitigation measures) by reducing the likelihood and/or consequence of each risk event;<br>iv. the timeframes and circumstances for implementing mitigation measures; and<br>v. a rating of the residual risk for each risk event, based on the likelihood and consequence of occurrence, assuming mitigation measures are implemented; | | |
| 2B cont. | a table comprised of the time-bound management measures, monitoring activities and corrective measures specified in the BGWMP and a reference to where those measures and activities are detailed in the BGWMP; and | Compliant | Section 6 and Section 6.8 of the LQBGWMP update (Appendix B) details the monitoring measures and Table 10 and 11 details the frequency for these tasks. |
| 2B cont. | an assurance statement that includes:<br>i. evidence of feasible and effective management actions that, if implemented as a program of actions, are highly likely to achieve the ecological outcomes for Box Gum Woodland, within the specified timeframes;<br>ii. evidence of feasible and scientifically robust monitoring activities that, if implemented as a program of activities, is capable of demonstrating attainment and maintenance of the ecological outcomes for Box Gum Woodland;<br>iii. evidence of adaptive management systems capable of responding to reasonably foreseeable events and circumstance that may prejudice attainment and maintenance of the ecological outcomes for Box Gum Woodland; and<br>iv. a signed statement by an independent suitably qualified ecologist verifying the above actions and activities as being feasible, effective and reliable to achieve the ecological outcomes for Box Gum Woodland. | Compliant | Section 4 of the LQBGWMP update (Appendix B) details the management work including feral animal control, weed control and revegetation which have been reviewed by a restoration ecologist.<br>Section 6 of the LQBGWMP update (Appendix B) details the monitoring works and performance criteria to track the progress of the vegetation within the BOA.<br>Section 7 of the LQBGWMP update (Appendix B) details the risk assessment and corrective actions along with the adaptive management framework for the implementation of the plan.<br>Section 1.3 of the LQBGWMP update (Appendix B) details the role and requirement for stakeholders to achieve the ecological outcomes. |
| 2C | Following submission of the revised LQBGWMP for the Minister's written approval in accordance with condition 2A, if the Minister makes a written request to the approval holder to make specified revisions to the submitted LQBGWMP, the | Ongoing | Initial feedback by Commonwealth DCCEEW to the LQBGWMP was received by Holcim in July 2025. The feedback was focused on the target condition class for BGW and hygiene protocols. An updated version of the report which addressed these points was sent to the department in September 2025. Additional feedback and report requests were sent |

| Condition no. / ref. | Condition | Compliance status | Evidence/comments |
|---|---|---|---|
| | approval holder must make the requested changes to the LQBGWMP and resubmit the revised LQBGWMP to the department in accordance with any such request. | | through January 2026 which required an update on the declaration of accuracy and clarification on zone sizes. The *Lynwood Quarry Box Gum Woodland Management Plan Update: v4 19 January 2026* was approved on the 20th of February 2026 (Appendix C). |
| 2D | The approval holder must achieve the ecological outcomes for Box Gum Woodland within the offset property specified in the LQBGWMP by 1 January 2036. Once achieved, the ecological outcomes must be maintained for the duration of this approval | Ongoing | Implementation of the updated LQBGWMP is scheduled to begin in January 2026. |
| 3 | The approval holder must secure the offset property through a Conservation Agreement within 24-months of the Minister's approval of the revised LQBGWMP in accordance with condition 2A of this approval. | Ongoing | A section 69 Conservation Agreement application was lodged with then NSW Office of Environment and Heritage (OEH) on 18 November 2013 (now dealt with via the NSW Biodiversity Conservation Trust [BCT]).<br>Prior to the variation in conditions, a meeting onsite with the BCT occurred on 6 May 2022 and communications ceased in July 2022.<br>The conservation agreement was not finalised before the variation in conditions, but the draft agreement is provided as Appendix E of this report.<br>The offset has been managed as a conservation area in lieu of a finalised agreement.<br>This item is considered ongoing due to the variation in condition and requirement of the revision of the LQBGWMP. Holcim will be required to finalise the Conservation Agreement within 24-months of the Minister's approval of the revised LQBGWMP once finalised.<br>Holcim will be required to provide the following:<br>• Provide an email and postal address for the agreement<br>• Provide copy of AHMP for records<br>• Check if any vegetation shapefiles exist for the following yellow area (refer to Appendix D of this report)<br>• Pursue consent from the lessee on Lot 3 of DP1107232<br>• Look into whether there are latitudes and longitudes for what appear to be two infrastructure points near DD8 |
| 4 | The approval holder must provide the following to the department within 20 business days of the Conservation Agreement being executed by the State of NSW:<br>a. the executed Conservation Agreement; and<br>b. offset attributes, shapefiles, a textual descriptions and maps to clearly define the location and boundaries of the offset property. | Ongoing | Once a Conservation Agreement is executed, Holcim will aim to meet the requirements of this condition. |
| 5 | Revoked. | N/A | N/A |

| Condition no. / ref. | Condition | Compliance status | Evidence/comments |
|---|---|---|---|
| 6 | Within 30 days after the commencement of the action, the approval holder must advise the department in writing of the actual date of commencement. | Compliant | Holcim notified the Department on 5 December 2013 the action was scheduled to commence in January 2014. The action was later commenced by Holcim on 20 December 2013. Written notification of the actual commencement date was overlooked due to staffing changes. Formal notification was provided to the Department in the 2014 compliance report, dated May 2015, submitted, and published on Holcim's website.<br>This is a historical non-compliance, however as it has been addressed previously and has been considered compliant for the purpose of this report and the reporting period it covers. |
| 7 | The approval holder must maintain accurate and complete compliance records and document the procedure for recording and storing compliance records. | Compliant | A compliance register was developed for Lynwood Quarry to maintain all records and evidence to substantiate activities undertaken on the site to implement this approval, the LQBGWMP and to protect the Biodiversity Offset Area. During the reporting period, Holcim have maintained records for the Lynwood Quarry.<br>These records substantiate all activities associated with or relevant to these conditions of approval, including measures taken to implement the offset and LQBGWMP.<br>ELA notes that given the LQBGWMP has not been implemented, there are no records relevant to this plan. |
| 7A | 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. | N/A | This condition has not yet been requested, but if done so, Holcim will aim to meet the condition within the timeline requested. |
| 8 | The approval holder must prepare a compliance report for each Annual Compliance Report period (ACR period). | Compliant | This 2025 compliance report satisfies this requirement. |
| 8A | The approval holder must ensure each compliance report is consistent with the Annual Compliance Report Guidelines, Commonwealth of Australia 2023, and includes:<br>a. accurate and complete details of compliance and any non-compliance with each condition attached to this approval decision and all commitments made in the LQBGWMP;<br>b. accurate and complete details of how the LQBGWMP was implemented during the ACR period; and<br>c. if any incident occurred, accurate and complete details of each incident. | Compliant | This 2025 compliance report satisfies this requirement. |
| 8B | The approval holder must publish each compliance report on the website in a format that is easily accessible and downloadable within 60 business days following the end of each ACR period. | Ongoing | The 2014 to 2024 annual compliance reports are published on the Holcim website: http://www.holcim.com.au/lynwood.html and are considered compliant for the purpose of this report and reporting period it covers.<br>The 2025 compliance report will be added to this location within this timeframe. |

| Condition no. / ref. | Condition | Compliance status | Evidence/comments |
|---|---|---|---|
| 8C | The approval holder must exclude or redact sensitive biodiversity data from each compliance report published on the website or otherwise provided to a member of the public. | Compliant | N/A |
| 8D | Within 20 business days of the date each compliance report is published on the website, the approval holder must provide the following to the department:<br>a. written notification that the compliance report has been published on the website;<br>b. the web address for the website where the compliance report is published;<br>c. a copy of the full version of the compliance report, if sensitive biodiversity data is excluded or redact from a version of a compliance report published on the website; and<br>d. a shapefile showing all clearing of Box Gum Woodland, undertaken within the ACR period. | Ongoing | The 2025 compliance report will be added to this location within this timeframe. |
| 8E | The approval holder must keep each compliance report published on the website from the date each compliance report is published and until the expiry date of this approval. | Compliant | To date, all previous compliance reports remain accessible through http://www.holcim.com.au/lynwood.html. |
| 8F | The approval holder must notify the department electronically within 2 business days of becoming aware of any incident. The approval holder must specify in each notification:<br>a. any condition or commitment made in the LQBGWMP which has not been, or may have not been, complied with;<br>b. a short description of the incident; and<br>c. the location (if applicable, including co-ordinates), date and time of the incident. | Compliant | There have not been any incidents or additional non-compliance to date. The department have been notified of the historical non-compliance regarding the implementation of the LQBGWMP and Holcim is in the process of rectifying this non-compliance. |
| 8G | Within 12 business days of becoming aware of an incident, the approval holder must provide the following details to the department in writing as relevant to that incident:<br>a. all corrective measures and investigations which the approval holder has already taken;<br>b. the potential impacts of the incident;<br>c. the method and timing of any corrective measures that the approval holder proposes to undertake; and | Compliant | Holcim is in the process of rectifying the past non-compliance regarding the lack of implementation of the LQBGWMP. The variation of conditions and an updated LQBGWMP is part of that rectification. The details within this condition will be addressed within this compliance report and the updated LQBGWMP. |

| Condition no. / ref. | Condition | Compliance status | Evidence/comments |
|---|---|---|---|
| | d. any variation of these conditions or revision of the LQBGWMP that will be required to prevent recurrence of the incident and/or to address its consequences. | | |
| 9 | The approval holder must ensure that an independent audit of compliance with the conditions is conducted for every audit period and as otherwise directed by the Minister | Compliant | During the 2025 reporting period, an independent audit was not requested. An Independent Audit is to be conducted every subsequent five-year period following 20 March 2025. The next audit report is due 20 March 2030 |
| 9A | The approval holder must ensure the scope of each independent audit is sufficient to determine the status of compliance with each condition of approval, and each commitment made in the LQBGWMP for that audit period. | Ongoing | N/A |
| 9B | The approval holder must ensure the criteria for each independent audit, the undertaking of each independent audit, and each audit report are consistent with the Independent Audit and Audit Report Guidelines. | Ongoing | N/A |
| 9C | The approval holder must submit details of the proposed independent auditor and their qualifications to the department within 10 business days following the end of each audit period, for the department's written agreement. | Ongoing | N/A |
| 9D | The approval holder must submit an audit report to the department within 3 months following the date the department agrees to independent auditor, or as otherwise directed by the Minister in writing. | Ongoing | N/A |
| 9E | The approval holder must publish each audit report on the website in a format that is easily accessible and downloadable within 10 business days following the date the department agrees to that audit report. | Ongoing | N/A |
| 9F | Within 20 business days of the date each audit report is published on the website, the approval holder must provide the following to the department:<br>a. written notification that the audit report has been published on the website; and<br>b. the web address for the website where the audit report is published. | Ongoing | N/A |

| Condition no. / ref. | Condition | Compliance status | Evidence/comments |
|---|---|---|---|
| 9G | The approval holder must keep each audit report published on the website from the date each audit report is published and until the expiry date of this approval. | Ongoing | N/A |
| 10 | The approval holder may, at any time, apply to the Minister for a variation to the LQBGWMP, by submitting an application in accordance with the requirements of section 143A of the EPBC Act. If the Minister approves a revised LQBGWMP then, from the date specified, the approval holder must implement that revision of the LQBGWMP in place of any previous version. | N/A | N/A |
| 11 | If the Minister believes that it is necessary or convenient for the better protection of listed threatened species and ecological communities to do so, the Minister may request that the approval holder make specified revisions to the LQBGWMP and submit a revised LQBGWMP for the Minister's written approval. The approval holder must comply with any such request. If the Minister approves a revised LQBGWMP then, from the date specified, the approval holder must implement that revision of the LQBGWMP in place of any previous version. | Ongoing | N/A |
| 12 | If, at any time after 5 years from the date of this approval, the approval holder has not substantially commenced the action, then the approval holder must not substantially commence the action without the written agreement of the Minister. | Compliant | The action was commenced by Holcim on 20 December 2013 and was substantially progressed during 2014. This was within 5 years of the date of the approval. |
| 13 | Unless otherwise agreed to in writing by the Minister, the approval holder must publish the LQBGWMP on the website within 1 month of the Minister's approval of the LQBGWMP | Compliant | The *Lynwood Quarry Box Gum Woodland Management Plan Update: v4 19 January 2026* was approved on the 20th of February 2026 and is available at http://www.holcim.com.au/lynwood.html. |
| 13A | The approval holder must keep the LQBGWMP published on the website from the date the LQBGWMP is published and until the expiry date of this approval. | Compliant / Ongoing | The *Lynwood Quarry Box Gum Woodland Management Plan Update: v4 19 January 2026* was approved on the 20th of February 2026 and is available at http://www.holcim.com.au/lynwood.html. |

# 3. New Environmental Risks

No new environmental risks are noted for the next reporting period.

# 4. Declaration of accuracy

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

| | |
|---|---|
| **Signed** |  |
| **Full name** | Andrew Whitford |
| **Position** | Manager, Restoration Ecology and Land Management |
| **Organisation** | Eco Logical Australia |
| **Date** | 23 March 2026 |

# Appendix A Lynwood Quarry, Marulan NSW EPBC Approval 20212/6560

Australian Government
Department of Climate Change, Energy, the Environment and Water

# Variation of conditions attached to approval

## Lynwood Quarry, Marulan NSW (EPBC 2012/6560)

This decision to vary conditions of approval is made under section 143(1)(a) of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

## Approved action

| | |
|---|---|
| **approval holder** | Holcim (Australia) Pty Ltd<br>ACN: 099 732 297 |
| **approved action** | To establish and operate a quarry pit, construct internal haul roads, and a rail spur and loading facility at Marulan, NSW [see EPBC Act referral 6560]. |

## Variation

**The variation is**:

Delete conditions 1 to 13, the definition for **shapefile**, and Schedule 1 attached to the approval and replace them with those specified in the tables below.

Revoke condition 5 attached to the approval.

Add conditions 2A to 2D, 7A, 8A to 8G, 9A to 9G and 13A, and definitions for **Annual Compliance Report period/ACR period**, **Audit period**, **Audit report**, **Auditor**, **Biodiversity data**, **Box Gum Woodland**, **Business day**, **Clear/Clearing**, **Compliance records**, **Compliance report**, **Conservation advice**, **Conservation Agreement**, **EPBC Act**, **Incident**, **Independent**, **Independent audit**, **Independent Audit and Audit Report Guidelines**, **Lynwood Quarry Box Gum Woodland Management Plan/LQBGWMP**, **Offset property**, **Project area**, **Sensitive biodiversity data**, **Shapefile/shapefiles**, **Suitably qualified ecologist** and **Website** to the conditions of approval as specified in the tables below.

| | |
|---|---|
| **date of effect** | This variation has effect on the date this instrument is signed. |
| **expiry date of approval** | This approval has effect until 1 January 2038 |

## Person authorised to make decision

| | |
|---|---|
| **name and position** | Sam Hush<br>Branch Head (A/g)<br>Compliance and Enforcement Branch |
| **Signature** |  |
| **date of decision** | 20 March 2025 |

| Date of decision | Conditions attached to approval |
|---|---|
| As varied on the date this instrument was signed | 1. The approval holder must not **clear** more than 7.9 hectares **Box Gum Woodland** within the **project area**. |
| As varied on the date this instrument was signed | 2. The approval holder must implement the **Lynwood Quarry Box Gum Woodland Management Plan** (**LQBGWMP**) at least until the expiry of this approval. |
| As varied on the date this instrument was signed | 2A. By 1 May 2025 the approval holder must submit a revised **LQBGWMP** to the **department** for the **Minister's** written approval. |
| As varied on the date this instrument was signed | 2B. The revised **LQBGWMP** submitted in accordance with condition 2A of this approval, must be prepared by a **suitably qualified ecologist** and include;<br>a) maps and a general description of the **offset property**, including its size and location;<br>b) maps that show the following within the **offset property**:<br>i. the extent of existing **Box Gum Woodland**; and<br>ii. areas of native pasture that will be regenerated (regeneration areas) to **Box Gum Woodland**;<br>c) a table that clearly documents the total area in hectares of:<br>i. the **offset property**;<br>ii. existing **Box Gum Woodland** within the **offset property**; and<br>iii. regeneration areas;<br>d) ecological survey results that document the baseline ecological quality of the existing **Box Gum Woodland** and regeneration areas, and the extent of **Box Gum Woodland** within the **offset property**;<br>e) ecological outcomes for **Box Gum Woodland** within the **offset property** that:<br>i. include increasing the extent of **Box Gum Woodland** within the **offset property**;<br>ii. include achieving a ratio of grassland form **Box Gum Woodland** to woodland form **Box Gum Woodland** of 1:14 or greater; and<br>iii. are derived from improving the baseline ecological quality of **Box Gum Woodland** within the **offset property** from baseline;<br>f) a commitment to maintain the ecological outcomes for **Box Gum Woodland** once achieved and for the duration of this approval;<br>g) details of management measures, including the timeframes and circumstances for implementing those measures, that will be implemented to achieve the ecological outcomes for **Box Gum Woodland**; |

| Date of decision | Conditions attached to approval |
|---|---|
| | h) details of monitoring measures, including the timeframes and circumstances for implementing those measures, that will:<br>i. detect changes in the extent and ecological quality of **Box Gum Woodland** within the **offset property**; and<br>ii. demonstrate progress to achieving the ecological outcomes for **Box Gum Woodland**;<br>i) details of corrective measures, including timeframes and circumstances for implementing those measures, that will be implemented in the event the ecological outcomes for **Box Gum Woodland** are not being achieved or maintained;<br>j) a risk management strategy that includes:<br>i. an assessment of the events or circumstances (risk events) that may prejudice attainment of the offset outcomes;<br>ii. a risk rating for each identified risk event based on the likelihood and consequence of occurrence;<br>iii. measures that will mitigate identified risk events (mitigation measures) by reducing the likelihood and/or consequence of each risk event;<br>iv. the timeframes and circumstances for implementing mitigation measures; and<br>v. a rating of the residual risk for each risk event, based on the likelihood and consequence of occurrence, assuming mitigation measures are implemented;<br>k) a table comprised of the time-bound management measures, monitoring activities and corrective measures specified in the BGWMP and a reference to where those measures and activities are detailed in the BGWMP; and<br>l) an assurance statement that includes:<br>i. evidence of feasible and effective management actions that, if implemented as a program of actions, are highly likely to achieve the ecological outcomes for **Box Gum Woodland**, within the specified timeframes;<br>ii. evidence of feasible and scientifically robust monitoring activities that, if implemented as a program of activities, is capable of demonstrating attainment and maintenance of the ecological outcomes for **Box Gum Woodland**;<br>iii. evidence of adaptive management systems capable of responding to reasonably foreseeable events and circumstance that may prejudice attainment and maintenance of the ecological outcomes for **Box Gum Woodland**; and<br>iv. a signed statement by an **independent suitably qualified ecologist** verifying the above actions and activities as being feasible, effective and reliable to achieve the ecological outcomes for **Box Gum Woodland**. |
| As varied on the date this instrument was signed | 2C. Following submission of the revised **LQBGWMP** for the **Minister's** written approval in accordance with condition 2A, if the **Minister** makes a written request to the approval holder to make specified revisions to the submitted **LQBGWMP**, the approval holder must make the requested changes to the **LQBGWMP** and resubmit the revised **LQBGWMP** to the **department** in accordance with any such request. |

| Date of decision | Conditions attached to approval |
|---|---|
| As varied on the date this instrument was signed | 2D. The approval holder must achieve the ecological outcomes for **Box Gum Woodland** within the **offset property** specified in the **LQBGWMP** by 1 January 2036. Once achieved, the ecological outcomes must be maintained for the duration of this approval. |
| As varied on the date this instrument was signed | 3. The approval holder must secure the **offset property** through a **Conservation Agreement** within 24-months of the **Minister's** approval of the revised **LQBGWMP** in accordance with condition 2A of this approval. |
| As varied on the date this instrument was signed | 4. The approval holder must provide the following to the **department** within 20 **business days** of the **Conservation Agreement** being executed by the State of NSW:<br>a) the executed **Conservation Agreement**; and<br>b) **offset attributes**, **shapefiles**, a textual descriptions and maps to clearly define the location and boundaries of the **offset property**. |
| As varied on the date this instrument was signed | 5. **Revoked.** |
| As varied on the date this instrument was signed | 6. Within 30 days after the **commencement** of the action, the approval holder must advise the **department** in writing of the actual date of **commencement**. |
| As varied on the date this instrument was signed | 7. The approval holder must maintain accurate and complete **compliance records** and document the procedure for recording and storing **compliance records**. |
| As varied on the date this instrument was signed | 7A. 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.<br>Note: **Compliance records** may be subject to audit by the **department**, or by an **independent auditor** in accordance with section 458 of the **EPBC Act**, and/or be used to verify compliance with the conditions. Summaries of the results of an audit may be published on the **department's** website or through the general media. |
| As varied on the date this instrument was signed | 8. The approval holder must prepare a **compliance report** for each **Annual Compliance Report period** (**ACR period**). |
| As varied on the date this instrument was signed | 8A. The approval holder must ensure each **compliance report** is consistent with the *Annual Compliance Report Guidelines*, Commonwealth of Australia 2023, and includes:<br>a) accurate and complete details of compliance and any non-compliance with each condition attached to this approval decision and all commitments made in the **LQBGWMP**;<br>b) accurate and complete details of how the **LQBGWMP** was implemented during the **ACR period**; and<br>c) if any **incident** occurred, accurate and complete details of each **incident.** |

| Date of decision | Conditions attached to approval |
|---|---|
| As varied on the date this instrument was signed | 8B. The approval holder must publish each **compliance report** on the **website** in a format that is easily accessible and downloadable within 60 **business days** following the end of each **ACR period**. |
| As varied on the date this instrument was signed | 8C. The approval holder must exclude or redact **sensitive biodiversity data** from each **compliance report** published on the **website** or otherwise provided to a member of the public. |
| As varied on the date this instrument was signed | 8D. Within 20 **business days** of the date each **compliance report** is published on the **website**, the approval holder must provide the following to the **department**:<br>a) written notification that the **compliance report** has been published on the **website**;<br>b) the web address for the **website** where the **compliance report** is published;<br>c) a copy of the full version of the **compliance report**, if **sensitive biodiversity data** is excluded or redact from a version of a **compliance report** published on the website; and<br>d) a **shapefile** showing all **clearing** of **Box Gum Woodland**, undertaken within the **ACR period**. |
| As varied on the date this instrument was signed | 8E. The approval holder must keep each **compliance report** published on the **website** from the date each **compliance report** is published and until the expiry date of this approval.<br>Note: **Compliance reports** may be published on the **department's** website**.** |
| As varied on the date this instrument was signed | 8F. The approval holder must notify the **department** electronically within 2 **business days** of becoming aware of any **incident**. The approval holder must specify in each notification:<br>a) any condition or commitment made in the **LQBGWMP** which has not been, or may have not been, complied with;<br>b) a short description of the **incident**; and<br>c) the location (if applicable, including co-ordinates), date and time of the **incident**. |
| As varied on the date this instrument was signed | 8G. Within 12 business days of becoming aware of an **incident**, the approval holder must provide the following details to the **department** in writing as relevant to that **incident**:<br>a) all corrective measures and investigations which the approval holder has already taken;<br>b) the potential impacts of the **incident**;<br>c) the method and timing of any corrective measures that the approval holder proposes to undertake; and<br>d) any variation of these conditions or revision of the **LQBGWMP** that will be required to prevent recurrence of the **incident** and/or to address its consequences. |
| As varied on the date this instrument was signed | 9. The approval holder must ensure that an **independent audit** of compliance with the conditions is conducted for every **audit period** and as otherwise directed by the **Minister**. |

| Date of decision | Conditions attached to approval |
|---|---|
| As varied on the date this instrument was signed | 9A. The approval holder must ensure the scope of each **independent audit** is sufficient to determine the status of compliance with each condition of approval, and each commitment made in the **LQBGWMP** for that **audit period**. |
| As varied on the date this instrument was signed | 9B. The approval holder must ensure the criteria for each **independent audit**, the undertaking of each **independent audit**, and each **audit report** are consistent with the **Independent Audit and Audit Report Guidelines**. |
| As varied on the date this instrument was signed | 9C. The approval holder must submit details of the proposed **independent auditor** and their qualifications to the **department** within 10 **business days** following the end of each **audit period**, for the **department's** written agreement. |
| As varied on the date this instrument was signed | 9D. The approval holder must submit an **audit report** to the **department** within 3 months following the date the **department** agrees to **independent auditor**, or as otherwise directed by the **Minister** in writing. |
| As varied on the date this instrument was signed | 9E. The approval holder must publish each **audit report** on the **website** in a format that is easily accessible and downloadable within 10 **business days** following the date the **department** agrees to that **audit report**. |
| As varied on the date this instrument was signed | 9F. Within 20 **business days** of the date each **audit report** is published on the **website**, the approval holder must provide the following to the **department**:<br>a) written notification that the **audit report** has been published on the **website**; and<br>b) the web address for the **website** where the **audit report** is published. |
| As varied on the date this instrument was signed | 9G. The approval holder must keep each **audit report** published on the **website** from the date each **audit report** is published and until the expiry date of this approval. |
| As varied on the date this instrument was signed | 10. The approval holder may, at any time, apply to the **Minister** for a variation to the **LQBGWMP**, by submitting an application in accordance with the requirements of section 143A of the EPBC Act. If the **Minister** approves a revised **LQBGWMP** then, from the date specified, the approval holder must implement that revision of the **LQBGWMP** in place of any previous version. |
| As varied on the date this instrument was signed | 11. If the **Minister** believes that it is necessary or convenient for the better protection of listed threatened species and ecological communities to do so, the **Minister** may request that the approval holder make specified revisions to the **LQBGWMP** and submit a revised **LQBGWMP** for the **Minister's** written approval. The approval holder must comply with any such request. If the **Minister** approves a revised **LQBGWMP** then, from the date specified, the approval holder must implement that revision of the **LQBGWMP** in place of any previous version. |
| As varied on the date this instrument was signed | 12. If, at any time after 5 years from the date of this approval, the approval holder has not substantially commenced the action, then the approval holder must not substantially commence the action without the written agreement of the **Minister**. |

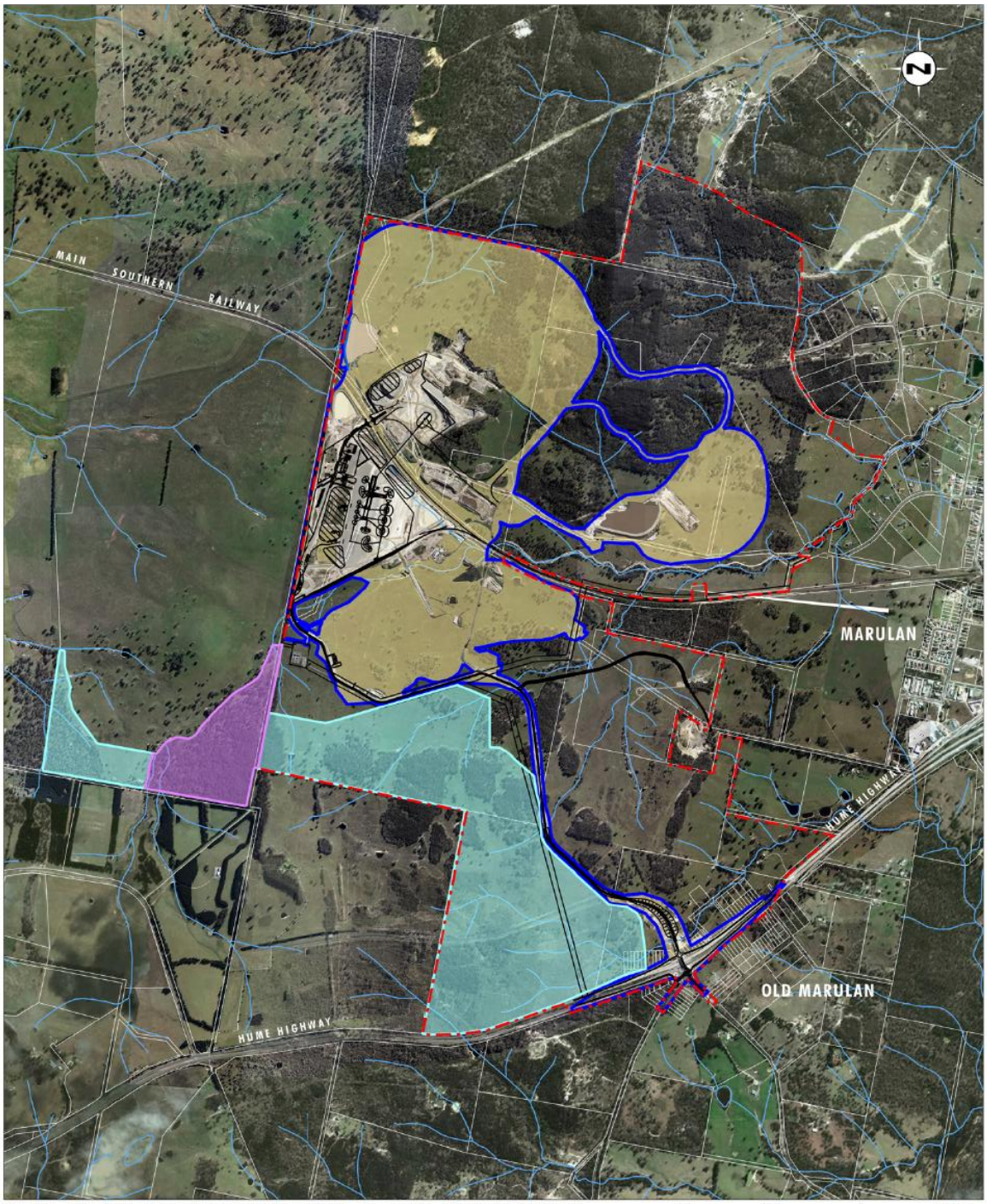
| Date of decision | Conditions attached to approval |
|---|---|
| As varied on the date this instrument was signed | 13. Unless otherwise agreed to in writing by the **Minister**, the approval holder must publish the **LQBGWMP** on the **website** within 1 month of the **Minister's** approval of the **LQBGWMP**. |
| As varied on the date this instrument was signed | 13A. The approval holder must keep the **LQBGWMP** published on the **website** from the date the **LQBGWMP** is published and until the expiry date of this approval. |

| Date of decision | Definitions attached to approval |
|---|---|
| In these conditions, except where contrary intention is expressed, the following definitions are used: | |
| As varied on the date this instrument was signed | **Annual Compliance Report period** or **ACR period** means each subsequent 12-month period following the date of **commencement** until the expiry date of this approval. |
| As varied on the date this instrument was signed | **Audit period** means each subsequent 5-year period following 20 March 2025 until the expiry date of this approval, and any other period specified by the **Minister** in writing. |
| As varied on the date this instrument was signed | **Audit report** means a written report of an **independent audit**. |
| As varied on the date this instrument was signed | **Auditor** means a person, or firm, who:<br>a) has demonstrated experience in undertaking government-regulated environmental compliance audits; and<br>b) holds relevant professional qualifications and accreditations. |
| As varied on the date this instrument was signed | **Biodiversity data** means 'biodiversity data' as described in the Policy on Accessing and Sharing Biodiversity Data, Commonwealth of Australia 2024. |
| As varied on the date this instrument was signed | **Box Gum Woodland** means the White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland threatened ecological community as described at section 1 of the **conservation advice**, and meeting the key diagnostic criteria at section 2.1 of the **conservation advice** and the minimum condition thresholds at section 2.3 of the **conservation advice**. |
| As varied on the date this instrument was signed | **Business day** means a day that is not a Saturday, a Sunday, or a public holiday in the state of Queensland. |
| As varied on the date this instrument was signed | **Clear** or **clearing** means he cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting, or burning of vegetation. |
| Original dated 13 September 2013 | **Commencement**, means the earthworks, vegetation removal or construction of any infrastructure, excluding fences and signage, associated with the proposed action |

| Date of decision | Definitions attached to approval |
|---|---|
| Original dated 13 September 2013 | **Department**, the Australian Government Department administering the *Environment Protection and Biodiversity Conservation Act 1999*. |
| As varied on the date this instrument was signed | **EPBC Act** means the *Environment Protection and Biodiversity Conservation Act 1999* (Cth). |
| As varied on the date this instrument was signed | **Incident** means:<br>a) any event or circumstance which has the potential to or does cause non-compliance with:<br>i. the **EPBC Act**;<br>ii. the conditions attached to this approval; and/or<br>iii. commitments made in the **LQBGWMP**; and/or<br>b) non-compliance with the conditions attached to this approval and/or commitments made in the **LQBGWMP**. |
| As varied on the date this instrument was signed | **Independent** means a person, or firm, who does not have any individual, financial*, employment*, or family affiliation, or any conflicting interests with the action, the approval holder or the approval holder's staff, representatives, or associated persons.<br>*Other than for the purposes of undertaking the role for which an independent person, or firm, is required. |
| As varied on the date this instrument was signed | **Independent audit** means an audit, conducted by an **independent auditor**, of compliance with and fulfilment of these conditions and the commitments made in the **LQBGWMP**, objectively evaluated against the audit criteria developed by the **independent auditor**, in accordance with the **Independent Audit and Audit Report Guidelines**. |
| As varied on the date this instrument was signed | **Independent Audit and Audit Report Guidelines** means the Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines, Commonwealth of Australia 2019. |
| As varied on the date this instrument was signed | **Lynwood Quarry Box Gum Woodland Management Plan** or **LQBGWMP** means the *Lynwood Quarry – Box Gum Woodland Management Plan*, dated September 2013, prepared by Umwelt (Australia) Pty Ltd on behalf of Holcim (Australia) Pty Ltd, or a subsequent revision approved by the **Minister**. |
| Original dated 13 September 2013 | **Minister**, the Minister administering the *Environment Protection and Biodiversity Conservation Act 1999* and includes a delegate of the Minister. |
| As varied on the date this instrument was signed | **Offset property** means the areas coloured light-blue at Schedule 1 of the approval, and identified in the legend at Schedule 1 as "Biodiversity Offset Area". |
| Original dated 13 September 2013 | **Offset attributes**, mean an '.xls' file capturing relevant attributes of the Offset Area, including the EPBC reference ID number, the physical address of the offset site, coordinates of the boundary points in decimal degrees, the EPBC protected matters that the offset compensates for, any additional EPBC protected matters that are benefiting from the offset, and the size of the offset in hectares. |

| Date of decision | Definitions attached to approval |
|---|---|
| As varied on the date this instrument was signed | **Project area** means the area contain within the red coloured dashed-line at Schedule 1 of the approval, and identified in the legend at Schedule 1 as "Project Area". |
| As varied on the date this instrument was signed | **Sensitive biodiversity data** means **biodiversity data** which, if released, published or otherwise exposed, may result in harm to the relevant protected matter as a result of the intentional or unintentional misuse of that **biodiversity data**. |
| As varied on the date this instrument was signed | **Shapefile** or **shapefiles** means location and attribute information provided in an Esri shapefile format containing:<br>a) '.shp', '.shx', '.dbf' files;<br>b) a '.prj' file which specifies the projection or geographic coordinate system used; and<br>c) an '.xml' metadata file that describes the shapefile for discovery and identification purposes. |
| As varied on the date this instrument was signed | **Suitably qualified ecologist means** a person or persons who has relevant professional qualifications and:<br>a) at least 3 years of work experience writing and implementing management plans for **Box Gum Woodland;**<br>b) has implemented and reported on management plans for **Box Gum Woodland**, and can demonstrate the implementation of those plans achieved the desired **outcome for Box Gum Woodland;** and<br>c) can give authoritative assessment and advice on offset management to improve the ecological quality and extent of **Box Gum Woodland** using relevant protocols, standards, methods and/or literature. |
| As varied on the date this instrument was signed | **Website** means a set of related web pages located under a single domain name attributed to the approval holder and available to the public. |

| Date of decision | Attachments |
|---|---|
| As varied on the date this instrument was signed | **Schedule 1** |




Source: LPI 2010, Holcim Australia (Aerial Photo May 2012), Google Earth (2011)

0 0.5 1 1.5km
1:30 000

**Legend**

- Project Area
- NSW EP&A Act Approved Disturbance Area
- EPBC Act Controlled Action Disturbance Area
- Biodiversity Offset Area
- Habitat Management Area
- Drainage

# Appendix B Lynwood Quarry Box Gum Woodland Management Plan update

# Lynwood Box Gum Woodland Management Plan Update

Holcim (Australia) Pty Ltd

ecological AUSTRALIA
A TETRA TECH COMPANY

## Document Tracking

| | |
|---|---|
| Project Name: | Lynwood Box Gum Woodland Management Plan Update |
| Project Number: | 25GWS10241 |
| Project Manager: | Michael Gregor |
| Prepared by: | Chelsea Philip and Micheal Gregor |
| Reviewed by: | Andrew Whitford |
| Approved by: | Andrew Whitford |
| Status: | Final |
| Version Number: | V4 |
| Last saved on: | 19/01/2026 |

| Version | Prepared by | Reviewed by | Approved by | Status | Date |
|---|---|---|---|---|---|
| V4 | Chelsea Phillips, Michael Gregor | Andrew Whitford | Andrew Whitford | Final | 19/01/2026 |

This report should be cited as 'Eco Logical Australia 2025, Lynwood Box Gum Woodland Management Plan Update, Prepared for Holcim (Australia) Pty Ltd.'

## Acknowledgements

This document has been prepared by Eco Logical Australia Pty Ltd with support from Dozie Egeonu and Wayne Beattie from Holcim (Australia).

## Declaration of accuracy

In making this declaration, I am aware that section 491 of the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the Environment Protection and Biodiversity Conservation Regulations 2000 (Cth). The offence is punishable on conviction by imprisonment or a fine, or both. 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 

| | |
|---|---|
| **Ful Name (print)** | Andrew Whitford |
| **Organisation** | Eco Logical Australia |
| **Date** | 19 January 2026 |

| **Project details** | |
|---|---|
| **EPBC Number** | 2012/6560 |
| **Project Name** | Lynwood Quarry, Marulan NSW |
| **Proponent ACN/ABN** | Holcim (Australia) Pty Ltd |
| **The proposed action** | To establish and operate a quarry pit, construct internal haul roads, and a rail spur and loading facility at Marulan, NSW |
| **Location of the action** | Marulan S Rd, Marulan NSW |
| **Date of the preparation of the Management Plan** | 19 January 2026 |
| **Person accepting responsibility for the Management Plan** | Andrew Whitford, Principal Consultant, Eco Logical Australia |

# Abbreviations and key terms

| Abbreviation | Description |
|---|---|
| BOA | The total extent of the Biodiversity Offset Area |
| AABR | Australian Association of Bush Regenerators |
| BGWMP | Box Gum Woodland Management Plan |
| CEEC | Critically Endangered Ecological Community |
| DCCEEW | Department of Climate Change, Energy, The Environment and Water (Commonwealth) |
| ELA | Ecological Australia |
| EPBC Act | Environment Protection and Biodiversity Conservation Act 1999 |
| GMC | Goulburn Mulwaree Council |
| LGA | Local Government Area |
| MNES | Matters of National Environmental Significance |
| PCT | Plant Community Type |
| TEC | Threatened Ecological Community |

# Contents

## List of Figures



## List of Tables

## List of Appendices

# 1. Introduction

This Box Gum Woodland Management Plan (BGWMP) has been prepared by Eco Logical Australia (ELA) on behalf of Holcim (Australia) Pty Ltd (Holcim) for the hard rock quarry at South Marulan Road, Marulan. The project area is located west of the township of Marulan along the Hume Highway and sits within Goulburn Mulwaree (GM) Local Government Area (LGA) (Figure 1).

## 1.1. Background and context

The project area is located west of Marulan, a suburb in the Southern Tablelands region. The project area contains hard rock quarry operations including the pit, emplacement areas, infrastructure, access roads, energy substation, remnant bushland and cleared grasslands.

During construction in 2012, a referral to the Australian Federal Government under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) was undertaken. The referral was submitted due the impacts to matters of national environmental significance (MNES) including the critically endangered ecological community (CEEC) *White box – yellow box – Blakely's red gum grassy woodlands and derived native grasslands* and the endangered plant species *Leucochrysum albicans* var. *tricolor* (Hoary Sunray). The project was given EBPC approval in 2013. The conditions relating to the BGWMP from EPBC 2013/6560 included:

> *Approval Condition 2.*
>
> *To assist in mitigating the impacts of the proposal on White Box – Yellow Box – Blakely's Red Gum Woodland and Derived Native Grassland (box gum woodland), the person taking the action must prepare and submit a Box Gum Woodland Management Plan (BGWMP) for the Minister's written approval prior to commencement of the Action. This BGWMP must include:*
>
> *(a) Management actions designed to improve the ecological quality of box gum woodland on the project area (refer to Map at Schedule 1) and proposed biodiversity offset area and protect it from degradation for the duration of the action's impact on box gum woodland.*
>
> *(b) Regeneration and revegetation strategies for box gum woodland on the project area and the proposed biodiversity offset area (refer to Map at Schedule 1) to improve the ecological quality of these areas of box gum woodland.*
>
> *(c) An ecological monitoring program to monitor the success of the management actions in the BGWMP and define measurable targets of management actions, performance criteria indicators and an adaptive management framework for the duration of the action's impact on box gum woodland.*
>
> *(d) Management of the offset site as above from commencement of the action.*
>
> *The action must not commence until the BGWMP is approved by the Minister. The approved BGWMP must be implemented.*
>
> *Approval Condition 3.*
>
> *To compensate for the loss of 7.9 hectares of box gum woodland, Holcim must secure the lands identified as the 'Proposed Biodiversity Offset Area' in the Map at Schedule 1 of this notice as a biodiversity offset and protect the lands for the duration of the action's impact through a conservation agreement under section 69 of the NSW National Parks and Wildlife Act 1979. The conservation agreement must state: 'This agreement must not be terminated without the*

*written consent of 'The Minister Administrating the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.'*

Following the issuing of these approval requirements a Box Gum Woodland Management Plan (BGWMP) was prepared by Umwelt (Australia) Pty Limited in September 2013 for Holcim. This BGWMP provided a framework for restoration actions to be undertaken within the BOA for protection and enhancement of the Box gum woodland and other vegetation.

In a letter on 9 November 2021, the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) identified numerous breaches of this approval including:

> *Condition 2 of the approval requires that the approved Box Gum Woodland Management Plan (BGWMP) must be implemented. Management actions and monitoring prescribed in the BGWMP were not completed according to the schedule outlined in the BGWMP and this has potentially resulted in increased impacts of the approved project on MNES.*

ELA undertook works to begin addressing this condition, including submitting the following surveys to DCCEEW on 8 February 2024.

- the baseline ecological surveys to determine the current condition of Box Gum Woodland within the offset site, and
- the extent of *Leucochrysum albicans* subsp. *tricolor* (Hoary Sunray) population within the offset site.

In an email dated 26 August 2024, DCCEEW identified that the following works are still outstanding to meet Condition 2:

- A comprehensive baseline soil survey
- Revising the BGWMP to include
  - pest plant and animal surveys;
  - flora and fauna surveys
  - Mapping of the extent of erosion and sedimentation and determine the impact it currently has on the protected matters.
  - Condition of fencing
  - Fire history of the site

Finally, a decision to vary conditions of approval for EPBC 2012/6560 under section 143(1)(a) of the EPBC Act was made DCCEEW on 20 March 2025.

The variation of condition to EPBC approval 2012/6560 are displayed in Table 1.

Table 1: Variation of conditions for Lynwood Quarry, Marulan NSW EPBC approval 2012/6560

| Ref | Condition | Condition requirement | Plan reference Update |
|---|---|---|---|
| 1 | 2 | The approval holder must implement the Lynwood Quarry Box Gum Woodland Management Plan (LQBGWMP) at least until the expiry of this approval. | Table 2 |
| 2 | 2A | By 1 May 2025 the approval holder must submit a revised LQBGWMP to the department for the Minister's written approval. | - |

| Ref | Condition | Condition requirement | Plan reference Update |
|---|---|---|---|
| 3 | 2B | The revised LQBGWMP submitted in accordance with condition 2A of this approval, must be prepared by a suitably qualified ecologist and include; | |
| 4 | a. | maps and a general description of the offset property, including its size and location; | Section 2.2 |
| 5 | b. | maps that show the following within the offset property: | Figure 3<br>Figure 6 |
| | | i. the extent of existing Box Gum Woodland; and | |
| | | ii. areas of native pasture that will be regenerated (regeneration areas) to Box Gum Woodland; | |
| 6 | c. | a table that clearly documents the total area in hectares of: | Table 5 |
| | | i. the offset property; | |
| | | ii. existing Box Gum Woodland within the offset property; and | |
| | | iii. regeneration areas; | |
| 7 | d. | ecological survey results that document the baseline ecological quality of the existing Box Gum Woodland and regeneration areas, and the extent of Box Gum Woodland within the offset property; | Appendix C |
| 8 | e. | ecological outcomes for Box Gum Woodland within the offset property that: | Section 6.6 |
| | | i. include increasing the extent of Box Gum Woodland within the offset property; | |
| | | ii. include achieving a ratio of grassland form Box Gum Woodland to woodland form Box Gum Woodland of 1:14 or greater; and | |
| | | iii. are derived from improving the baseline ecological quality of Box Gum Woodland within the offset property from baseline; | |
| 9 | f. | a commitment to maintain the ecological outcomes for Box Gum Woodland once achieved and for the duration of this approval; | Section 5.3 |
| 10 | g. | details of management measures, including the timeframes and circumstances for implementing those measures, that will be implemented to achieve the ecological outcomes for Box Gum Woodland; | Section 5 |
| 11 | h. | details of monitoring measures, including the timeframes and circumstances for implementing those measures, that will: | Section 6 |
| | | i. detect changes in the extent and ecological quality of Box Gum Woodland within the offset property; and | |
| | | ii. demonstrate progress to achieving the ecological outcomes for Box Gum Woodland; | |
| 12 | i. | details of corrective measures, including timeframes and circumstances for implementing those measures, that will be implemented in the event the ecological outcomes for Box Gum Woodland are not being achieved or maintained; | Section 6 |
| 13 | j. | a risk management strategy that includes: | Section 6.8 |
| | | i. an assessment of the events or circumstances (risk events) that may prejudice attainment of the offset outcomes; | |
| | | ii. a risk rating for each identified risk event based on the likelihood and consequence of occurrence; | |
| | | iii. measures that will mitigate identified risk events (mitigation measures) by reducing the likelihood and/or consequence of each risk event; | |

| Ref | Condition | Condition requirement | Plan reference Update |
|---|---|---|---|
| | | iv. the timeframes and circumstances for implementing mitigation measures; and | |
| | | v. a rating of the residual risk for each risk event, based on the likelihood and consequence of occurrence, assuming mitigation measures are implemented; | |
| **14** | k. | a table comprised of the time-bound management measures, monitoring activities and corrective measures specified in the BGWMP and a reference to where those measures and activities are detailed in the BGWMP; and | Section 6<br>Section 6.8 |
| **15** | l. | an assurance statement that includes: | Section 1.3 |
| | | i. evidence of feasible and effective management actions that, if implemented as a program of actions, are highly likely to achieve the ecological outcomes for Box Gum Woodland, within the specified timeframes; | |
| | | ii. evidence of feasible and scientifically robust monitoring activities that, if implemented as a program of activities, is capable of demonstrating attainment and maintenance of the ecological outcomes for Box Gum Woodland; | |
| | | iii. evidence of adaptive management systems capable of responding to reasonably foreseeable events and circumstance that may prejudice attainment and maintenance of the ecological outcomes for Box Gum Woodland; and | |
| | | iv. a signed statement by an independent suitably qualified ecologist verifying the above actions and activities as being feasible, effective and reliable to achieve the ecological outcomes for Box Gum Woodland. | |
| **16** | 2D | The approval holder must achieve the ecological outcomes for Box Gum Woodland within the offset property specified in the LQBGWMP by 1 January 2036. Once achieved, the ecological outcomes must be maintained for the duration of this approval. | Section 6<br>Section 6.8 |

## 1.2. Scope and objectives

The overarching objectives of the BGWMP is to improve ecological health and integrity and maintain and enhance habitat values within the BOA. This BGWMP will also commit to addressing the variation of condition for EPBC approval 2012/6560 and to meet the performance criteria included in this BGWMP.

This document will address all issues related to the protection of existing vegetation from impacts associated with the undertaking of the proposed action, as well as undertaking bush regeneration and management actions to improve the extent, condition and resilience of the BOA. The overall aim of the BGWMP is to provide a management framework for the conversation of native vegetation and fauna habitat with the BOA.

This BGWMP will outline the areas to be revegetated and the management actions to be undertaken throughout the BOA. The strategy is to maintain native species cover and integrity within the BWMP area by assisting natural regeneration through active restoration actions such as treating weed species and reintroducing native species (as plant or seed).

This BGWMP covers an initial twelve-year implementation period and an additional maintenance period for the life of the approval. The BGWMP is aimed at achieving key performance indicators within a twelve-year period however it is understood that the EPBC Act approval requires implementation of the BGWMP for the life of the EPBC approval.

## 1.3. Preparation and implementation of this plan

This BGWMP has been prepared by a Restoration Ecologist/s with over 5 years' experience in environmental consultancy and a relevant Bachelor of Science degree and has been prepared in line with the Environmental Management Plan guidelines from DCCEEW (2024).

A suitably qualified and experienced bush regeneration contractor is required to guide and monitor the implementation of this BGWMP. They should be a member of the Australian Association of Bush Regenerators (AABR) or should possess the required qualifications and experience for membership. The implementation team will need to conduct best practice bush regeneration techniques as described by Buchanan (2009).

The roles and responsibilities of those in charge of environmental management correlated with the implementation of the BGWMP are summarised in Table 2.

Table 2: Roles and responsibilities of implementation within the BOA

| Title | Role | Responsibilities |
|---|---|---|
| Operations manager | To ensure sufficient resources are allocated to the implementation of the BGWMP. | • To authorise internal and external reporting requirements and subsequent revisions of the BGWMP.<br>• To ensure implementation of the BGWMP and ensure compliance with the variation of condition to EPBC approval 2012/6560. |
| Environmental officer | To coordinate the day-to-day implementation of the BGWMP. | • To ensure sufficient time and resources are allocated to the implementation of the ecological management and rehabilitation strategies for the BOA.<br>• To ensure sufficient resources and time are allocated to the implementation of the BGWMP monitoring requirements.<br>• To ensure the results of the BGWMP monitoring are utilised properly to refine implementation and ensure performance criteria are met, as well as to evaluate the effectiveness of regeneration and rehabilitation practices.<br>• To periodically review progress of implementation against performance criteria.<br>• To ensure all internal and external reporting requirements are met.<br>• Facilitate in all relevant records being effectively maintained on site.<br>• To ensure the personnel involved in carrying out BGWMP and the monitoring of the BGWMP are appropriately qualified, licensed and experiences to undertake the required tasks.<br>• To manage and control access to the BOA.<br>• To ensure staff and contractors are informed, trained and inducted where relevant regarding controls on activities within the BOA. |
| Bush regeneration contractor | To implement the BGWMP. | • To implement the recommendations of this BGWMP, or a BGWMP that has been approved for this project, with best practice and general principles of bush regeneration in accordance with the Bradley Method and other methods described in Buchanan (2000). |

| Title | Role | Responsibilities |
|---|---|---|
| Holcim staff and contractors | To carry out every day works while working within and outside of the BOA in adherence to the proper practice, controls and training. | • Receive training regarding controls on activities within the BOA.<br>• To observe and adhere to boundaries of the BOA when undertaking work on site.<br>• To undertake activities in the BOA in line with directions from the Operations Manager and Environmental Officer. |
| Local Land Services | Involvement in consultation. | • Where required be in consultation with the landholder for matters such as pest control. |
| ELA/Restoration Ecologist | Preparation of this BGWMP. | • To ensure this VMP meets the EPBC conditions outlined in the EPBC Act approval (EPBC 2012/6560), the Environmental management plan guidelines (DCCEEW 2024) and ELA has not knowingly provided false or misleading information in reference to this BGWMP. |
| Goulburn Mulwaree Council | Involvement in consultation. | • Where required be in consultation with the landholder for matters such as pest control or alterations to the BGWMP approved by the relevant consent authority in accordance with the approval conditions (specifically Condition 2C and 11). |

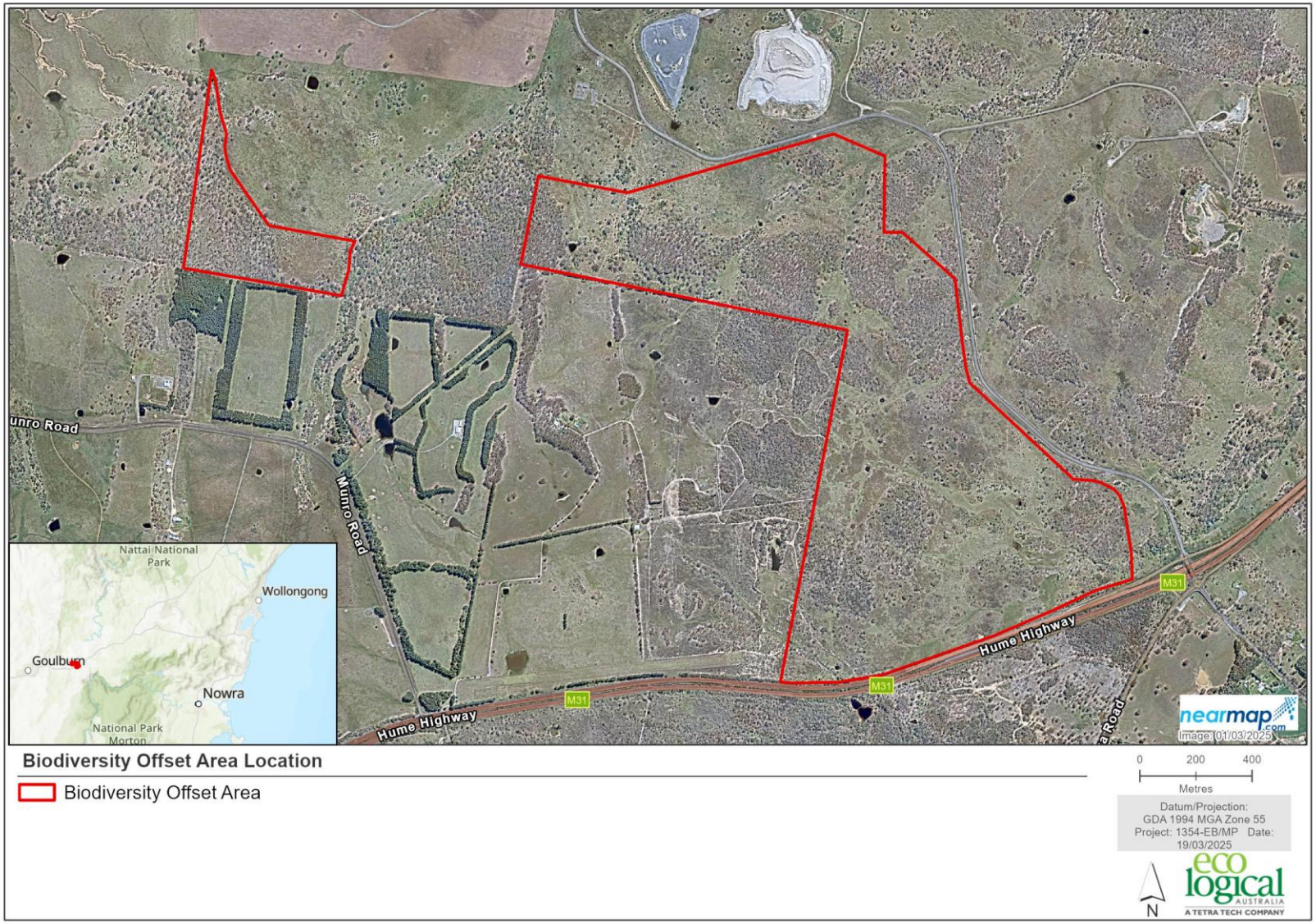



Figure 1: Biodiversity Offset Area Location

# 2. Description of the environment

## 2.1. Soils

### 2.1.1. Desktop assessment

On 24 February 2025, ELA engaged with SESL Australia to conduct soil investigation within the BOA. The soil assessment focused on the investigation of the soil characteristics in the areas where revegetation of BGW may be suitable.

The results will assist in determining the suitability of locations within the BOA to undergo rehabilitation and revegetation treatments, in order to over time meet the EPBC listing conditions required for the threatened ecological community (TEC), *White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England, Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions* (BGW) under BC Act and the EPBC Act.

The soil landscape within the BOA is primarily Bindook Road soils (SI5512br). The north-west corner of the separate western portion of the BOA shown in Figure 1, is a part of the Garland soil landscape (SI5512ga). These soil landscapes are mapped in the *Lynwood Quarry Soil Investigation* (SESL Australia 2025), attached as Appendix A.

Bindook Road soils are characterised by the following characteristics:

- acid yellow and red duplex soils, with whole coloured B horizons and sporadically bleached A2 horizons on crests and slopes
- the geology is porphyritic with quartz and feldspar
- formed in-situ as well as from alluvial-colluvial material derived from parent rock
- a landform is characterised by undulating rises of low relief and gentle slopes
- an elevation range from 600-800m
- hardsetting surface conditions including moderate drainage, soil permeability, water holding capacity, fertility and erosion hazards
- generally deficient in Nitrogen (N), Phosphorous (P), Potassium (K), Sulfur (S), and most micronutrients
- slightly acidic pH
- low salinity
- located along the eastern boundary between Prairie Oak and Wombeyan caves

Garland soils are characterised by the following characteristics:

- commonly light red sandy duplex soils on upper slopes and mottled sandy yellow duplex soils with bleached A2 horizons on mid to slower slopes
- rocks may vary from coarse to fine grained
- formed in-situ and from alluvial-colluvial deposits
- hardsetting surface conditions including soil permeability and water holding capacity
- low to moderate drainage range

- moderate fertility and known nutrient deficiencies in Nitrogen (N), Phosphorous (P) and Sulfur (S)
- moderate erodibility but with a low erosion hazard
- a commonly acidic pH
- occasional soil salinity issues
- located between Tarago lagoon and Isabella River

The selection of sampling locations focused on areas that do not meet the EPBC condition for BGW with some additional points in existing BGW and other vegetation communities as control points and benchmark conditions. ELA divided sample locations into the following categories.

- CEEC: Areas assessed to be PCT 3376 in a condition consistent to be listed as the BGW TEC under the EPBC Act
- DNG: Areas assessed to be PCT 3376 but not in a condition consistent to be listed as the BGW TEC under the EPBC Act. This is mostly present as Derived Native Grassland.
- Other: Areas assessed to not be PCT 3376.

Mapping of the locations of these sample

### 2.1.2. Soil assessment summary

On 6 March 2025 nine locations were sampled within the BOA using hand-augered boreholes. All nine soil sample locations included analysis of topsoil and three of these locations also included a subsoil sample.

Each borehole was dug to a depth of at least 400mm or until subsoil was noted. Field observations were recorded and can be found in Appendix A. All soil samples were analysed at SESL's National Association of Testing Authorities (NATA) accredited laboratory and were analysed for the following:

- Texture
- Structure
- Organic matter
- Estimated permeability
- pH
- Electrical conductivity
- Nitrogen (N)
- Phosphorous (P)
- Potassium (K)
- Exchangeable cations
- Sulfur (S)
- Iron (Fe)
- Manganese (Mn)
- Zinc (Zn)
- Copper (Cu)
- Boron (B)
- Sodium (Na)
- Chloride

The comprehensive topsoil and subsoil analysis and report are shown within Appendix A. A summary of the topsoil and subsoil analysis results, including mapping of where the sample locations are in relation to the site vegetation, are provided in Appendix B.

### 2.1.3. Results

Most topsoil sample locations showed similar topsoil characteristics such as texture, structure, estimated permeability, colour, and with most sample locations showing a similar range in organic

matter. Additionally, the electrical conductivity, pH in H2O and CaCl2, cation exchange capacity and available nutrient levels are also similar across most locations. Finally, the subsoil sample locations all showed similarities within texture, permeability, soil pH, magnesium levels, potassium levels, and calcium levels.

More specifically to this management plan, the results show very little variability within the CEEC sample locations but more variability within the DNG sample locations. This is not surprising given the CEEC samples were all taken in stable, established vegetation whereas the DNG sample locations are all locations which are at various stages of regeneration, the timeline or success of which may be dictated to some degree by the soil composition.

However, it is important to note that the difference between the average of the CEEC sample locations and the DNG sample locations was not significantly different. The DNG sample locations, on average, had a higher pH and nutrient profile but were largely the same as the CEEC structurally and functionally. This is consistent with areas that are currently more disturbed, potentially explaining why they have only achieved a DNG condition of the BGW but have vegetation consistent with BGW and do not have any major impediment to achieving the EPBC condition of BGW.

Comparison of the average results for each subzone is provided in Table 3 for topsoil characteristics and Table 4 for topsoil nutrients. A summary of the topsoil and subsoil analysis results are shown in Appendix B. The comprehensive topsoil and subsoil analysis and report are shown within Appendix A.

Table 3: Analysis of topsoil characteristics

| Type | Depth (mm) | pH ($CaCl_2$) | Salinity (Electrical Conductivity 1:5 dS/m) | Effective Cation Exchange Capacity (cmol(+)/kg) | Soil Texture | Clay content (%) | Structure Size | Structure Organisation | Potential infiltration rate | Organic Carbon (%) | Organic Matter (%) | Est. Plant Available Water (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CEEC | 300 | 4.39 | 0.02 Very Low | 4.07 Very Low | Mostly Fine Sandy Clay Loam | All 20-30 | All Fine (1-10 mm) | All Pedal – weak | All Moderate | 1.17 (Moderate) | 2 | 12.33 |
| DNG | 233 | 4.56 | 0.03 Very Low | 6.20 Low | Mostly Fine Sandy Clay Loam | Mostly 20 - 30 | Mostly Medium (11-25mm) | Mostly pedal – weak | Mostly Moderate | 1.56 (Moderate) | 2.6 | 12 |
| Other | 250 | 4.2 | 0.02 Very Low | 4.4 Very Low | All Sandy Clay Loam | All 20-30 | All Fine (1-10 mm) | All Pedal - weak | All Moderate | 0.9 (Low) | 1.5 | 11 |

Table 4: Analysis of topsoil nutrients

| Type | **Nitrate-N ($NO_3$) (mg N/kg)** | Phosphorus (P) mg P/kg | Potassium (K) mg/kg | Sulfur (S) mg S/kg | Calcium (Ca) mg/kg | Magnesium (Mg) mg/kg | Iron (Fe) mg/kg | Manganese (Mn) mg/kg | Zinc (Zn) mg/kg | Copper (Cu) mg/kg | Boron (B) mg/kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CEEC | 0.31 (Very Low) | <5 (Very Low) | 62 (Very Low) | 5.8 (Very Low) | 99 (Very Low) | 75 (Very Low) | 230 (Marginal) | 1.77 (Very Low) | 0.76 (Very Low) | <0.64 (Very Low) | <0.1 (Very Low) |
| DNG | 0.27 (Very Low) | 7.96 (Very Low) | 52 (Very Low) | 8.2 (Very Low) | 250 (Very Low) | 143 (Marginal) | 250 (Marginal) | 2.64 (Low) | 0.95 (Low) | <0.64 (Very Low) | <0.1 (Very Low) |
| Other | 0.19 (Very Low) | <5 (Very Low) | 59 (Very Low) | 5.4 (Very Low) | 14 (Very Low) | 51 (Very Low) | 240 (Marginal) | 0.59 (Very Low) | <0.65 (Very Low) | <0.64 (Very Low) | <0.1 (Very Low) |

## 2.2. Vegetation communities

Two Plant Community Types (PCTs) of varying conditions were identified to be present within the BOA (Figure 2). These PCTs were identified by ecologists Alex Gorey and Melaina Chapman during flora surveys from the 17-21 October 2022. These PCTs, sizes and condition classes are shown in Table 5.

Table 5: PCT extent within the BOA

| PCT name | Condition state | Size (ha) |
|---|---|---|
| PCT 3747: Southern Tableland Western Hills Scribbly Gum Forest | Moderate – Good | 64.08 |
| PCT 3747: Southern Tableland Western Hills Scribbly Gum Forest | DNG | 43.55 |
| PCT 3376: Southern Tableland Grassy Box Woodland | Moderate – Good | 45.02 |
| PCT 3376: Southern Tableland Grassy Box Woodland | DNG | 30.78 |
| Dam | - | 0.62 |
| | Total | 184.05 |

### 2.2.1. Southern Tableland Western Hills Scribbly Gum Forest (PCT 3747)

This PCT is considered to be a mid-high to tall dry shrubby sclerophyll open forest, found at moderate altitudes across the Central Tablelands and northern parts of the Southern Tablelands on slopes and crests of dry, rocky tableland hills and ranges. The canopy is sparse to mid-dense and frequently includes *Eucalyptus macrorhyncha* and or *Eucalyptus rossii*, commonly *Eucalyptus mannifera* and occasionally *Eucalyptus goniocalyx.* The shrub layer is sparse and very frequently includes *Hibbertia obtusifolia,* commonly *Daviesia leptophylla* and *Brachyloma daphnoides* and occasionally *Acacia gunnii, Monotoca scoparia* or *Melichrus urceolatus.* The ground layer is sparse to mid-dense and frequently includes large tussocks of *Rytidosperma pallidum,* as well as *Lomandra filiformis, Poa sieberiana, Dianella revoluta, Gonocarpus tetragynus* and *Goodenia hederacea. Hovea linearis and* occasionally *Lomandra multiflora* subsp. *multiflora* are also common. This PCT is commonly found on quartz-rich sedimentary, acid volcanic and granitoid substrates, with scattered occurrences in areas mapped to have shale or mudstone substrates.

### 2.2.2. Southern Tableland Grassy Box Woodland (PCT 3376)

This PCT is considered a tall sclerophyll woodland and is widespread in the low hills of the drier parts of the Southern Tablelands between Bredbo and Rylstone. The canopy commonly includes *Eucalyptus melliodora* or *Eucalyptus bridgesiana* and occasionally associated with *Eucalyptus blakelyi,* which may be locally prominent in lower parts of the landscape. The shrub layer is sparse to absent and occasionally includes *Melichrus urceolatus, Lissanthe strigosa* or various Acacia species. The ground layer is mid-dense and frequently includes *Hydrocotyle laxiflora, Austrostipa scabra, Lomandra filiformis, Microlaena stipoides* and *Elymus scaber.* This PCT occurs on granite, volcanic and sedimentary substrates and in cold, dry environments.

This PCT is associated with the critically endangered EPBC Act listed threatened ecological community (TEC) White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland. In order for it to meet the EPBC listing criteria it must meet both the key diagnostic characteristics and at least the minimum condition thresholds (Commonwealth DCCEEW 2023).

The original BGWMP identified 27.2 ha of EPBC listed BGW (Umwelt 2013), however when the site was reassessed by ELA in 2023, a total of 45.28 ha of EPBC listed BGW was identified. Further detail on vegetation surveys is provided in Appendix C.

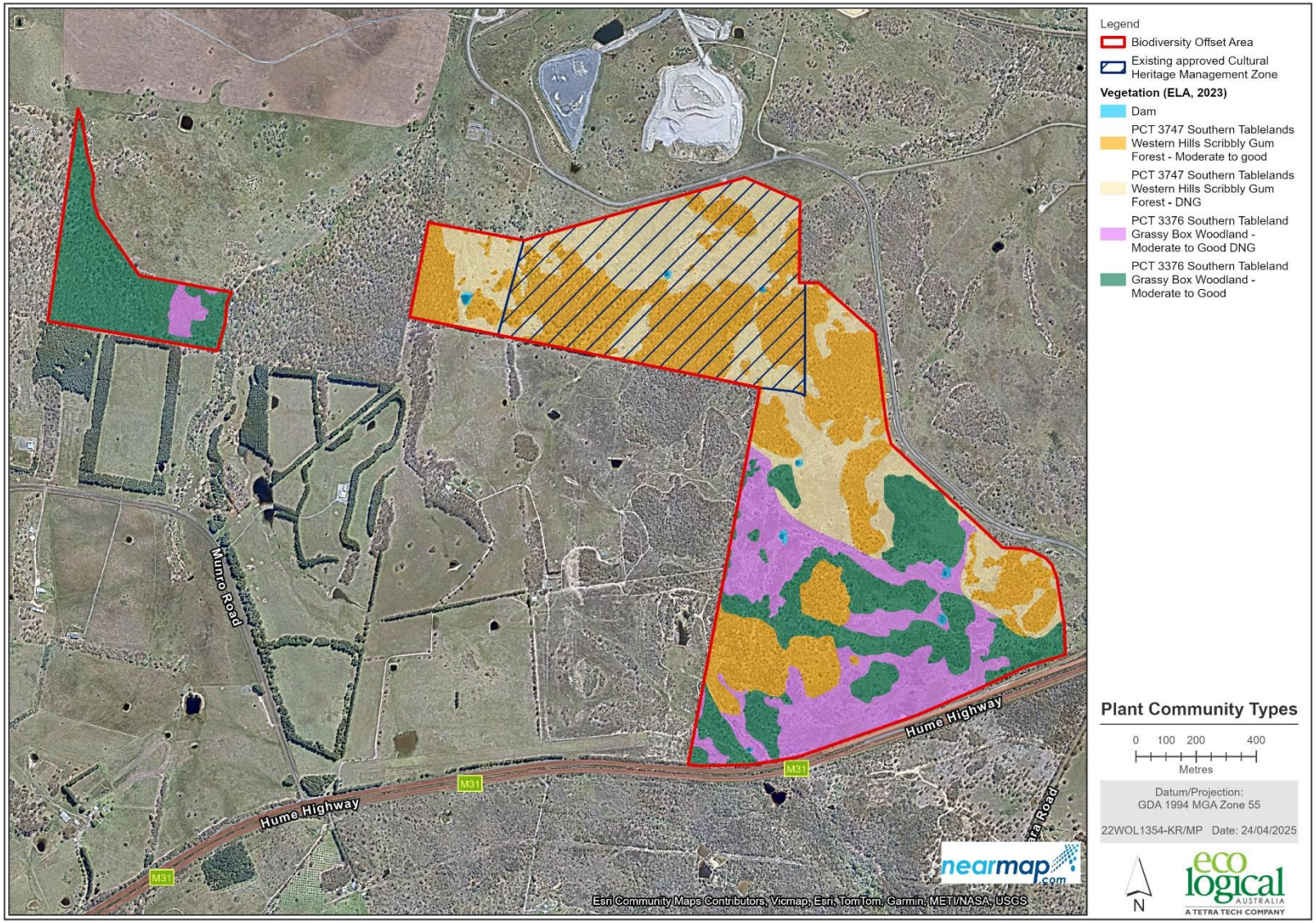



Figure 2: Plant Community Types within the BOA

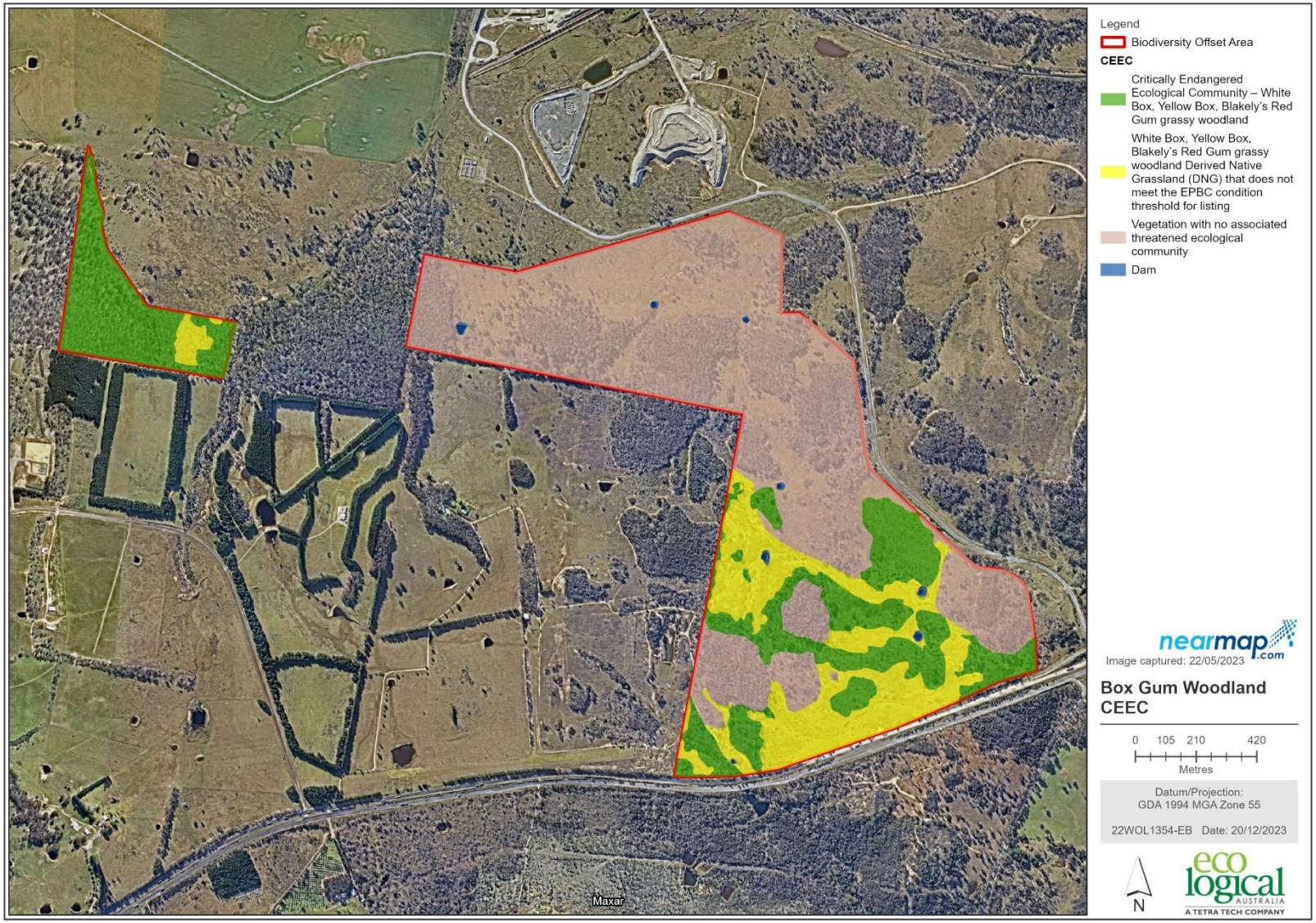



Figure 3: BGW that meets the EPBC listing criteria

## 2.3. *Leucochrysum albicans* subsp. *tricolor* (Hoary Sunray)

The endangered EPBC listed species *Leucochrysum albicans* subsp. *tricolor* (Hoary Sunray) was surveyed in 2022 with 14,697 individuals recorded (Figure 4). It was noted during the survey the species appeared to prefer open areas with minimal canopy cover and minimal competition in the ground cover layer. The BGWMP prepared by Umwelt in 2013 provides an estimation of Hoary Sunray individuals of 200,000 with 27.3 ha of habitat. The survey in 2022 identified individuals outside of the original extent estimation and a new extent of habitat has been produced (Figure 4).

The overlap with Hoary sunray 2022 extent and BGW that meets EPBC listing criteria are shown in Figure 5.

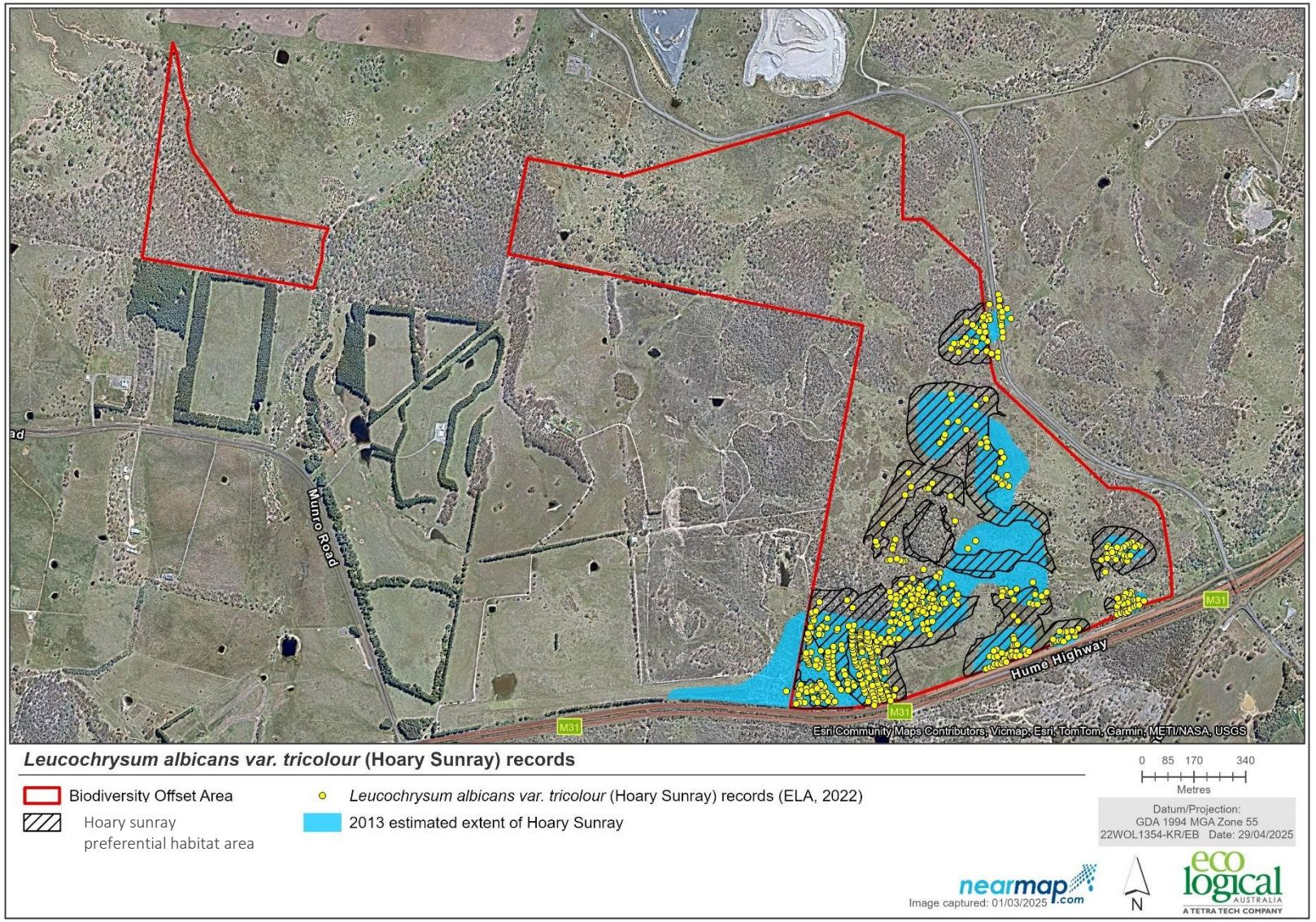



Figure 4: *Leucochrysum albicans* var. *tricolour* (Hoary Sunray) records

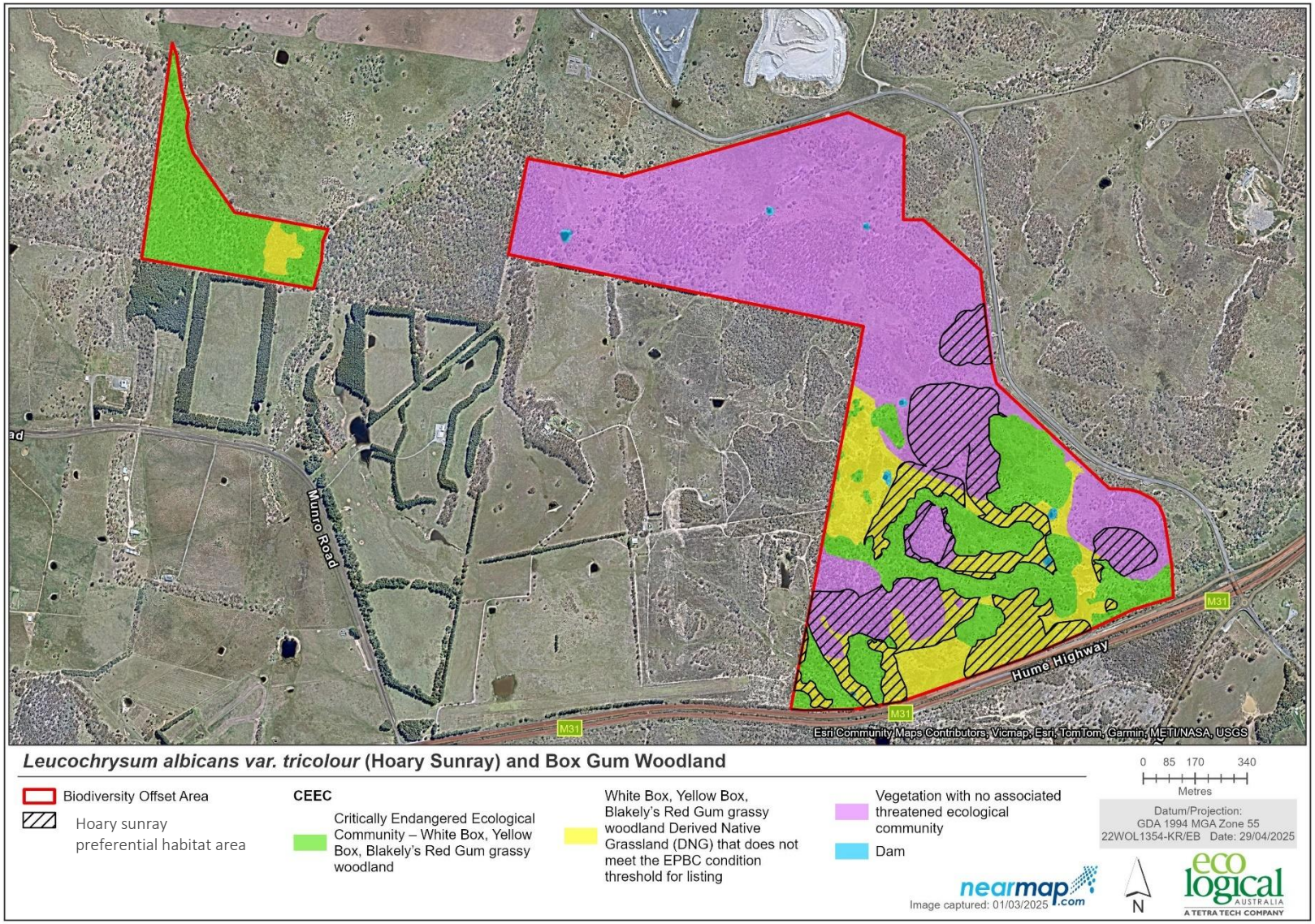



Figure 5: *Leucochrysum albicans var. tricolour* (Hoary Sunray) 2022 extent and BGW listing criteria

## 2.4. Fauna

### 2.4.1. Fauna survey

The fauna assessment included multifaceted baseline surveys undertaken on two different field trips, by two teams of ELA Ecologists between 11 February and the 5 March 2025, across the BOA. This approach included the deployment of monitoring devices for 22 nights (remote cameras and ultrasonic detectors), as well as a series of field surveys (bird surveys, spotlight surveys and opportunistic finds).

### 2.4.2. Fauna results summary

A total of 73 fauna species were identified across all field survey efforts. Of which, five were threatened native species, five exotic fauna species and 62 non-threatened native species. The full list of species recorded within the BOA are provided in Table 6. The full fauna survey information is provided in Appendix D.

Table 6: All fauna species recorded within the BOA

| Fauna Type and Class | Species name | Common name |
|---|---|---|
| Exotics | | |
| Mammalia | *Lepus europaeus occidentalis* | European Brown Hare |
| | *Ovis aries* | Domestic Sheep |
| | *Rusa unicolor* | Sambar Deer |
| | *Sturnus vulgaris* | Common Starling |
| Aves | *Vulpes vulpes* | European Red Fox |
| Threatened Natives | | |
| Mammalia | *Miniopterus orianae oceanensis* | Large Bent-winged Bat |
| Aves | *Calyptorhynchus lathami* | |
| | *Daphoenositta chrysoptera* | |
| | *Petroica boodang* | Scarlet Robin |
| | *Pyrrholaemus sagittatus* | Speckled Warbler |
| Non-Threatened Natives | | |
| Mammalia | | |
| | *Macropus giganteus* | Eastern Grey Kangaroo |
| | *Petaurus breviceps* | Sugar Glider |
| | *Pseudocheirus peregrinus* | Eastern Ringtail Possum |
| | *Trichosurus vulpecula* | Common Brushtail Possum |
| | *Wallabia bicolor* | Swamp Wallaby |
| | *Austronomus australis* | White-striped Free-tailed Bat |
| | *Chalinolobus morio* | Chocolate Wattled Bat |
| Aves | | |
| | *Acanthiza lineata* | Striated Thornbill |
| | *Acanthiza nana* | Yellow Thornbill |
| | *Acanthiza pusilla* | Brown Thornbill |
| | *Acanthiza reguloides* | Buff-rumped Thornbill |
| | *Aegotheles cristatus* | Australian Owlet-nightjar |
| | *Anas superciliosa* | Pacific Black Duck |

| Fauna Type and Class | Species name | Common name |
|---|---|---|
| | *Anthochaera carunculata* | Red Wattlebird |
| | *Aquila audax* | Wedge-tailed Eagle |
| | *Ardea pacifica* | White-necked Heron |
| | *Cacomantis flabelliformis* | Fan-tailed Cuckoo |
| | *Caligavis chrysops* | Yellow-faced Honeyeater |
| | *Colluricincla harmonica* | Grey Shrikethrush |
| | *Coracina novaehollandiae* | Black-faced Cuckooshrike |
| | *Corcorax melanorhamphos* | White-winged Chough |
| | *Cormobates leucophaea* | White-throated Treecreeper |
| | *Corvus coronoides* | Australian Raven |
| | *Corvus mellori* | Little Raven |
| | *Cracticus torquatus* | Grey Butcherbird |
| | *Cygnus atratus* | Black Swan |
| | *Dacelo novaeguineae* | Laughing Kookaburra |
| | *Daphoenositta chrysoptera* | Varied Sittella |
| | *Eolophus roseicapilla* | Galah |
| | *Gerygone mouki* | Brown Gerygone |
| | *Gerygone olivacea* | White-throated Gerygone |
| | *Grallina cyanoleuca* | Magpie-lark |
| | *Gymnorhina tibicen* | Australian Magpie |
| | *Hirundo neoxena* | Welcome Swallow |
| | *Malurus cyaneus* | Superb Fairywren |
| | *Manorina melanocephala* | Noisy Miner |
| | *Neochmia temporalis* | Red-browed Finch |
| | *Nesoptilotis leucotis* | White-eared Honeyeater |
| | *Pachycephala rufiventris* | Rufous Whistler |
| | *Pardalotus punctatus* | Spotted Pardalote |
| | *Pardalotus striatus* | Striated Pardalote |
| | *Phaps chalcoptera* | Common Bronzewing |
| | *Philemon corniculatus* | Noisy Friarbird |
| | *Platycercus elegans* | Crimson Rosella |
| | *Platycercus eximius* | Eastern Rosella |
| | *Psephotus haematonotus* | Red-rumped Parrot |
| | *Rhipidura albiscapa* | Grey Fantail |
| | *Rhipidura leucophrys* | Willie Wagtail |
| | *Sericornis frontalis* | White-browed Scrubwren |
| | *Strepera graculina* | Pied Currawong |
| | *Synoicus ypsilophorus* | Brown Quail |
| | *Zosterops lateralis* | Silvereye |
| **Reptilia** | | |
| | *Chelodina longicollis* | Eastern Snake-necked Turtle |
| | *Hemiergis talbingoensis* | Eastern three-toed Earless Sunskink |
| | *Lampropholis delicata* | Dark-flecked Garden Sunskink |
| | *Pseudechis porphyriacus* | Red-bellied Black Snake |

| Fauna Type and Class | Species name | Common name |
|---|---|---|
| Amphibia | | |
| | *Crinia parinsignifera* | Eastern Sign-bearing Froglet |
| | *Crinia signifera* | Common Eastern Froglet |
| | *Limnodynastes tasmaniensis* | Spotted Marsh Frog |
| | *Litoria peronii* | Peron's Tree Frog |
| | *Litoria verreauxii* | Whistling Tree Frog |
| | *Uperoleia laevigata* | Smooth Toadlet |

## 2.5. Weeds

The Biosecurity Act 2015 (BA Act) and regulations provide specific legal requirements for the state level priority weeds (Table 2). Under the BA Act all plants are regulated with a general biosecurity duty to prevent, eliminate, or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated, or minimised, so far as reasonably practicable.

Specific legal requirements apply to State determine priorities under the South East Regional Strategic Weed Management Plan 2023-2027, while regional priorities include outcomes to demonstrate compliance with the general biosecurity duty and strategical responses in the region to achieve relevant management objectives (South East LLS 2023). Weeds listed as 'other weeds of regional concern' under the plan warrant resources for local control or management programs and are a priority to keep out of the region. Inclusion in this list may assist Local Control Authorities and/or land managers to prioritise action in certain circumstances where it can be demonstrated the weed poses a threat to the environment, human health, agriculture etc.

In 2021, a site assessment was undertaken by two ELA staff; Max Massa and Michael Gregor and in 2022, BAM floristic plots were completed across the site in the BOA by two ELA ecologists; Alex Gorey and Melaina Chapman. Weed species identified at these times for this BGWMP include four listed as State level priority weeds. The weeds present, their priority listing under the BA Act, the associated asset / value at risk and whether they are Weeds of National Significance (WoNS), are presented in Table 7. A full list of weeds recorded during these most recent field surveys is provided in Appendix E.

Table 7: Priority weeds and Weeds of National Significance (WoNS) identified within the BGWMP

| Scientific Name | Common Name | WoNS | Regional level priority weeds | Biosecurity Act 2015 |
|---|---|---|---|---|
| *Lantana camara* | Lantana | Yes | Yes | Containment/Asset protection |
| *Nassella trichotoma* | Serrated Tussock | Yes | No | Containment/Asset protection |
| *Rubus anglocandicans* | Blackberry | Yes | No | Containment/Asset protection |
| *Senecio madagascariensis* | Fireweed | Yes | No | Containment/Asset protection |

## 2.6. Fire history

Mapping data shows that the last major bushfire which included the site was between 1961 and 1970 (NPWS 2025). No evidence of recent fire was observed by ELA during the flora (ELA 2024), fauna or soils site inspections. In addition, during the ecological monitoring undertaken annually by SLR across the Holcim lands, including the BOA, no evidence was found of recent fire in any monitoring plots (SLR 2024, 2025).

# 3. Management zones

## 3.1. Management Zone 1: Box Gum Woodland Revegetation (Intensive)

| Management Zone 1: Box Gum Woodland Revegetation (Intensive) | |
|---|---|
| Management Zone description | MZ1 is made up of 3376 DNG that does not meet the EPBC condition threshold due to high cover of exotic species. This zone is dominated by *Anthoxanthum odoratum* (Sweet Vernal Grass) with cover recorded at 40% in this zone. The other exotic species which were present in high cover includes *Hypochaeris radicata* (Flatweed) and *Setaria parviflora* (Pidgeon Grass).<br>Despite the high cover of exotic species there is still a diverse range of native grasses and forbs such as *Aristida vagans*, *Brunoniella australis*, *Carex inversa*, *Centella asiatica*, *Centrolepis fascicularis*, *Craspedia variabilis*, *Cyperus gracilis*, *Drosera peltata*, *Eragrostis leptostachya*, *Euchiton japonicus*, *Gonocarpus tetragynus*, *Lepidosperma gunnii*, *Lomandra filiformis* subsp. *coriacea*, *Panicum effusum*, *Schoenus apogon* and *Stypandra glauca*. These species made up a cover of 15% within this management zone. |
| Size | 11 ha |
| Location: | MZ1 is found in 3 locations across the BOA shown on Figure 6. |
| Management works | Primary weed management works in this zone will be done prior to and in preparation to extensive revegetation works and should include slashing and spot spraying exotic grasses and broadleaf weeds using a non-selective herbicide (e.g. Roundup Biactive®).<br>This zone requires, at a minimum, 11 ha of Box Gum Woodland to be reinstated. High density revegetation of trees and shrubs using tubestock of suitable Box Gum Woodland species will be required to be undertaken. The recommended tree and shrub species to use is provided in Appendix F.<br>Secondary and maintenance weed management will be required to ensure the success of revegetation works. It is expected as weed control works reduce weed cover that native regeneration would increase. If native regeneration is not sufficient to meet EPBC criteria for this zone then revegetation of groundcovers and grasses will be required. |

## 3.2. Management Zone 2: Box Gum Woodland Revegetation (Passive)

| Management Zone 2: Box Gum Woodland Revegetation (Passive) | |
|---|---|
| Management Zone description | MZ2 is made up of 3376 DNG that does not meet the EPBC condition threshold due to high cover of exotic species. This zone is the remaining area of DNG that is not required to meet the EPBC condition threshold. Management in this zone will be less intensive with less effort in weed control undertaken within this zone.<br>This zone is dominated by *Anthoxanthum odoratum* (Sweet Vernal Grass) with cover recorded at 40% in this zone. The other exotic species which were present in high cover includes *Hypochaeris radicata* (Flatweed) and *Setaria parviflora* (Pidgeon Grass).<br>Despite the high cover of exotic species there is still a diverse range of native grasses and forbs such as *Aristida vagans*, *Brunoniella australis*, *Carex inversa*, *Centella asiatica*, *Centrolepis fascicularis*, *Craspedia variabilis*, *Cyperus gracilis*, *Drosera peltata*, *Eragrostis leptostachya*, *Euchiton japonicus*, *Gonocarpus tetragynus*, *Lepidosperma gunnii*, *Lomandra filiformis* subsp. *coriacea*, *Panicum effusum*, *Schoenus apogon* and *Stypandra glauca*. These species made up a cover of 15% within this management zone. |
| Size | 2.22 ha |
| Location: | MZ2 is found in one location on the southern edge of the BOA, shown on Figure 6. |
| Management works | This zone requires moderate density revegetation of trees and shrubs using tubestock of suitable Box Gum Woodland species. The recommended tree and shrub species to use is provided in Appendix F. |

## 3.3. Management Zone 3: Box Gum Woodland Conservation

| Management Zone 3: Box Gum Woodland Conservation | |
|---|---|
| Management Zone description | MZ3 is made up PCT 3376 which meets the key diagnostic features and condition criteria to meet the EPBC listing for Box Gum Woodland.<br>The weeds present in this zone includes *Anthoxanthum odoratum* (Sweet Vernal Grass), *Briza minor* (Shivery Grass), *Holcus lanatus* (Yorkshire Fog), *Lysimachia arvensis*, *Senecio madagascariensis* (Fireweed) and *Setaria parviflora* (Pidgeon Grass). The overall weed cover was low with the highest weed cover recorded within a plot at 25%.<br>The native species present includes *Allocasuarina littoralis*, *Aristida vagans*, *Austrostipa scabra* subsp. *scabra, Carex inversa*, *Cassinia sifton*, *Cheilanthes sieberi* subsp. *sieberi*, *Eucalyptus blakelyi*, *Eucalyptus goniocalyx*, *Eucalyptus melliodora*, *Euchiton japonicus*, *Gonocarpus tetragynus*, *Goodenia hederacea* subsp. *hederacea*, *Kunzea parvifolia*, *Leucochrysum albicans* var. *tricolor*, *Lomandra filiformis* subsp. *coriacea*, *Microlaena stipoides* var. *stipoides*, *Ozothamnus diosmifolius*, *Schoenus apogon* and *Veronica plebeia.* |
| Size | 45.12 ha |
| Location: | MZ3 is found in multiple locations in the southeastern section of the BOA shown on Figure 6. |
| Management works | Maintenance weed management will be required to ensure weed densities do not increase. |

## 3.4. Management Zone 4: Hoary Sunray Conservation

| Management Zone 4: Hoary Sunray Conservation | |
|---|---|
| Management Zone description | MZ4 is made up of different vegetation zones with *Leucochrysum albicans* subsp. *tricolor* (Hoary Sunray) present. The management zone was created from the location of individuals identified during the 2022 survey with a 20m buffer added. The management in this zone will focus on protecting and maintaining the habitat for with *Leucochrysum albicans* subsp. *tricolor* (Hoary Sunray).<br>The weeds present in this zone includes *Acetosella vulgaris* () *Anthoxanthum odoratum* (Sweet Vernal Grass), *Briza minor* (Shivery Grass), *Holcus lanatus* (Yorkshire Fog), *Hypochaeris radicata* (Flatweed) and *Senecio madagascariensis* (Fireweed). The overall weed cover ranged from low to moderate with the highest weed cover recorded within a plot at 50%.<br>The native species present includes *Aristida vagans*, *Austrostipa scabra* subsp. *scabra, Carex inversa*, *Cassinia sifton*, *Cheilanthes sieberi* subsp. *sieberi*, *Euchiton japonicus*, *Gonocarpus tetragynus*, *Goodenia hederacea* subsp. *hederacea*, *Kunzea parvifolia*, *Leucochrysum albicans* var. *tricolor*, *Lomandra filiformis* subsp. *coriacea*, *Microlaena stipoides* var. *stipoides*, *Ozothamnus diosmifolius*, *Schoenus apogon* and *Veronica plebeia.* |
| Size | 37.91 ha |
| Location: | MZ3 is found in multiple locations in the southeastern section of the BOA shown on Figure 6. |
| Management works | Maintenance weed management will be required to ensure weed densities do not increase and impact the Hoary Sunray habitat.<br>Control of native shrubs such as *Cassinia sifton* in areas of DNG should be undertaken to stop them outcompeting groundcover species, including Hoary Sunray. |

## 3.5. Management Zone 5: Vegetation conservation

MZ5 is 43.59 ha and is comprised of the PCT Southern Tableland Western Hills Scribbly Gum Forest (PCT 3747) ranging from 'Moderate to Good condition' and 'Derived Native Grassland (DNG) condition. Maintenance weed management will be required to ensure the conservation of the current condition of the PCT within this management zone.

## 3.6. Management Zone 6: Cultural heritage management

MZ6 is approximately 44.21 ha and is comprised of PCT Southern Tableland Western Hills Scribbly Gum Forest (PCT 3747) ranging from 'Moderate to Good condition' and 'Derived Native Grassland (DNG) condition. This zone contains a high density of Aboriginal sites and Potential Archaeological Deposits which are to be conserved in-perpetuity within this Cultural Heritage Management Zone (CHMZ). These locations are individually fenced and locked with a sign labelling the site type (Umwelt 2022). Any management actions within the BOA should avoid these areas.

# 4. Management works

## 4.1. Fencing and interpretation signage

### 4.1.1. Permanent fencing

Where the BOA interacts with the other land uses (i.e. non-bushland areas), the perimeter of the area should be protected from further disturbances using permanent fencing or barriers. A standard rural fence using 1.2 m high star posts with a minimum three strands of plain wire is recommended. If barbed wire is required for livestock exclusion then it should be top wire only or equivalent to allow for native fauna movement but restrict livestock, motorised vehicle and unauthorised human access into the BOA. Where the BOA is continuous with bushland and those considerations are not relevant then boundary marking can be used instead to delineate the boundary.

Based on recent inspections (ELA 2024) and ecological monitoring (SLR 2024, 2025), the perimeter of the BOA is fully fenced. This fencing must be inspected annually and maintained in perpetuity. If fencing is not currently as per the requirements listed in the preceding paragraph, this should be rectified as fencing is damaged or fails and requires replacement.

### 4.1.2. Signage and gates

Interpretative signage is required to be placed at gates and other strategic locations on the perimeter fencing to advise of the importance of the bushland area and indicate that the area is undergoing revegetation and management. Suggested text for the interpretative signage is as follows:

> *Biodiversity Offset Area: The native vegetation within this precinct is of high habitat and biodiversity value and should be protected from damage. No unauthorised access. Unauthorised vegetation removal, including firewood collection and picking of native flowers is prohibited. Dumping or stockpiling of materials, including green waste, or other rubbish is prohibited.*

## 4.2. Erosion Management

1st and 2nd order streams are present within the BOA which flow east connecting to Marulan Creek. During the survey these streams were observed as dry creek beds with minimal erosion present. These creek lines have vegetation present stabilising the creek banks which limit erosional impacts.

No significant erosion in the BOA was identified during ELA site inspections (2024) or ecological monitoring (SLR 2024, 2025) however this should continue to be monitored.

## 4.3. Feral animal control

It is the responsibility of the land holder to remove and protect the BOA from all pest species and livestock. The deployed cameras identified a high presence of *Vulpes vulpes* (Fox) which was identified at every camera location. Feral deer (*Rusa unicolor*) was also identified which has the potential to impact on revegetation works within the BOA.

Pest control is to be undertaken by relevant contractors in consultation with Local Land Services (LLS) and GMC throughout the lifetime of the approval. This should be undertaken to align with the wider pest control actions being undertaken in the region.

## 4.4. Training

Due to the sensitive nature of the BOA this BGWMP will require all staff to complete training/inductions before commencing works. Training and inductions that have been implemented should be recorded and should include environmental emergency contacts such as contacts for the Environmental Protection Agency (EPA), within the area as well as environmental emergency procedures for the BOA.

## 4.5. Weed Control

### 4.5.1. Primary and secondary weed control

Prior to revegetation, all weeds will require treatment in MZ1 where revegetation works will be undertaken. Secondary and maintenance weed control will be required following revegetation. During these works, care must be taken to avoid any off-target damage to natural regeneration of native species and plant species.

Juvenile weeds can be hand-pulled, provided the whole root is removed. Large specimens' plants and those that are woody can be treated using cut and paint method. Chemical and mechanical control techniques will be required in follow up treatments. Follow up treatments of exotic seedling growth will be required.

For more information on specific weed control techniques, see Appendix G.

### 4.5.2. Maintenance

All management zones will require ongoing maintenance for the life of the approval to control weed regrowth from the soil seed bank. Maintenance work is to be undertaken by a qualified bush regeneration contractor(s) as per specifications provided in Appendix G.

Maintenance will be undertaken on a regular basis in the peak growing seasons (i.e. spring and summer), with less frequent visits necessary during cooler periods (i.e. autumn and winter). Maintenance work will include actions to encourage native regeneration in areas of lower resilience where it is not occurring naturally.

## 4.6. Revegetation

Revegetation works will be required over the entirety of MZ1 and MZ2. Revegetation assumptions are shown in Table 8.

Planting densities for each Management Zone are provided in Table 9. A recommended planting list is provided in Appendix F.

Table 8: Revegetation assumptions

| MZ | Description | Total area (ha) | Reveg Area (%) | Reveg area (ha) | Mulch (%) | Mulch area (ha) |
|---|---|---|---|---|---|---|
| 1 | Box Gum Woodland Revegetation (Intensive) | 11.0 | 100% | 11.0 | 0 | 0 |
| 2 | Box Gum Woodland Revegetation (Passive) | 2.2 | 100% | 2.2 | 0 | 0 |
| Total | | 13.2 | 13.2 | 13.2 | - | - |

Table 9: Revegetation densities

| MZ | Description | Reveg area (ha) | Total plant number requirements (per $m^2$) | | | | Total (T/S) | Total* (G/F) |
|---|---|---|---|---|---|---|---|---|
| | | | Trees | Shrubs | Grasses | Forbs | | |
| 1 | Box Gum Woodland Revegetation (Intensive) | 11.0 | 1/20 | 1/20 | 1* | 1* | 11,000 | 220,000* |
| 2 | Box Gum Woodland Revegetation (Passive) | 2.2 | 1/20 | 1/20 | - | - | 2,220 | |
| Total | | 13.2 | 6,610 | 6,610 | 110,000* | 110,000* | 13,220 | |

*Minimum plant density to be triggered if native ground cover does not meet the 2032 performance criteria.

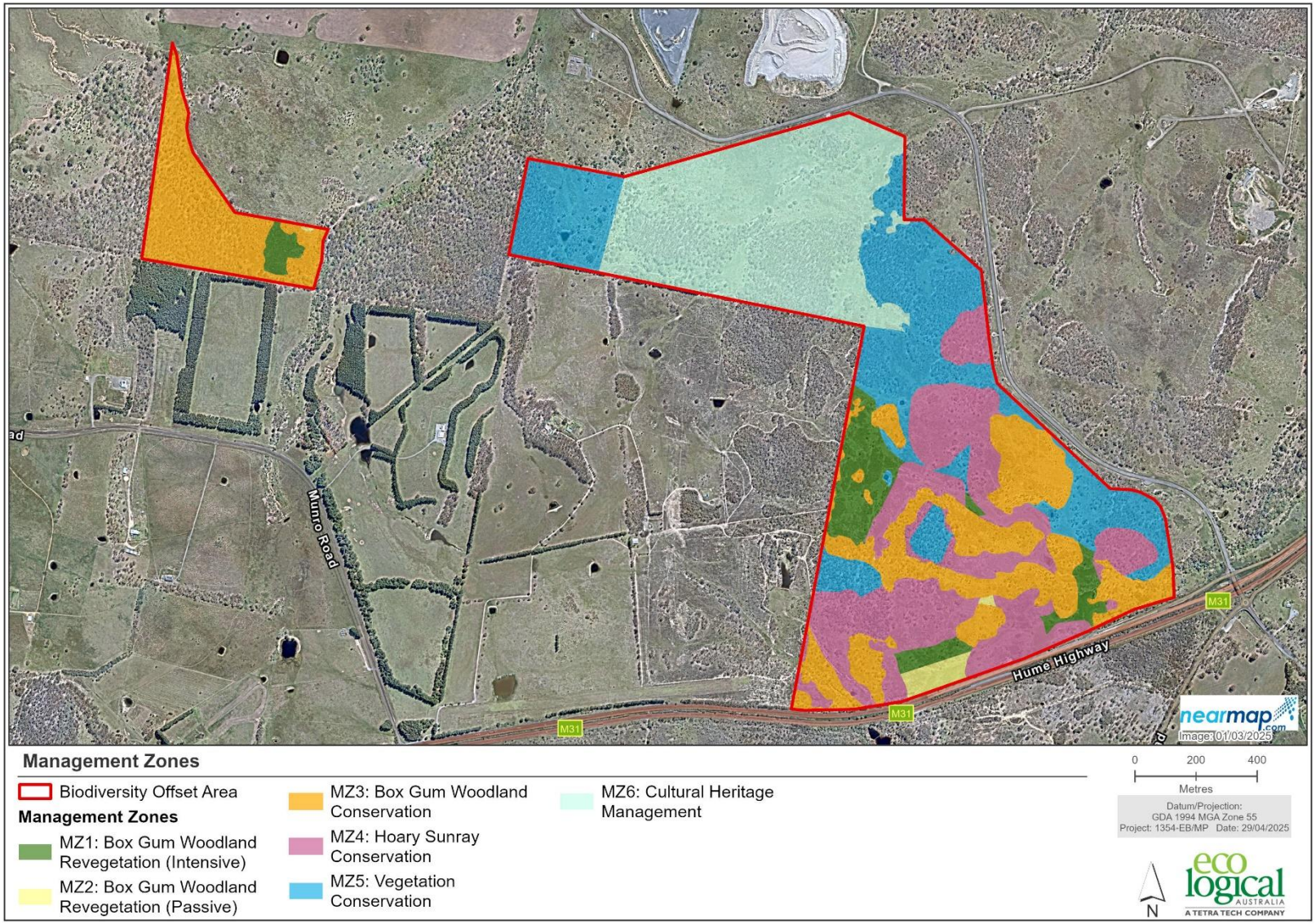



Figure 6: BGWMP Management Zones

# 5. Implementation schedule

## 5.1. Implementation schedule

The BGWMP area will be managed by Holcim for the life of the approval. An indicative implementation schedule has been provided in Table 12 and Table 13.

## 5.2. Adaptive management

As this is a long-term project implemented over several years, an adaptive management approach should be adopted to enable vegetation contractors to learn from and respond to successful and unsuccessful techniques used on site. The success of the works will be determined by meeting performance criteria identified in Table 12 and Table 13. Contractors have the flexibility to implement different techniques to those specified providing that performance criteria are met. Any major departures from the BGWMP or proposed changes to performance criteria must be approved in writing by the GMC and the Minister.

## 5.3. In-perpetuity management

The prime goal of this BGWMP is to establish 11 ha Box Gum Woodland (MZ1) to an EPBC condition threshold within the BOA and improve or maintain the condition of the other BGW areas (MZ2 and MZ3). After the completion of the works in year 2037, as per of the Conservation Agreement it is the responsibility of the landholder to ensure the BOA undergoes regular on-going inspections of vegetation, to be conducted as follows to ensure the BOA continues to meet performance criteria standards.

Starting in 2038, the following monitoring must be undertaken every three years in perpetuity:

- Established BAM plots (Section 6.1)
- Photo monitoring (Section 6.2)
- Revegetation census (Section 6.3)
- Hoary Sunray census (Section 6.4)
- Monitoring report (Section Annual progress reports6.5)

If the BOA is found to not be meeting the in-perpetuity performance criteria (Section 6.6) during these reporting, monitoring may be required to be undertaken more frequently and additional works undertaken to meet the criteria.

Table 10: Implementation schedule years 1 – 6

| Task | Year 1 (2026) | | | | Year 2 (2027) | | | | Year 3 (2028) | | | | Year 4 (2029) | | | | Year 5 (2030) | | | | Year 6 (2031) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| **Infrastructure works** | | | | | | | | | | | | | | | | | | | | | | | | |
| Fence inspection and maintenance | | | | | | | | | | | | | | | | | | | | | | | | |
| Install information signage | | | | | | | | | | | | | | | | | | | | | | | | |
| **Revegetation** | | | | | | | | | | | | | | | | | | | | | | | | |
| Seed collection | | | | | | | | | | | | | | | | | | | | | | | | |
| Site preparation | | | | | | | | | | | | | | | | | | | | | | | | |
| MZ1 and MZ2 tree and shrub revegetation | | | | | | | | | | | | | | | | | | | | | | | | |
| Replacement revegetation | | | | | | | | | | | | | | | | | | | | | | | | |
| **Weed control** | | | | | | | | | | | | | | | | | | | | | | | | |
| Primary | | | | | | | | | | | | | | | | | | | | | | | | |
| Secondary | | | | | | | | | | | | | | | | | | | | | | | | |
| Maintenance | | | | | | | | | | | | | | | | | | | | | | | | |
| **Other works** | | | | | | | | | | | | | | | | | | | | | | | | |
| Monitoring plots (BAM) | | | | | | | | | | | | | | | | | | | | | | | | |
| Photo point monitoring | | | | | | | | | | | | | | | | | | | | | | | | |
| Revegetation assessment | | | | | | | | | | | | | | | | | | | | | | | | |
| Hoary Sunray census | | | | | | | | | | | | | | | | | | | | | | | | |
| Monitoring report | | | | | | | | | | | | | | | | | | | | | | | | |
| Pest control | | | | | | | | | | | | | | | | | | | | | | | | |

Table 11: Implementation schedule years 7 – 12

| Task | Year 7 (2032) | | | | Year 8 (2033) | | | | Year 9 (2034) | | | | Year 10 (2035) | | | | Year 11 (2036) | | | | Year 12 (2037) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| **Infrastructure works** | | | | | | | | | | | | | | | | | | | | | | | | |
| Fence maintenance | | | | | | | | | | | | | | | | | | | | | | | | |
| Install information signage | | | | | | | | | | | | | | | | | | | | | | | | |
| **Revegetation** | | | | | | | | | | | | | | | | | | | | | | | | |
| Seed collection | | | | | | | | | | | | | | | | | | | | | | | | |
| Site preparation | | | | | | | | | | | | | | | | | | | | | | | | |
| MZ1 grass and forb planting* | | | | | | | | | | | | | | | | | | | | | | | | |
| Replacement revegetation* | | | | | | | | | | | | | | | | | | | | | | | | |
| **Weed control** | | | | | | | | | | | | | | | | | | | | | | | | |
| Primary | | | | | | | | | | | | | | | | | | | | | | | | |
| Secondary | | | | | | | | | | | | | | | | | | | | | | | | |
| Maintenance | | | | | | | | | | | | | | | | | | | | | | | | |
| **Other works** | | | | | | | | | | | | | | | | | | | | | | | | |
| Monitoring plots (BAM) | | | | | | | | | | | | | | | | | | | | | | | | |
| Photo point monitoring | | | | | | | | | | | | | | | | | | | | | | | | |
| Revegetation assessment | | | | | | | | | | | | | | | | | | | | | | | | |
| Hoary Sunray census | | | | | | | | | | | | | | | | | | | | | | | | |
| Monitoring report | | | | | | | | | | | | | | | | | | | | | | | | |
| Pest control | | | | | | | | | | | | | | | | | | | | | | | | |

*if deemed necessary by the Year 7 Revegetation Assessment due to lack of natural regeneration in groundcover layer to achieve the performance criteria in Table 13

# 6. Monitoring and reporting

Bush regeneration contractors and/or the land manager should monitor BGWMP vegetation for changes over time. Monitoring should assist in highlighting the effectiveness of vegetation management in achieving desired outcomes and help to identify works that have or have not been successful, and reasons for those outcomes. It should also identify any non-conformance and provide the land manager with the knowledge to implement corrective actions. Information gained from monitoring can be used to form adaptive management decisions, inform future priorities, and work plans. Monitoring and reporting will also assist in determining and quantify weed management related costs and their cost effectiveness.

Monitoring assessments should combine photo monitoring and vegetation surveys as well as BAM plot locations. These must be implemented prior to works commencing to establish benchmarks for performance and then occur on an annual basis until project completion.

## 6.1. BAM plots

Biodiversity Assessment Method (BAM) plots will be established to be monitored every three years following the first year of the initial revegetation in Management Zone 1 and Management Zone 2. A total of nine plots will be established as follows:

- Management Zone 1: Box Gum Woodland Revegetation (Intensive) – 3 plots
- Management Zone 2: Box Gum Woodland Revegetation (Passive) – 1 plot
- Management Zone 3: Box Gum Woodland Conservation – 3 plots
- Management Zone 4: Hoary Sunray Conservation – 2 plots
- Management Zone 5: Vegetation Conservation – 0 plot
- Management Zone 6: Cultural Management Area – 0 plots

BAM plot locations will be established using permanent reference points to provide a summary of change in vegetation over time. BAM plots should be conducted as per section 4.3.4 of the Biodiversity Assessment Method 2020 (DPIE 2020a).

## 6.2. Photo monitoring

Photo points should be established using permanent reference points, including at the BAM plots established as per Section 6.1, to provide visual references of vegetation change over time.

Photo monitoring should include:

- Set up the following number of photo points in each Management Zone for a total of 15 photo monitoring points:
  - Management Zone 1: Box Gum Woodland Revegetation (Intensive) – 4 points
  - Management Zone 2: Box Gum Woodland Revegetation (Passive) – 2 points
  - Management Zone 3: Box Gum Woodland Conservation – 4 points
  - Management Zone 4: Hoary Sunray Conservation – 3 points
  - Management Zone 5: Vegetation Conservation – 1 point
  - Management Zone 6: Cultural Management Area – 1 point
- Mark the photo point with a six-foot star picket and map the location and bearing of each photo point.

- Take a digital photo of each photo point with the whole length of the star picket visible in the photo to act as a reference point; and
- Organise the digital photos logically with each image labelled with a unique reference number indicating the location of the photo point, the direction of the photo and the date the photo is taken.

## 6.3. Revegetation assessment

Revegetation assessment surveys should be undertaken in MZ1 and MZ2 for three years following the revegetation works to ensure survivability. The assessment will require a walkaround of the management zones and undertaking a census to estimate the following:

- the survival rate of the plants installed
- the extent of natural regeneration of canopy species
- variation within the zone around survivability
- average height and DBH of the revegetation and natural regeneration of canopy species

In addition, an assessment will occur at the completion of Year 7 to determine if groundcover revegetation is required in MZ1 to achieve the ecological outcomes required by 1 January 2036, as per the variation of condition to EPBC approval 2012/6560. This assessment will also be undertaken via walkaround of the management zones but will include a suitable number of 1m x 1m rapid assessment quadrats for native groundcover species diversity, density and cover. If the site is not meeting the groundcover targets identified in Table 13 or the density targets in Table 9 then revegetation will be required.

## 6.4. Hoary Sunray census

The Hoary Sunray census will occur every three years from Year 2 (2027). This will involve parallel transects 10m apart across all MZ4. When an individual is identified during the survey a central location should be marked and a stem count conducted with a 5m radius of the central location. Any potential threats to the population should be noted during the survey.

## 6.5. Annual progress reports

Monitoring reports must be provided to the Commonwealth DCCEEW and are required to be published on the Holcim website. Reports are to include a baseline report at the start of works and then on an annual basis for the lifetime of the approval.

Reporting should include information on the implementation of specified monitoring actions and a description of the management works undertaken. Reports will include (at a minimum):

- Reporting period
- Contractor details (e.g., qualifications/experience)
- Seed and plant sourcing details (e.g., sourcing range, species identity, seed/plant quantities)
- Works implemented summary, including
    - Date of site visits
    - Works conducted
    - Details of total person hours per task carried out (e.g., weed control, planting, seeding)

  - Details of weed control approaches (e.g., method, herbicide type, rate)
  - Details of restoration actions (e.g., brush matting, tubestock planting, seeding, planting number, planting area)
  - Details of assisted regeneration methods (e.g., installation of logs/woody debris/litter, biomass removal, habitat features)

- Photo point images and comments
- BAM plots, revegetation census and Hoary Sunray census results when required in that reporting year. During the years BAM plots are undertaken an assessment should be undertaken to determine if the site is tracking to meet the EPBC condition criteria.
- Issues/problems encountered and if/how these have been resolved
- Environmental incidents, non-compliance and corrective actions to be taken
- General observations (e.g., new plant species recorded (native and weed species), comments on rates of regeneration, details regarding rare or threatened entities found on site, faunal observations and interactions, social implications including community interactions (interest or complaints), rubbish dumping, trail bike activity, dog walking or other movement within site, breaches/damage to fences or vegetation
- Summary comments on site attributes and progress to-date.

## 6.6. Performance criteria

BGWMP performance criteria are detailed in Table 12 and Table 13  In addition, as per Condition 2D of the variation of condition to EPBC approval 2012/6560:

> *Condition 2D: The approval holder must achieve the ecological outcomes for Box Gum Woodland within the offset property specified in the LQBGWMP by 1 January 2036. Once achieved, the ecological outcomes must be maintained for the duration of this approval.*

'Ecological outcomes' is defined in Condition 2B(e) as follows:

> *Condition 2B(e): Ecological outcomes for Box Gum Woodland within the offset property that:*
> *i. include increasing the extent of Box Gum Woodland within the offset property;*
> *ii. include achieving a ratio of grassland form Box Gum Woodland to woodland form Box Gum Woodland of 1:14 or greater; and*
> *iii. are derived from improving the baseline ecological quality of Box Gum Woodland within the offset property from baseline;*

ELA considers that these ecological outcomes will be achieved in the following manner, assuming achievement of the performance criteria in Table 12 and Table 13

- Condition 2B(e)i: Revegetation of MZ1 to EPBC condition BGW will add 11ha to the existing 45.28ha (MZ3) of EPBC condition BGW.
- Condition 2B(e)ii: At the end of the management period, the combination of MZ1 (11ha) and MZ3 (45.28) will create 56.28ha of EPBC condition BGW.  With only 2.2ha of 'grassland form BGW', assumed to by DNG, this is a ratio of 1:25.  Note that the remaining 17.58ha of DNG identified on-site (ELA 2024) has not been included in this calculation as this area is part of the Hoary Sunray habitat and managed to prioritise that under MZ4.

- Condition 2B(e)iii: Revegetation of MZ1 to EPBC condition BGW, revegetation of MZ2 to improve canopy cover and weed control in MZ1, MZ2 and MZ3 will improve the baseline ecology quality of BGW.

The author of this BGWMP, or an equally qualified and experienced person must prepare a statement certifying the compliance of the performance criteria, including the points above, at the end of the approval period.

The approval holder, in consultation with the project manager and/or the bush regeneration contractor, and Holcim, can adapt criteria in response to the success of rehabilitation works with the Minister's approval.

After the achievement of the performance criteria detailed in Table 13, the following performance criteria must be met in perpetuity:

- MZ1 must be improved to and maintained at EPBC condition BGW
- The Hoary Sunray population within the BOA must be continuously maintained without any decrease outside of natural variation.
- The condition and extent of the BGW in the BOA (MZ1, MZ2, MZ3) must be improved or maintained
- No bare areas >5m² or erosion from exposed surface and if erosion is found, it is appropriately managed to prevent impact on the values identified above.
- The fence surrounding the BGWMP area is continuously maintained
- Feral animal control is undertaken to an extent suitable to prevent impact on the values identified above.

## 6.7. Auditing and review

### 6.7.1. Record keeping

As per Condition 7 and 7A of the variation of condition to EPBC approval 2012/6560, Holcim are required to maintain accurate records regarding with the conditions of approval for the lifetime of the project.

The conditions are as follows:

> *Condition 7: The approval holder must maintain accurate and complete compliance records and document the procedure for recording and storing compliance records.*
>
> *Condition 7A: 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.*

These reports must also be published to the Holcim website.

### 6.7.2. Independent audit

As per Condition 9 of the variation of condition to EPBC approval 2012/6560, Holcim are required to ensure an independent audit is conducted every audit period or when directed by the Minister and the report submitted to the Minister as well as published to the Holcim website. As per Condition 9C, the auditor must be approved by the Minister.

The conditions are as follows:

> *Condition 9: The approval holder must ensure that an independent audit of compliance with the conditions is conducted for every audit period and as otherwise directed by the Minister.*
>
> *Condition 9C: The approval holder must submit details of the proposed independent auditor and their qualifications to the department within 10 business days following the end of each audit period, for the department's written agreement.*

### 6.7.3. Management plan review

Using adaptive management, performance criteria will be reviewed annually and revised, when necessary, throughout the lifetime of the approval.

Progress against the targets will be discussed in annual reports as per Section 6.5, which will address identified failures of performance criteria, environmental incidents, non-compliance, and corrective measures taken to address any such issues.

As per Condition 11 of the variation of condition to EPBC approval 2012/6560, the Minister can request the LQBGWMP be revised if it is believed to be necessary or convenient for the better protection of listed threatened species and ecological communities and Holcim must comply with this request.

As per Condition 10 of the variation of condition to EPBC approval 2012/6560, Holcim can apply for a variation to the LQBGWMP and must submit an application in accordance with Section 143A of the EPBC Act.

The conditions are as follows:

> *Condition 10: The approval holder may, at any time, apply to the Minister for a variation to the LQBGWMP, by submitting an application in accordance with the requirements of section 143A of the EPBC Act. If the Minister approves a revised LQBGWMP then, from the date specified, the approval holder must implement that revision of the LQBGWMP in place of any previous version.*
>
> *Condition 11: If the Minister believes that it is necessary or convenient for the better protection of listed threatened species and ecological communities to do so, the Minister may request that the approval holder make specified revisions to the LQBGWMP and submit a revised LQBGWMP for the Minister's written approval. The approval holder must comply with any such request. If the Minister approves a revised LQBGWMP then, from the date specified, the approval holder must implement that revision of the LQBGWMP in place of any previous version.*

All reports, audits and plans must be published to the Holcim website until the expiry date of approval (currently 1 January 2038).

Table 12: BGWMP Performance criteria from Years 1-6

| Management Zone | Year 1 (2026) | Year 2 (2027) | Year 3 (2028) | Year 4 (2029) | Year 5 (2030) | Year 6 (2031) |
|---|---|---|---|---|---|---|
| All Zones | Commencement of all tasks outlined in the BGWMP or evidence of planning for their implementation<br>Undertaking of tasks as per the timing identified in Table 10<br>**Infrastructure works:**<br>All required permanent fencing maintained as well as informative signage is installed and maintained<br>**Vegetation management works:**<br>Treatment of any new weed infestations and no woody weeds present which are producing seeds<br>No erosion or sedimentation within the BOA likely to impact on BGW, Hoary Sunray or other threatened flora/fauna and no bare areas >5m²<br>The Hoary Sunray population within the BOA must be continuously maintained without any decrease outside of natural variation.<br>The condition and extent of the BGW in the BOA (MZ1, MZ2, MZ3) must be improved or maintained by the end of the management period (Year 12)<br>Monitoring and reporting undertaken in accordance with Section 6 and as per the timing shown in Table 10<br>**Other works:**<br>Pest control activities undertaken within the BOA as needed to prevent impacts on BGW, Hoary Sunray or other threatened flora/fauna | | | | | |
| **Management Zone 1 (Box Gum Woodland Revegetation (Intensive):** | Treat 100% of priority weeds<br>Treat 60% of other weeds<br>Revegetation of BGW tree and shrub species completed across the entire zone as per Table 9<br>80% survival rate of all plantings<br>Native ground cover >10% (assessed by BAM plots) | <15% cover by priority weeds<br><40% cover by all weeds<br>Native ground cover >15%<br>80% survival rate of all plantings<br>Replacement plantings of trees and shrubs undertaken if <80% survival recorded. | <10% cover by priority weeds<br><40% cover by all weeds<br>Native ground cover >20%<br>80% survival rate of all plantings<br>Replacement plantings of trees and shrubs undertaken if <80% survival recorded. | <10% cover by priority weeds<br><35% cover by all weeds<br>Native ground cover >25% (assessed by BAM plots) | <10% cover by priority weeds<br><35% cover by all weeds<br>Native ground cover >30% | <10% cover by priority weeds<br><30% cover by all weeds<br>Native ground cover >35% |

| Management Zone | Year 1 (2026) | Year 2 (2027) | Year 3 (2028) | Year 4 (2029) | Year 5 (2030) | Year 6 (2031) |
|---|---|---|---|---|---|---|
| Management Zone 2 (Box Gum Woodland Revegetation (Passive): | Treat 100% of priority weeds<br>Treat 60% of other weeds<br>Revegetation of BGW tree and shrub species completed across the entire zone as per Table 9<br>80% survival rate of all plantings at end of Year 1. | <15% cover by priority weeds<br><40% cover by all weeds<br>80% survival rate of all plantings at end of Year 2.<br>Replacement plantings of trees and shrubs undertaken if <80% survival recorded. | <10% cover by priority weeds<br><40% cover by all weeds<br>80% survival rate of all plantings at end of Year 3.<br>Replacement plantings of trees and shrubs undertaken if <80% survival recorded. | <10% cover by priority weeds<br><40% cover by all weeds | <10% cover by priority weeds<br><40% cover by all weeds | <10% cover by priority weeds<br><40% cover by all weeds |
| Management Zone 3 (Box Gum Woodland Conservation): | Treat 100% of priority weeds<br>Treat 85% of other weeds | <15% cover priority weeds<br><30% cover by all weeds | <10% cover by priority weeds<br><25% cover by all weeds | <10% cover by priority weeds<br><25% cover by all weeds | <10% cover by priority weeds<br><25% cover by all weeds | <10% cover by priority weeds<br><20% cover by all weeds |
| Management Zone 4 (Hoary Sunray Conservation): | Treat 100% of priority weeds<br>Treat 85% of other weeds<br>Native shrubs and trees <40% cover in DNG areas | <15% cover priority weeds<br><30% cover by all weeds<br>Native shrubs and trees <40% cover in DNG areas | <10% cover by priority weeds<br><25% cover by all weeds<br>Native shrubs and trees <40% cover in DNG areas | <10% cover by priority weeds<br><25% cover by all weeds<br>Native shrubs and trees <40% cover in DNG areas | <10% cover by priority weeds<br><25% cover by all weeds<br>Native shrubs and trees <40% cover in DNG areas | <10% cover by priority weeds<br><20% cover by all weeds<br>Native shrubs and trees <40% cover in DNG areas |
| Management Zone 5 (Vegetation Conservation) and Management Zone 6 (Cultural Heritage Management) | Treat 100% of priority weeds | <15% cover priority weeds | <10% cover by priority weeds | <10% cover by priority weeds | <10% cover by priority weeds | <10% cover by priority weeds |

Table 13: BGWMP performance criteria from year 7-12

| Management Zone | Year 7 (2032) | Year 8 (2033) | Year 9 (2034) | Year 10 (2035) | Year 11 (2036) | Year 12 (2037) |
|---|---|---|---|---|---|---|
| All Zones | Commencement of all tasks outlined in the BGWMP or evidence of planning for their implementation<br>Undertaking of tasks as per the timing identified in Table 11<br>**Infrastructure works:**<br>All required permanent fencing maintained as well as informative signage is installed and maintained<br>**Vegetation management works:**<br>Treatment of any new weed infestations and no woody weeds present which are producing seeds<br>No erosion or sedimentation within the BOA likely to impact on BGW, Hoary Sunray or other threatened flora/fauna and no bare areas >5m²<br>The Hoary Sunray population within the BOA must be continuously maintained without any decrease outside of natural variation.<br>The condition and extent of the BGW in the BOA (MZ1, MZ2, MZ3) must be improved or maintained by the end of the management period (Year 12)<br>Monitoring and reporting undertaken in accordance with Section 6 and as per the timing shown in Table 11<br>**Other works:**<br>Pest control activities undertaken within the BOA as needed to prevent impacts on BGW, Hoary Sunray or other threatened flora/fauna | | | | | |
| **Management Zone 1 (Box Gum Woodland Revegetation (Intensive):** | <10% cover by priority weeds<br><25% cover by all weeds<br>Native ground cover >40% (assessed by BAM plots)<br>Revegetation assessment undertaken to determine if revegetation of groundcover is needed in Year 8 | <10% cover by priority weeds<br><25% cover by all weeds<br>Native ground cover >45%<br>*If required:*<br>Revegetation of BGW grasses and forb species completed across the entire zone as per Table 9<br>80% survival rate of all plantings at end of Year 7*<br>Replacement plantings of grasses and forbs undertaken if <80% survival recorded* | <10% cover by priority weeds<br><25% cover by all weeds<br>Native ground cover >50%<br>*If required:*<br>Revegetation of BGW grasses and forb species completed across the entire zone as per Table 9<br>80% survival rate of all plantings at end of Year 7*<br>Replacement plantings of grasses and frobs undertaken if <80% survival recorded* | <10% cover by priority weeds<br><20% cover by all weeds<br>Native ground cover >50% (assessed by BAM plots)<br>Achievement of EPBC condition BGW | <10% cover by priority weeds<br><20% cover by all weeds | <10% cover by priority weeds<br><20% cover by all weeds |

| Management Zone | Year 7 (2032) | Year 8 (2033) | Year 9 (2034) | Year 10 (2035) | Year 11 (2036) | Year 12 (2037) |
|---|---|---|---|---|---|---|
| Management Zone 2 (Box Gum Woodland Revegetation (Passive): | <10% cover by priority weeds<br><40% cover by all weeds | <10% cover by priority weeds<br><40% cover by all weeds | <10% cover by priority weeds<br><40% cover by all weeds | <10% cover by priority weeds<br><40% cover by all weeds | <10% cover by priority weeds<br><40% cover by all weeds | <10% cover by priority weeds<br><40% cover by all weeds |
| Management Zone 3 (Box Gum Woodland Conservation): | <10% cover by priority weeds<br><20% cover by all weeds | <10% cover by priority weeds<br><20% cover by all weeds | <10% cover by priority weeds<br><20% cover by all weeds | <10% cover by priority weeds<br><20% cover by all weeds | <10% cover by priority weeds<br><20% cover by all weeds | <10% cover by priority weeds<br><20% cover by all weeds weeds |
| Management Zone 4 (Hoary Sunray Conservation): | <10% cover by priority weeds<br><20% cover by all weeds<br>Native shrubs and trees <40% cover in DNG areas | <10% cover by priority weeds<br><20% cover by all weeds<br>Native shrubs and trees <40% cover in DNG areas | <10% cover by priority weeds<br><20% cover by all weeds<br>Native shrubs and trees <40% cover in DNG areas | <10% cover by priority weeds<br><20% cover by all weeds<br>Native shrubs and trees <40% cover in DNG areas | <10% cover by priority weeds<br><20% cover by all weeds<br>Native shrubs and trees <40% cover in DNG areas | <10% cover by priority weeds<br><20% cover by all weeds<br>Native shrubs and trees <40% cover in DNG areas |
| Management Zone 5 (Vegetation Conservation) and Management Zone 6 (Cultural Management Area) | Treat 100% of priority weeds | <15% cover priority weeds | <10% cover by priority weeds | <10% cover by priority weeds | <10% cover by priority weeds | <10% cover by priority weeds |

*if deemed necessary due to lack of natural regeneration in groundcover layer

## 6.8. Box Gum Woodland condition class

In order for MZ1 to meet the EPBC condition threshold in 2036 it will need to meet the key diagnostic characteristics and the minimum condition threshold (DCCEEW 2023). The key diagnostic characteristics compared to current conditions of MZ1 are detailed in Table 14.

Table 14: Key diagnostic characteristics summary compared to the current conditions in MZ1

| Key diagnostic characteristics summary (DCCEEW 2023) | Current condition |
|---|---|
| The ecological community occurs within one of the following bioregions:<br>Brigalow Belt South, Murray Darling Depression, Nandewar, New England Tableland, NSW North Coast, NSW South Western Slopes, Riverina, South Eastern Queensland, South East Corner, South East Coastal Plain, South Eastern Highlands, Southern Volcanic Plain, Sydney Basin and Victorian Midlands. | The BOA occurs within the South Eastern Highlands IBRA region. |
| It has, or has previously had a canopy layer dominated or co-dominated by:<br>*Eucalyptus albens* (White box)<br>*E. melliodora* (Yellow box)<br>*E. blakelyi* (Blakely's red gum) | MZ1 is currently cleared of canopy species, Section 4.6 details the vegetation densities for canopy species and Appendix F contains the canopy species to be installed in 2026. |
| It has a predominately native ground layer (>50% perennial native vegetation cover in the ground layer) | The native ground layer is estimated to be 15% as described in section 3.1.<br>The weed control in section 4.5 and the performance criteria aims to reduce weed cover to allow natural regeneration. If natural regeneration does not occur, revegetation of ground layer species will occur in 2033 as described in Section 4.6. |
| Tussock grasses conspicuous in the ground layer, usually with native species from the following genera: *Austrostipa, Bothriochloa, Chloris, Cymbopogon, Dichanthium, Microlaena, Poa, Themeda, Rytidosperma* or *Sorghum*. | These tussock grasses are currently absent, if required they will be installed in 2033 as described in Section 4.6. |
| Amongst the grass tussocks a range of broad-leaved forbs and petaloid monocots may be a major component of the plant diversity. | MZ1 currently contains *Brunoniella australis*, *Carex inversa*, *Centella asiatica*, *Centrolepis fascicularis*, *Craspedia variabilis*, *Cyperus gracilis*, *Drosera peltata*, *Euchiton japonicus*, *Gonocarpus tetragynus* and *Schoenus apogon* as described in section 3.1. |
| The Shrub layer across the patch is <30% (the effects of disturbance need to be considered, for example where heavy grazing may result in high densities of shrubs during a recovery phase). | *Cassinia sifton* has been identified in high cover and abundance in the DNG and regeneration zones. Management will include thinning of *Cassinia sifton* to allow other native species to regenerate. |

The condition classes and thresholds are displayed in Appendix H. The target of MZ1 is condition class C, the details for this condition class and the management actions being undertaken to achieve this target is described in Table 15.

Table 15: Specifications to achieve Condition Class C

| Condition class C description | Patch size requirement | Features present | Management actions to achieve target |
|---|---|---|---|
| Allows for a lower diversity in the understorey in areas where there is regeneration and/or tree density may be relatively dense. | 2 ha (20,000 $m^2$) or larger | The ground layer is predominately native (at least 50% native perennial ground cover species) | The native ground layer is estimated to be 15% as described in section 3.1.<br>The weed control in section 4.5 and the performance criteria aims to reduce weed cover to allow natural regeneration. If natural regeneration does not occur, revegetation of ground layer species will occur in 2033 as described in Section 4.6. |
| | | The patch contains 20 or more mature trees (dbh >40cm) per hectare<br>and/or<br>The patch contains natural regeneration of dominant overstorey eucalyptus* (>5cm dbh) | MZ1 is currently cleared of canopy species, Section 4.6 details the vegetation densities for canopy species and Appendix F contains the canopy species to be installed in 2026. The performance criteria in 2026-2028 requires 80% survival of canopy species, if this is achieved the requirement of regeneration of dominant overstorey *Eucalyptus* sp. should be achieved in 2036. |

# 7. Risk assessment and corrective actions

The main risks identified for this BGWMP area include:

- Failure to improve PCT 3376 (Southern Tableland Grassy Box Woodland) to EPBC standards to meet the conditions of approval in the BOA
- Failure to maintain the *Leucochrysum albicans* subsp. *tricolor* (Hoary Sunray) population BOA

The BGWMP includes weed control management throughout the life of the BGWMP. This will include a focussed primary and secondary control of woody weeds, exotic grasses, and groundcovers in the first two years. There is a **medium** chance that the weed species within the MZ1 will outcompete plantings and natural regeneration occurring, however with proper implementation of the BGWMP, this risk can be easily managed.

Possible extreme weather condition impacts from drought or flood are hard to predict and would have a **medium** impact on MZ1. The potential for extreme whether events to occur is incredibly difficult to determine. If extreme weather events were to occur, the risk to achieving the objectives in the BGWMP could range from **medium** to **high**, depending on the frequency and severity of the events.

Appropriate management measures have been specified in the risk management table below (Table 16).

Table 16: Risk assessment

| Commitment | Objective | Potential Risk | Likelihood | Consequence | Risk level | Trigger | Management strategy (remedial actions) | Related monitoring |
|---|---|---|---|---|---|---|---|---|
| **Ensure the implementation of the BGWMP improves and maintains the condition of the vegetation within the BOA.** | Improve and maintain the condition of the native vegetation within the 11 ha of the MZ1 via natural regeneration and revegetation. | Weeds outcompete native regeneration and revegetation | Unlikely | Moderate | Low | Weed cover is higher than the weed cover levels for each year and zone described in Table 12 and Table 13 recorded during monitoring visits | Increase weed control measures and management visits until weeds are under the required level | Monitoring outlined in Section 6. |
| | | Low success rate of tubestock and direct seeding efforts due to environmental factors | Possible | Moderate | Medium | Revegetation and regeneration lower than prescribed levels for each year and zone described in Table 12 and Table 13 recorded during monitoring visits. | Reassess the need for additional revegetation/direct seeding efforts<br>Wait until favourable conditions if additional revegetation/direct seeding takes place<br>Use additional strategies such as providing additional protection to revegetation efforts, such as brush matting to aid in success | Monitoring outlined in Section 6. |
| | | Low success rate of rehabilitation due to lack of implementation | Possible | Moderate | Medium | Regeneration lower than prescribed levels for each year and zone described in Table 12 and Table 13recorded during monitoring visits. | Implement the BGWMP as stated within this document<br>Implement corrective actions as per this table where the lack of implementation has caused damage | Monitoring outlined in Section 6. |

| Commitment | Objective | Potential Risk | Likelihood | Consequence | Risk level | Trigger | Management strategy (remedial actions) | Related monitoring |
|---|---|---|---|---|---|---|---|---|
| **Ensure the performance criteria included in this BGWMP are met.** | At the end of the initial year 11 BGWMP timeline and until the period for which the approval has effect, ensure priority weeds cover meets the year 12 target in all zones | Weed presence does not decrease to acceptable levels across the life of the BGWMP period | Possible | Moderate | Medium | Weed cover is higher than the weed cover levels for each year and zone described in Table 12 and Table 13 recorded during monitoring visits | Increase weed control measures and management visits until weeds are under the required level<br>Mulch targeted areas for weed suppression | Monitoring outlined in Section 6. |
| | | Native vegetation does not regenerate/revegetate to acceptable levels across the life of the BGWMP period | Unlikely | Moderate | Medium | Revegetation and regeneration lower than prescribed levels for each year and zone described in Table 12 and Table 13 recorded during monitoring visits. | Reassess the need for additional revegetation/direct seeding efforts<br>Wait until favourable conditions if additional revegetation/direct seeding takes place<br>Use additional strategies such as providing additional protection to revegetation efforts, such as brush matting to aid in success<br>Use native species that have a higher likelihood of competing with weed species | Monitoring outlined in Section 6. |
| | | New weed outbreaks | Likely | Minor | Low | New weed species detected during monitoring visits | Increase edge maintenance and weed management works to suppress new weed invasion | Monitoring outlined in Section 6. |

| Commitment | Objective | Potential Risk | Likelihood | Consequence | Risk level | Trigger | Management strategy (remedial actions) | Related monitoring |
|---|---|---|---|---|---|---|---|---|
| **To rectify the historical non-compliance regarding the implementation of the BGWMP** | To implement this BGWMP plan and ensure all performance criteria are met and maintained until the end of the approval period. | PCT 3376 (Southern Tableland Grassy Box Woodland) fails to meet EPBC criteria, and the conditions of approval are not met | Possible | Moderate | Medium | During monitoring visits, locations of this PCT community are not found to meet the EPBC criteria | Increase weed control measures and management visits until weeds are under the required level<br>Reassess the need for additional revegetation/direct seeding efforts to meet EPBC criteria<br>Wait until favourable conditions if additional revegetation/direct seeding takes place, use additional strategies such as providing additional protection to revegetation efforts, such as brush matting to aid in success<br>Use the appropriate BGW species to revegetate/direct seed the BOA | Monitoring outlined in Section 6. |
| | | *Leucochrysum albicans* subsp. *tricolor* (Hoary Sunray) population is not maintained and decreases in the BOA | Possible | High | Medium | During monitoring visits, the extent of *Leucochrysum albicans* subsp. *tricolor* (Hoary Sunray) is found to be to a lesser extent than the year prior. | Increase weed control measures and management visits until weeds are under the required level<br>Manage species that may be creating a monoculture/competing within the area of the *Leucochrysum albicans* subsp. *tricolor* (Hoary Sunray) extent | Monitoring outlined in Section 6. |

# 8. Costs

The implementation cost of this BGWMP over the first twelve years is approximately $1,160,000 (exclusive of GST and CPI). An indicative annual costing timeline is provided in Table 17. Costs are based on typical commercial rates. Assumptions regarding the estimation of costs have been outline below.

## 8.1. Infrastructure and site preparation works

Infrastructure activities like fencing and erosion management have not been included in Table 17.

## 8.2. Vegetation management works

### 8.2.1. Weed control

Bush regenerators will implement weed controls identified in this BGWMP. These works have been estimated to cost $2,850 for a team of four, including a supervisor, per day. The cost of bush regeneration works includes the use of herbicide, vehicles, and equipment required to implement the BGWMP.

### 8.2.2. Revegetation treatments

Bush regenerators will implement revegetation actions such as tubestock and direct seeding identified in this BGWMP. Tubestock costs have been budgeted at an estimated $5.50 per tree and shrub including planting and $2.50 per herb, grass, sedge, and groundcover including planting.

A total of approximately 13,000 plants are assumed to be required to achieve the densities identified in the BGWMP in the initial revegetation works expected to take place in 2026. A 10% replacement planting for both Year 2 and Year 3 has also been assumed to meet the performance criteria in Table 12 and Table 13, however more revegetation may be required if attrition is higher.

Depending on the achievement of the groundcover performance criteria and the Revegetation Assessment in Year 7, additional groundcover plants may be required in 2033.

### 8.2.3. Monitoring and reporting

An allowance for monitoring and reporting actions as identified for this BGWMP including for:

- Initial setup of the photo points and conducting the baseline surveys,
- Different surveys and the annual report outlined in Section 6.

Because of the difference from year to year in monitoring requirements, the annual budget provided for monitoring is an indicative average only. At the start of works a more precise budget will be required to track the projected changes from year to year as the different monitoring obligations apply.

**Table 17: Indicative BGWMP costings**

| Treatment | Year 1 (2026) | Year 2 (2027) | Year 3 (2028) | Year 4 (2029) | Year 5 (2030) | Year 6 (2031) | Year 7 (2032) | Year 8 (2033) | Year 9 (2034) | Year 10 (2035) | Year 11 (2036) | Year 12 (2037) | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revegetation** | | | | | | | | | | | | | |
| Site Preparation | $26,440 | $- | $- | $- | $- | $- | $- | $- | $- | $- | $- | $- | *$26,440* |
| Tubestock | $74,693 | $- | $- | $- | $- | $- | $- | $- | $- | $- | $- | $- | *$72,710* |
| Replacement tubestock | $- | $7,271 | $7,271 | $- | $- | $- | $- | $- | $- | $- | $- | $- | *$14,542* |
| Irrigation | $29,745 | $1,653 | $1,653 | $- | $- | $- | $- | $- | $- | $- | $- | $- | *$33,050* |
| **Weed control** | | | | | | | | | | | | | |
| Est: Year 1 | $170,553 | $- | $- | $- | $- | $- | $- | $- | $- | $- | $- | $- | *$170,553* |
| Maint: Year 2 - 3 | $- | $98,497 | $98,497 | $- | $- | $- | $- | $- | $- | $- | $- | $- | *$196,993* |
| Maint: Year 4 - 6 | $- | $- | $- | $59,619 | $59,619 | $59,619 | $- | $- | $- | $- | $- | $- | *$178,856* |
| Maint: Year 7 - 12 | $- | $- | $- | $- | $- | $- | $32,013 | $32,013 | $32,013 | $32,013 | $32,013 | $32,013 | *$192,076* |
| **Associated costs** | | | | | | | | | | | | | |
| Disbursements | $17,055 | $9,850 | $9,850 | $5,962 | $5,962 | $5,962 | $3,201 | $3,201 | $3,201 | $3,201 | $3,201 | $3,201 | *$73,848* |
| Monitoring & Reporting | **$16,192** | **$16,192** | **$16,192** | **$16,192** | **$16,192** | **$16,192** | **$16,192** | **$16,192** | **$16,192** | **$16,192** | **$16,192** | **$16,192** | **$194,300** |
| **Totals** | **$334,678** | **$133,461** | **$ 133,461** | **$81,772** | **$81,772** | **$81,772** | **$51,406** | **$51,406** | **$51,406** | **$51,406** | **$51,406** | **$51,406** | **$1,155,351** |

**Table 18: Indicative potential groundcover costs if required**

| Treatment | Year 8 (2033) | Year 9 (2034) | Year 10 (2035) | Total* |
|---|---|---|---|---|
| **Revegetation** | | | | |
| Seed collection and processing | $ 33,333 | | | $ 33,333 |
| Site preparation | $ 66,100 | | | $ 66,100 |
| Tube stock supply and install | $ 562,210 | | | $ 562,210 |
| Replacement tubestock | | $ 56,221 | $ 56,221 | $ 112,442 |
| Irrigation | $ 92,540 | $ 19,830 | $ 19,830 | $ 132,200 |
| **Total*** | **$ 754,183** | **$ 76,051** | **$ 76,051** | **$906,285** |

*Note that additional weed control and other works may also be required as additional works

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# Appendix A SESL Soil Survey within the BOA

Provided as a separate document.

# Appendix B Soil results summary

Table B1: Soil characteristics analysis of the nine topsoil locations within the BOA.

| Sample # | Depth (mm) | pH ($CaCl_2$) | Salinity (Electrical Conductivity 1:5 dS/m) | Effective Cation Exchange Capacity (cmol(+)/kg) | Soil Texture | Clay content (%) | Structure Size | Structure Organisation | Potential infiltration rate | Organic Carbon (%) | Organic Matter (%) | Est. Plant Available Water (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CEEC** | | | | | | | | | | | | |
| **S1** | 300 | 4.52 | 0.02 | 4.8 | Sandy Clay Loam | 20-30 | Fine (1-10 mm) | Pedal – weak | Moderate | 1.3 | 2.2 | 11 |
| **S5** | 300 | 4.14 | 0.03 | 5 | Fine Sandy Clay Loam | 20-30 | Fine (1-10 mm) | Pedal - weak | Moderate | 1.6 | 2.7 | 13 |
| **S9** | 300 | 4.51 | 0.02 | 2.4 | Fine Sandy Clay Loam | 20-30 | Fine (1-10 mm) | Pedal – weak | Moderate | 0.6 | 1.1 | 13 |
| **AVG** | **300** | **4.39** | **0.02** | **4.07** | **Mostly Fine Sandy Clay Loam** | **20-30** | **All Fine (1-10 mm)** | **All Pedal – weak** | **All Moderate** | **1.17** | **2** | **12.33** |
| **DNG** | | | | | | | | | | | | |
| **S2** | 600 | 4.7 | 0.03 | 5.2 | Fine Sandy Clay Loam | 20-30 | Medium (11-25 mm) | Pedal - moderate | Moderate | 0.7 | 1.1 | 13 |
| **S3** | 300 | 4.8 | 0.04 | 7.3 | Sandy Clay | 35-45 | Medium (11-25 mm) | Pedal - strong | Slow | 1.9 | 3.2 | 10 |
| **S4** | 200 | 4.31 | 0.02 | 6.60 | Sandy Clay Loam | 20-30 | Fine (1-10 mm) | Pedal - weak | Moderate | 2.20 | 3.7 | 11.00 |
| **S6** | 200 | 4.39 | 0.04 | 6.2 | Fine Sandy Clay Loam | 20-30 | Fine (1-10 mm) | Pedal – weak | Moderate | 1.9 | 3.2 | 13 |
| **S8** | 300 | 4.58 | 0.01 | 3.5 | Fine Sandy Clay Loam | 20-30 | Medium (11-25 mm) | Pedal – weak | Moderate | 1.1 | 1.8 | 13 |
| **AVG** | **233** | **4.56** | **0.03** | **5.76** | **Mostly Fine Sandy Clay Loam** | **Mostly 20-30** | **Mostly Medium (11-25 mm)** | **Mostly pedal – weak** | **Mostly Moderate** | **1.56** | **2.60** | **12.00** |
| **Other** | | | | | | | | | | | | |
| **S7** | **250** | **4.20** | **0.02 Very Low** | **4.4 Very Low** | **Sandy Clay Loam** | **20-30** | **Fine (1-10 mm)** | **Pedal - weak** | **Moderate** | **0.9 Low** | **1.5** | **11.00** |

Table B2: Soil nutrient analysis of nine topsoil locations within the BOA.

| Sample # | Nitrate-N (NO3) (mg N/kg) | Phosphorus (P) mg P/kg | Potassium (K) mg/kg | Sulfur (S) mg S/kg | Calcium (Ca) mg/kg | Magnesium (Mg) mg/kg | Iron (Fe) mg/kg | Manganese (Mn) mg/kg | Zinc (Zn) mg/kg | Copper (Cu) mg/kg | Boron (B) mg/kg |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **CEEC** | | | | | | | | | | | |
| **S1** | 0.18 | 5 | 32 | 5.9 | 240 | 69 | 260 | 1.7 | 0.65 | 0.64 | 0.1 |
| **S5** | 0.52 | 5 | 80 | 6.2 | 27 | 100 | 260 | 1.6 | 0.97 | 0.64 | 0.1 |
| **S9** | 0.22 | 5 | 73 | 5.3 | 30 | 55 | 170 | 2 | 0.65 | 0.64 | 0.1 |
| **Average** | **0.31** | **5.00** | **61.67** | **5.80** | **99.00** | **74.67** | **230.00** | **1.77** | **0.76** | **0.64** | **0.10** |
| **DNG** | | | | | | | | | | | |
| **S2** | 0.18 | 5 | 50 | 3.8 | 130 | 270 | 160 | 6.2 | 0.65 | 0.64 | 0.1 |
| **S3** | 0.71 | 5 | 60 | 16 | 480 | 200 | 340 | 2.2 | 1.6 | 0.64 | 0.1 |
| **S4** | 0.23 | 7.8 | 76 | 6.8 | 220 | 77 | 260 | 1.8 | 1.12 | 0.64 | 0.1 |
| **S6** | 0.05 | 11 | 42 | 8.9 | 250 | 120 | 230 | 1.7 | 0.75 | 0.64 | 0.1 |
| **S8** | 0.19 | 11 | 32 | 5.4 | 170 | 48 | 260 | 1.3 | 0.65 | 0.64 | 0.1 |
| **Average** | **0.27** | **7.96** | **52.00** | **8.18** | **250.00** | **143.00** | **250.00** | **2.64** | **0.95** | **0.64** | **0.10** |
| **Other** | | | | | | | | | | | |
| **S7** | **0.19** | **5** | **59** | **5.4** | **14** | **51** | **240** | **0.59** | **0.65** | **0.64** | **0.1** |

Table B3: Soil characteristics analysis of the three subsoil locations within the BOA.

| Sample # | Subsoil depth (mm) | pH (CaCl2) | Salinity (Electrical Conductivity 1:5 dS/m) | Effective Cation Exchange Capacity (cmol(+)/kg) | Soil Texture | Clay content (%) | Structure Size | Structure Organisation | Potential infiltration rate | Est. Plant Available Water (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| CEEC | | | | | | | | | | |
| **S9** | 300-700 | 4.22 | 0.04 Very Low | 16.4 Moderate | Sandy Clay | 35-45 | Medium (11-25 mm) | Pedal - strong | Slow | 10 |
| DNG | | | | | | | | | | |
| **S6** | 200-500 | 4.32 | 0.04 Very Low | 4.3 Very Low | Sandy Clay Loam | 20-30 | Fine (1-10 mm) | Pedal - weak | Moderate | 11 |
| Other | | | | | | | | | | |
| **S7** | 250-700 | 4.10 | 0.02 Very Low | 7.1 Low | Sandy Clay Loam | 20-30 | Medium (11-25 mm) | Pedal - weak | Moderate | 11 |

Table B4: Soil nutrient analysis of three subsoil locations within the BOA.

| Sample # | Potassium (K) mg/kg | Calcium (Ca) mg/kg | Magnesium (Mg) mg/kg |
|---|---|---|---|
| **CEEC** | | | |
| S9 | 150 (Very Low) | 6.9 (Very Low) | 940 (High) |
| **DNG** | | | |
| S6 | 35 (Very Low) | 60 (Very Low) | 180 (High) |
| **Other** | | | |
| S7 | 53 (Very Low) | 16 (Very Low) | 280 (High) |

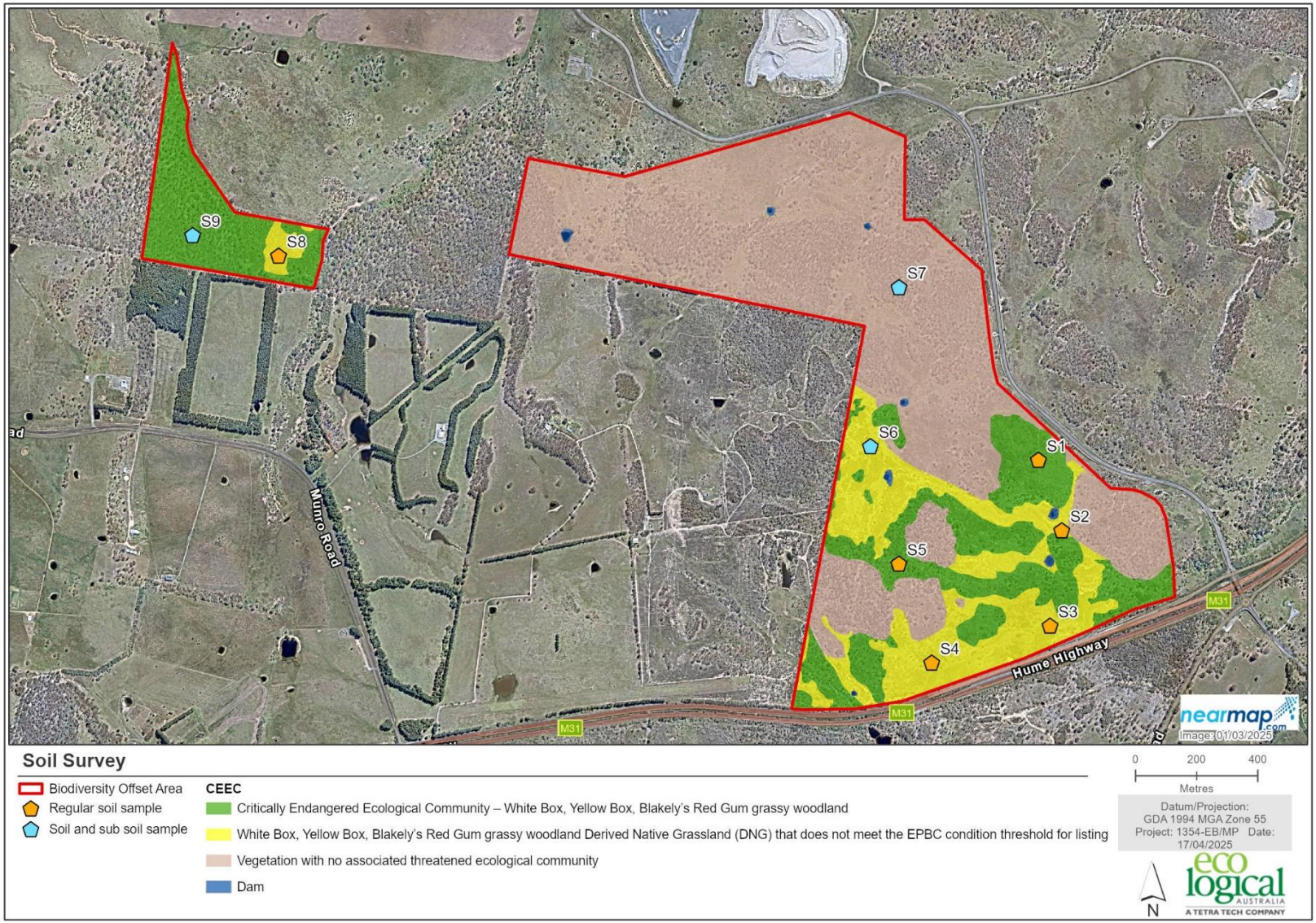


Figure B1: Soil survey locations

# Appendix C Flora survey results

Provided as a separate document

# Appendix D Fauna survey results

Provided as a separate document.

# Appendix E Weeds recorded within the BOA

| Species | Common Name | Species | Common Name |
|---|---|---|---|
| *Acetosella vulgaris* | Sheep Sorrel | *Hypochaeris radicata* | Catsear |
| *Aira caryophyllea* | Silvery Hairgrass | *Juncus cognatus* | |
| *Anthoxanthum odoratum* | Sweet Vernal Grass | *Lysimachia arvensis* | Scarlet Pimpernel |
| *Arctotheca calendula* | Capeweed | *Medicago polymorpha* | Burr Medic |
| *Briza minor* | Shivery Grass | *Misopates spp.* | |
| *Cenchrus clandestinus* | Kikuyu Grass | *Nassella trichotoma* | Serrated Tussock |
| *Centaurium tenuiflorum* | Branched Centaury, Slender centaury | *Paronychia brasiliana* | Chilean Whitlow Wort, Brazilian Whitlow |
| *Cerastium glomeratum* | Mouse-ear Chickweed | *Paspalum dilatatum* | Paspalum |
| *Cicendia quadrangularis* | | *Phalaris aquatica* | Phalaris |
| *Cirsium vulgare* | Spear Thistle | *Phytolacca octandra* | Inkweed |
| *Conyza bonariensis* | Flaxleaf Fleabane | *Plantago coronopus subsp. coronopus* | |
| *Cotula coronopifolia* | Water Buttons | *Plantago lanceolata* | Lamb's Tongues |
| *Cyperus eragrostis* | Umbrella Sedge | *Rubus anglocandicans* | Blackberry |
| *Eragrostis curvula* | African Lovegrass | *Senecio madagascariensis* | Fireweed |
| *Facelis spp.* | | *Setaria parviflora* | |
| *Festuca elatior* | Tall Fescue | *Solanum nigrum* | Black-berry Nightshade |
| *Festuca elatior* | Tall Fescue | *Sonchus oleraceus* | Common Sowthistle |
| *Festuca pratensis* | Meadow Fescue | *Stellaria media* | Common Chickweed |
| *Fumaria muralis subsp. muralis* | Wall Fumitory | *Taraxacum officinale* | Dandelion |
| *Gamochaeta coarctata* | | *Trifolium repens* | White Clover |
| *Gamochaeta purpurea* | Purple Cudweed | | |
| *Hirschfeldia incana* | Buchan Weed | | |
| *Holcus lanatus* | Yorkshire Fog | | |
| *Hypericum kouytchense* | | | |
| *Hypericum perforatum* | St. Johns Wort | | |
| *Hypochaeris glabra* | Smooth Catsear | | |

# Appendix F Recommended BGW Revegetation list

| Recommended Trees | | Recommended Shrubs | |
|---|---|---|---|
| *Eucalyptus melliodora* | Yellow Box | *Acacia deanei* | Green Wattle |
| *Eucalyptus blakelyi* | Blakely's Red Gum | *Acacia falciformis* | Broad-leaved Hickory |
| *Eucalyptus bridgesiana* | Apple Box | *Acacia genistifolia* | Early Wattle |
| *Eucalyptus rossii* | Inland Scribbly Gum | *Acacia implexa* | Hickory Wattle |
| *Acacia dealbata* | Silver Wattle | *Acacia mearnsii* | Black Wattle |
| *Eucalyptus macrorhyncha* | Red Stringybark | *Acacia paradoxa* | Kangaroo Thorn |
| *Eucalyptus mannifera* | Brittle Gum | *Acacia rubida* | Red-stemmed Wattle |
| *Eucalyptus rubida* | Candlebark | *Acacia ulicifolia* | Prickly Moses |
| *Eucalyptus polyanthemos* | Red Box | *Bursaria spinosa* | Native Blackthorn |
| | | *Calytrix tetragona* | Common Fringe-myrtle |
| | | *Cassinia aculeata* | Dolly Bush |
| | | *Cassinia laevis* | Cough Bush |
| | | *Cassinia longifolia* | Shiny Cassinia |
| | | *Cassinia quinquefaria* | Rosemary Cassinia |
| | | *Daviesia ulicifolia* | Gorse Bitter Pea |
| | | *Dillwynia phylicoides* | Parrot-pea |
| | | *Dodonaea viscosa* | Sticky Hop-bush |
| | | *Exocarpos cupressiformis* | Cherry Ballart |
| | | *Indigofera australis* | Australian Indigo |
| | | *Kunzea ericoides* | Burgan |
| | | *Lissanthe strigosa* | Peach Heath |
| | | *Rubus parvifolius* | Native Raspberry |
| | | | |
| | | | |
| | | | |
| | | | |

| Recommended Grasses | | Recommended Forbs | |
|---|---|---|---|
| *Austrostipa scabra* | Speargrass | *Hydrocotyle laxiflora* | Stinking Pennywort |
| *Aristida ramosa* | Purple Wiregrass | *Acaena echinata* | Sheep's Burr |
| *Aristida vagans* | Threeawn Speargrass | *Acaena novae-zelandiae* | Bidgee-widgee |
| *Austrostipa bigeniculata* | Yanganbil | *Acaena ovina* | Acaena |
| *Austrostipa densiflora* | Foxtail Speargrass | *Ajuga australis* | Austral Bugle |
| *Austrostipa mollis* | Soft Speargrass | *Arthropodium minus* | Small Vanilla Lily |
| *Bothriochloa macra* | Red Grass | *Bulbine bulbosa* | Bulbine Lily |
| *Carex appressa* | Tall Sedge | *Burchardia umbellata* | Milkmaids |
| *Chloris truncata* | Windmill Grass | *Calotis lappulacea* | Yellow Burr-daisy |
| *Cymbopogon refractus* | Barbed Wire Grass | *Chrysocephalum apiculatum* | Common Everlasting |
| *Dichelachne micrantha* | Shorthair Plumegrass | *Cotula australis* | Common Cotula |
| *Echinopogon ovatus* | Forest Hedgehog Grass | *Cymbonotus lawsonianus* | Bear's Ear |
| *Elymus scaber* | | *Cynoglossum australe* | |
| *Enneapogon nigricans* | | *Daucus glochidiatus* | Native Carrot |
| *Eragrostis leptostachya* | Paddock Lovegrass | *Dianella longifolia* | Blueberry Lily |
| *Juncus filicaulis* | 0 | *Dianella revoluta* | Blueberry Lily |
| *Lomandra filiformis* | Wattle Matt-rush | *Dichondra repens* | Kidney Weed |
| *Lomandra longifolia* | Spiny-headed Mat-rush | *Dysphania pumilio* | Small Crumbweed |
| *Lomandra multiflora* subsp. *multiflora* | Many-flowered Mat-rush | *Einadia hastata* | Berry Saltbush |
| *Microlaena stipoides* | Weeping Grass | *Einadia nutans* | Climbing Saltbush |
| *Panicum effusum* | Hairy Panic | *Einadia trigonos* | Fishweed |
| *Poa labillardierei var. labillardierei* | Tussock | *Epilobium billardierianum* | |
| *Poa sieberiana* | Snowgrass | *Erodium crinitum* | Blue Crowfoot |
| *Rytidosperma caespitosum* | Ringed Wallaby Grass | *Euchiton japonicus* | |
| *Rytidosperma pallidum* | Redanther Wallaby Grass; Silvertop Wallaby Grass | *Euchiton sphaericus* | Star Cudweed |
| *Rytidosperma racemosum* | Wallaby Grass | *Euphorbia dallachyana* | |

| Recommended Grasses | | Recommended Forbs | |
|---|---|---|---|
| *Rytidosperma setaceum* | Small-flowered Wallaby-grass | *Galium gaudichaudii* | Rough Bedstraw |
| *Sporobolus creber* | Slender Rat's Tail Grass | *Geranium retrorsum* | Cranesbill Geranium |
| *Themeda triandra* | 0 | *Geranium solanderi* | Native Geranium |
| | | *Gonocarpus tetragynus* | Poverty Raspwort |
| | | *Goodenia hederacea* | Ivy Goodenia |
| | | *Hovea linearis* | |
| | | *Hypericum gramineum* | Small St John's Wort |
| | | *Opercularia aspera* | Coarse Stinkweed |
| | | *Opercularia diphylla* | Stinkweed |
| | | *Oxalis exilis* | |
| | | *Oxalis perennans* | |
| | | *Ranunculus lappaceus* | Common Buttercup |
| | | *Rumex brownii* | Swamp Dock |
| | | *Senecio quadridentatus* | Cotton Fireweed |
| | | *Urtica incisa* | Stinging Nettle |
| | | *Veronica plebeia* | Trailing Speedwell |
| | | *Vittadinia cuneata* | A Fuzzweed |
| | | *Vittadinia muelleri* | A Fuzzweed |
| | | *Wahlenbergia gracilis* | Sprawling Bluebell |
| | | *Wahlenbergia luteola* | Bluebell |
| | | *Wahlenbergia stricta* | Tall Bluebell |

# Appendix G Techniques and specifications

## Weed Control

Weed control involves a combination of mechanical, physical and chemical techniques to remove the weeds and prevent regrowth. Weed control will be undertaken across the entire zone. A selection of the best suited weed control method within the site depends on a number of factors, including:

- the species or combination of weeds being targeted.
- the density of weeds present.
- resources available (time, labour, equipment and finances).
- weather conditions on the day

## Weed Control Techniques

Detail of specific weed control techniques to be used such as cut-and-paint, scrape-and-paint, herbicide spraying, and hand weeding are provided in Brodie (1999). The principles of bush regeneration and techniques to trigger natural regeneration are to be in accordance with the Bradley Method and other techniques described in Buchanan (2009). Management techniques for different types of weeds are provided below.

*Annual grasses*

Annual grasses should be hand removed or spot-sprayed where isolated or in low concentrations. Larger patches of annual grasses may be slashed/brush cut in late spring to early summer, after flowering, but prior to seed set. For most species, slashing/brush cutting prior to late spring through to early summer will promote vigorous growth and should not occur. However, some annual grasses can grow and produce seed at any time of the year dependent on climatic conditions such as high rainfall and warm temperatures. Monitoring of annual species should be undertaken and if new growth occurs, the same treatment will be applied to the new growth to prevent seed production. Individual plants should be hand removed, bagged and disposed of appropriately off-site.

*Perennial grasses*

Perennial grasses will be hand removed where isolated or present in low concentrations. Larger patches may be slashed prior to seed production in spring or summer (depending on the growth cycle of the species) and the regrowth spot-sprayed 2-3 weeks later when it is actively growing and approximately 10 cm in length. Monitoring of these species will occur and if new seed production occurs, the same treatment will be applied again as required. However, slashing will not reduce the presence of exotic grasses on its own and must always be combined with targeted removal to reduce densities and allow for native regeneration. Individual plants should be hand removed, bagged and disposed of appropriately off-site.

*Woody weeds*

Primary control of woody weeds such as *Lantana camara* (Lantana), should be implemented by using the cut and paint or drill and fill method using a non-selective herbicide. The most appropriate method to be used depends on the size of the individual to be removed and will be determined by the bush regeneration contractor. Primary weed control should use techniques that will not encourage flushes of secondary weed growth. All seedlings of woody weeds will be hand pulled or spot-sprayed with a non-selective herbicide.

Follow up treatment of woody weeds such as *Lantana camara* (Lantana) will be controlled by the cut and paint or drill and fill method using a non-selective herbicide.

*Creepers and climbers*

The control of exotic vines should be managed by skirting at chest height then spraying the target once it is on the ground. This should be done with a dicot specific herbicide such as Grazon®. Follow up treatments will be necessary and should be done as the germinating vines are still saplings.

The control of creepers varies depending on the species. For the most part, seedlings will be hand pulled, while mature plants can be controlled by the stem-scrape method or spot spraying using a non-selective herbicide. The precise method to be used will be determined by the bush regeneration contractor depending on the species, size, and reproductive status of the individual. All vegetative material removed should be bagged, removed from site, and disposed of appropriately.

*Herbaceous weeds*

Where individual plants of herbaceous weeds, including *Senecio madagascariensis* (Fireweed) and *Solanum nigrum* (Black-berry Nightshade) are found, they will be hand-pulled prior to flowering. Where large swathes of these species occur, they will be sprayed using a non-selective herbicide. If high densities of mature stands occur, weeds may be slashed first using a brush cutter and any subsequent regrowth sprayed. Regular monitoring of these species will be required to prevent seed production. All vegetative material that is pulled out and has the potential to regrow if deposited on ground and will be bagged, removed from site and disposed of appropriately off-site.

*Management of weed waste*

All weed propagules, especially priority weeds, will be bagged and disposed of as directed by legislation at facility licensed to receive green waste. All weed waste without propagules will be composted onsite in small, unobtrusive piles.

*Herbicide use*

The use of herbicide to control weeds should be carefully considered. Herbicide must only be used for the purpose described on the product label, as per the *NSW Pesticides Act 1999*. Herbicide use should assess potential long-term impacts of the technique, including whether the proposed works address the source of the weed infestation. However, herbicide application forms an important and useful component of an integrated weed management approach and can be the most appropriate method for the control and eventual eradications of some weed species.

Herbicide use should occur during the active growing season for plants to encourage the chemical uptake into the plant. The selection of herbicides should also consider the type of weed and the location. Where non-selective herbicides are required for use, glyphosate is the most suitable. A glyphosate-based herbicide, formulated for use near waterways, will be used if works require herbicide application near waterways (e.g. Roundup Biactive®).

Broad-leaf selective herbicide may be used as per the NSW Weed Control Handbook (DPI 2018). However, this type of herbicide is extremely toxic to aquatic life and must not be used in, or adjacent to, waterways.

Registration and records must be kept in accordance with the *NSW Pesticides Regulation 2017.*

## Revegetation Works

Revegetation has the primary aim of re-establishing the original native vegetation community at the site and reducing erosion.

Any plantings should consist of local provenance stock. Planting of Hiko for trees and shrub species and Hiko or Viro cells for grasses and other groundcover species is the preferred method. Planting should be done via a low impact method such as hand digging or hand auger. The holes dug for each plant should be at least 1.5x the width and 2x the depth of the root ball. Fertiliser should be added to each hole dug as per the label specifications. Water crystals or wetting agents should be added to each plant hole. This will increase the water holding capacity of the soil and reduce watering schedules. Initial irrigation of the plantings is essential to ensure that the soil forms around the root ball and air pockets are removed. This will be required unless sufficient rainfall (approx. 10 mm) occurs on the day of planting.

Tree guards will need to be installed on each tree or shrub to protect seedlings from extreme weather (frosts and heat), herbivorous grazing and herbicide drift during maintenance works. Bio-degradable tree guards are recommended to protect the seedlings. Following the revegetation works, irrigation needs to be undertaken for at least eight weeks following planting to ensure the establishment of the plants. The level of irrigation will be determined by rainfall and temperature experienced at the planting site.

Though a temporary irrigation system will not be installed on site, it is assumed site access will be available to a work ute and water cart to irrigate plantings when needed. Timing of the planting of these areas will need to take into consideration surrounding civil works and erosion/sediment control requirements, these areas will not be planted until earthworks have been completed. A minimum rate of attrition of 10% is to be expected and should be allowed for.

Mulch can be derived from vegetation removed from the development area, if available. Alternately, mulch should be comprised of un-composted wood (preferably wood waste), with a particle size of 15 mm to 40 mm, with no fines, and good air-filled porosity. Mulch should not contain any weed seeds, nor be derived from diseased trees or from any part of the tree lower than 1 m above the ground. Mulch, where required, should be installed to a depth of 100 mm.

Jute matting, where required, must be comprised of 100% biodegradable jute fibres with a minimum weight of 680 g / m² (~6 mm thickness). Jute must be pegged with at least 3 x 150 mm pins per m² and each roll overlapped by 100 mm.

*Seed collection*

For the growth of the plants used in the revegetation works, seed must be collected from local provenance species. Groundcovers, shrubs and trees should be collected as within close proximity (i.e., <20km) to the site. However, soil type, climate and aspect of the collection site(s) should also be considered. Native grasses typically have much larger dispersal mechanisms and are to be collected from within the Sydney basin.

Where species identified in this VMP cannot be sourced, they may be substituted for other species as identified by Tozer (2003). Species must be substituted with species of a similar form, e.g., trees for tree, grasses for grasses, etc. Only wild native species are to be used. Plants are not to be substituted with horticultural varieties under any circumstances.

Record keeping of seed collection and planting locations are to follow the Florabank guidelines (Mortlock, 2000). A Section 132C licence under the NSW *National Parks and Wildlife Act 1974* will be required to undertake seed collection works.

## Bush Regeneration Contractors

All vegetation management works in the establishment phase will be undertaken by suitably qualified and experienced bush regeneration contractors who are members of the Australian Association of Bush Regenerators (AABR) or fulfil the membership criteria. Additionally, team leaders should have, as a minimum, a Certificate III in Conservation & Land Management or equivalent. The contractor will need to carry out best practice bush regeneration techniques as described by Buchanan (2009). A flexible approach to this site is recommended since techniques may need to be changed or modified to suit site conditions. This approach is consistent with adaptive management and allows the contractor to develop and build on site knowledge whilst implementing this VMP. Monitoring will assist in the development of the VMP actions in subsequent years.

## Hygiene Protocols

To avoid introducing soil pathogens / diseases into a site, in particular *Phytophthora cinnamomi* (Root-rot Fungus), a hygiene protocol should be undertaken as per the guidelines developed by the Royal Botanic Gardens (Suddaby and Liew, 2008).

For Bush Regenerators, all tools and boots should be washed down and thoroughly cleaned of soil / mud using a solution of water and disinfectants prior to undertaking works on-site. All machinery should be thoroughly cleaned of all soil / mud / debris prior to working within the VMP area. ELA recommends the use of 70% methylated spirits in water as a disinfectant for *Phytophthora cinnamomic*.

## Weed Control

Contaminated weed removal machinery, such as a slasher or mower, can further spread the seed of invasive weed species. Machinery hygiene protocols must be implemented and followed to prevent the spread of weeds (DPIRD 2020).

- All vehicles, slashers, mowers and any other machinery must be cleaned and disinfected thoroughly after working on an infested site before being moved to a new or clean site.
- Check and regularly clean clothing that has been worn to infested sites before entering a clean site.
- Remove weed seeds, plant fragments, or soil from clothing, footwear, equipment, or any other form of PPE upon leaving an infested site.

## Phytophthora Control

The destructive plant pathogen *Phytophthora cinnamomic* and other *Phytophthora* species cause the destructive root-rot disease of which many native Australian plants are susceptible to. Appropriate hygiene protocols must be in place to limit and prevent the spread of Phytophthora spores into uncontaminated areas. Adherence to basic messages such as 'Check, Clean, Disinfect, Dry' can help prevent an increase in the extent of this disease (DPIE 2020b).

The following should be implemented to facilitate good hygiene protocols:

- Install quarantine/ foot disinfection stations that must be used prior to entering and leaving the site.
- Provide hygiene kits in vehicles to allow staff to implement hygiene measures as required (brushes, disinfectant spray, soap, wipes, gloves)

- Provide a vehicle washdown station or wash any vehicle that has had potential exposure at a washing facility.
    - Provide a cleaning checklist for vehicles to ensure full decontamination.
- Provide disinfectant in vehicles and stations for application when needed.
- Ensure that hygiene practices are instilled into the daily routine of personnel who access the site.

# Appendix H EPBC Condition classes and thresholds (Commonwealth DCCEEW 2023

| Condition Class | Patch Size* | Features present |
|---|---|---|
| **Class A**<br><br>Good quality understorey and mature overstorey both present. | 0.1 ha (1,000 $m^2$) or larger | • The ground layer is predominantly native*<br>and<br>• the understorey contains at least 12 native, non-grass species (such as forbs, shrubs, ferns and sedges)<br>and<br>• at least one of the understorey species should be a species recognised as 'important' (e.g. grazing-sensitive, regionally significant, listed threatened or uncommon species) (see 'Important' column in plant species list at<br>• Appendix A – Species lists)<br>and<br>• the patch contains 10 or more mature trees* per hectare consistent with the key diagnostics for the ecological community |
| **Class B**<br><br>Good quality understorey present. Characteristic trees may be absent. | 0.1 ha (1,000 $m^2$) or larger | • The ground layer is predominantly native*<br>and<br>• the understorey contains at least 12 native, non-grass species (such as forbs, shrubs, ferns and sedges)<br>and<br>• at least one of the understorey species should be a species recognised as 'important' (e.g. grazing-sensitive, regionally significant, listed threatened or |
| | | uncommon species) (see 'Important' column in plant species list at<br>• Appendix A – Species lists) |
| **Class C**<br><br>Allows for a lower diversity in the understorey in areas where there is regeneration and/or tree density may be relatively dense. | 2 ha (20,000 $m^2$) or larger | • The ground layer is predominantly native*<br>and<br>• The patch contains 20 or more mature trees* per hectare<br>and/or<br>• The patch contains natural regeneration of dominant overstorey eucalypts* |

**Definitions**:

*Note: The following definitions apply to this table of condition categories (also refer to section 2 Identifying areas of the ecological community):

- Patch: a continuous area containing the ecological community. The patch is the larger of:
    - an area that contains five or more trees in which the gap between the outer canopy of any tree and the outer canopy of the nearest tree is no greater than 75 m, or
    - the area over which the ground layer is predominantly native (at least 50% of the perennial vegetation cover in the ground layer is made up of native species).
- The ground layer is the structural layer closest to the ground containing grasses, forbs and sub-shrubs (below 50 cm tall).
- Regeneration of dominant overstorey species: the patch contains eucalyptus saplings of the dominant species that are 5 cm diameter or greater at breast height.
- Mature trees are those with a circumference of at least 125 cm measured at a height of 130 cm above the ground (equivalent to diameter of 40 cm).

# Appendix C Approval of management plan for Lynwood Quarry, Marulan NSW

OFFICIAL

Australian Government
Department of Climate Change, Energy, the Environment and Water

EPBC 2012/6560

Mr Dozie Egeonu
Environment Manager - NSW & ACT
Holcim (Australia) Pty Ltd
Suite 201, Level 2, 7-9 Irvine Place
Bella Vista NSW 2153

dozie.egeonu@holcim.com

**Approval of management plan for Lynwood Quarry, Marulan NSW**

Dear Mr Egeonu

Thank you for your email dated 1 May 2025 to the Department of Climate Change, Energy, the Environment and Water (the department), seeking approval of the revised Lynwood Box Gum Woodland Management Plan, in accordance with condition 2A of the above project under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Officers of the department have advised me on the management plan and the requirements of the conditions of the approval for this project. On this basis, and as a delegate of the Minister for the Environment and Water (the Minister), I have decided to approve the *Lynwood Box Gum Woodland Management Plan Update: v4, 19 January 2026*.

Now this plan has been approved, it must be implemented. The approved plan must also be published in accordance with your conditions of approval.

As you are aware, the department has an active monitoring program which includes monitoring inspections, desk top document reviews and audits. Please ensure that you maintain accurate records of all activities associated with, or relevant to, the conditions of approval so that they can be made available to the department on request. Should you require any further information please contact Andy Huxham by email to PostApproval@dcceew.gov.au.

Yours sincerely

Ben Baghurst
A/g Director Post Approvals (NSW, ACT, Vic, Tas)
Environment Assessments (VIC, TAS) and Post Approvals Branch

20 February 2026

DCCEEW.gov.au
John Gorton Building - King Edward Terrace, Parkes ACT 2600 Australia
GPO Box 3090 Canberra ACT 2601 ABN: 63 573 932 849
LET 510 v3.5

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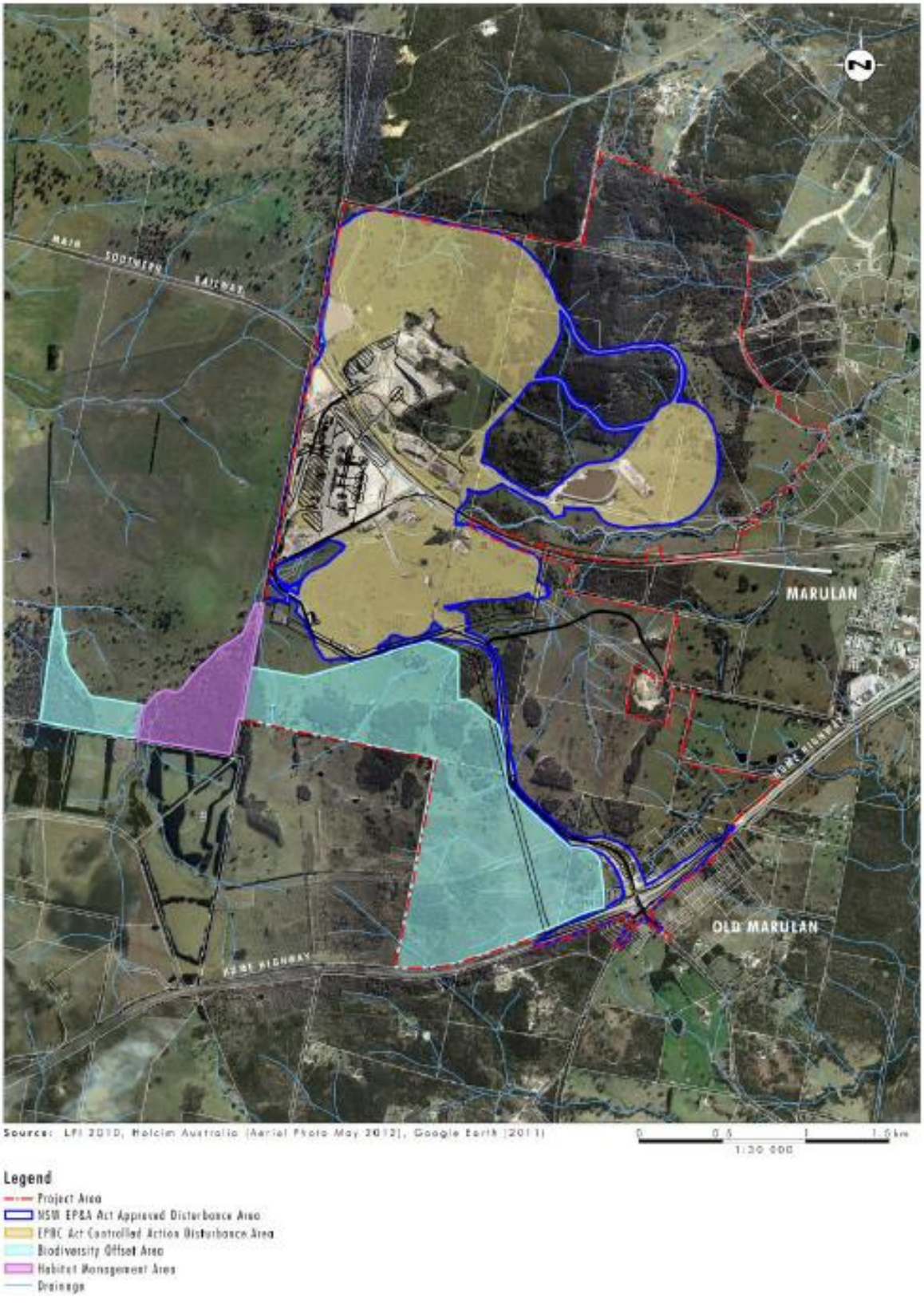
OFFICIAL

# Appendix D Site maps



# Appendix E Draft Conservation Agreement Lodgement 2013

# CONSERVATION AGREEMENT

**BETWEEN**

**THE MINISTER ADMINISTERING**
**THE NATIONAL PARKS AND WILDLIFE ACT 1974 (NSW)**

**AND**

**Holcim (Australia) Pty Ltd**

**FOR**

**Lynwood Quarry Conservation Agreement**



_____
**Holcim (Australia) Pty Ltd Director (Print name and sign)**

_____
**Holcim (Australia) Pty Ltd Secretary (Print name and sign)**

_____
**Chief Executive OEH (Print name and Sign)**

**<<This page to be signed by all parties to the Agreement>>**

## CONSERVATION AGREEMENT UNDER PART 4 DIVISION 12 OF THE NATIONAL PARKS AND WILDLIFE ACT 1974

**THIS AGREEMENT** is between the **Minister** administering the *National Parks and Wildlife Act 1974* (**Minister**) and **Holcim (Australia) Pty Ltd** the owner of the following lots (and part lots), being the property known as Lynwood Quarry Conservation Area:

- Part Lot 3 in Deposited Plan 1107232,
- Part Lot 2 in Deposited Plan 1116876,
- Part Lot 3 in Deposited Plan 1140546,
- Part Lot 3 in Deposited Plan 1074107,
- Part Lot 508 in Deposited Plan 1208430,
- Lot 2/5 Sec 5 in Deposited Plan 758653,
- Lot 3/5 Sec 5 in Deposited Plan 758653, and
- Lot 4/5 Sec 5 in Deposited Plan 758653.

### BACKGROUND

A The Owner is the registered proprietor of the Land. That part of the Land shown by hatching on Diagram A of Annexure A to the Conservation Agreement is the conservation area (Conservation Area). The Conservation Area is approximately 215.89 hectares in size.

B The Conservation Agreement satisfies a commitment made to secure a biodiversity offset relating to *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland Critically Endangered Ecological Community* (CEEC) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) relating to impacts associated with the Lynwood Quarry (EPBC Ref 2012/6560).

C Management of the Lynwood Quarry Conservation Area is undertaken in accordance with the Box Gum Woodland Management Plan.

D It is the intention of the parties that the Conservation Area will not be used as a biodiversity offset or other conservation measure related to any future development or activity, consistent with current NSW Government policy.

E The Conservation Area is to be managed to restore and protect the Conservation Values.

F The Owner and the Minister recognise:

i) The Conservation Area contains Yellow Box – Blakely's Red Gum Grassy Woodland on the Tablelands, South Eastern Highlands Bioregion (PCT 1330) and Red Stringybark – Brittle Gum – Inland Scribbly Gum, dry open forest of the Tablelands and South Eastern Highlands Bioregion (PCT 1093).

ii) The Conservation Area contains areas of White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland endangered ecological community (EEC) under the NSW *Biodiversity Conservation Act 2016* (BC Act) and White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act and a population of the threatened hoary sunray (*Leucochrysum albicans* var. *tricolor*), listed as endangered under the EPBC Act.

iii) The Conservation Area contains suitable habitat for 35 threatened fauna species and 11 threatened flora species. The Conservation Area contains known records (being from site surveys and/or BioNet) of eight threatened fauna species and two threatened flora species listed under the BC Act and/or the EPBC Act. (refer to Table 3 Annexure B)

iv) The Conservation Area contains vegetation communities heavily modified by past agricultural activities. Broad vegetated corridors exist in near proximity through adjacent Holcim land. These are isolated remnants of vegetation running from the Conservation Area in the south, through to Joarimin Creek and up to the Habitat Management Area in the north. There are a number of large

conservation reserves near the Conservation Area, including Morton National Park, Tarlo River National Park and Bungonia National Park and State Conservation Area (SCA).

## 1 DEFINITIONS AND INTERPRETATION

### 1.1 Definitions

In the Conservation Agreement, unless the contrary intention appears:

"**Aboriginal Object**" has the same meaning as in section 5 of the NPW Act;

"**Aboriginal Place**" has the same meaning as in section 5 of the NPW Act;

"**BC Act**" means the *Biodiversity Conservation Act 2016* and regulations in force thereunder;

"**Chief-Executive**" means the Chief-Executive of OEH or a person or organisation to whom the Chief-Executive's rights and duties under this Conservation Agreement have been delegated;

**Commented [RV1]:** More recent agreements have reference to BCT rather than the Chief-executive – so there may be a new template. Need to check throughout and resolve.

"**Commencement date**" means the date on which the Minister signs the Conservation Agreement;

"**Conservation Agreement**" means this Conservation Agreement entered into under section 69B of the NPW Act;

"**Conservation Area**" means that part of the Land shown by hatching on Diagram A of Annexure A to the Conservation Agreement;

"**Conservation Values**" means the biodiversity values of the Conservation Area specified in Annexure B to the Conservation Agreement;

"**control**", in relation to the Land, means lawful occupation, possession or management of the Conservation Area;

"**controlled burning**" means the controlled application of fire under specified environmental and weather conditions to a predetermined area and at the time, intensity and rate of spread required to attain planned resource management objectives;

"**critical habitat**" has the same meaning as in section 4 of the BC Act;

"**cultural heritage**" refers to the aesthetic, historic, scientific, social, spiritual or other values of a place and associated physical evidence and traditions held by past, present or future generations of peoples, including Aboriginal peoples;

"**damage**" has the same meaning as in section 5 of the NPW Act;

"**development**" has the same meaning as in section 69A of the NPW Act;

"**EPBC Act**" refers to the *Environment Protection and Biodiversity Conservation Act* 1999 (Commonwealth);

"**exotic plant**" means an introduced, alien, exotic, non-indigenous, non-native or a plant species living outside its native distributional range;

"**fauna**" has the same meaning as in section 5 of the NPW Act;

"**geo-heritage**" means any karst environment and any geological deposits and landforms that provide habitat for indigenous fauna and includes values identified as geo-heritage under the heading Conservation Values in Annexure B to the Conservation Agreement;

"**harm**" has the same meaning as in section 5 of the NPW Act;

"**indigenous fauna**" means a species of animal that was established in, or started regularly migrating to New South Wales prior to European settlement and includes fauna listed in Annexure B to the Conservation Agreement;

"**indigenous plants**" means a species of plant that was established in New South Wales prior to European settlement and includes plants listed in Annexure B to the Conservation Agreement;

"**Land**" means the land in folio identifier Part Lot 3 in Deposited Plan 1107232, Part Lot 2 in Deposited Plan 1116876, Part Lot 3 in DP 1140546, Part Lot 3 in Deposited Plan 1074107, Part Lot 508 in Deposited Plan 1208430, Lot 2 Sec5 in Deposited Plan 758653, Lot 3 Sec 5 in Deposited Plan 758653, and Lot 4 Sec 5 in Deposited Plan 758653;

"**Lessee**" means person leasing the land that is secured by real property indicated in the folio identifier Lot 3 Deposited Plan 1107232 at the date of this Conservation Agreement, being **Ranken Group Pty Limited** (previously Vireba Pty Limited) and includes its successors in title and any person appointed as its attorney or receiver in relation to that real property;

"**Minister**" means the Minister for the time being administering the NPW Act and where not repugnant to the context includes the servants, agents and delegates of the Minister;

"**NPW Act**" means the *National Parks and Wildlife Act 1974* (NSW) and any regulations from time to time in force thereunder;

"**native fauna**" has the same meaning as "protected fauna" in section 5 of the NPW Act;

"**native plant**" has the same meaning as in section 5 of the NPW Act;

"**native vegetation**" has the same meaning as in the *Native Vegetation Act 2003* (NSW);

"**DPIE**" means the Department of Planning, Industry and Environment, the NSW Government Public Service agency responsible for administering the NPW Act or a person or organisation to whom DPIE rights and duties under this Conservation Agreement have been delegated;

"**Owner**" means the registered proprietor of the Land from time to time, being **Holcim (Australia) Pty Ltd** as at the date of the Conservation Agreement, and includes any successors in title within the meaning of section 69E of the NPW Act;

"**pest animal**" means any non-native animal having, or with the potential to have, an adverse economic, environmental or social impact on the Conservation Area;

"**pesticide**" has the same meaning as in section 5 of the *Pesticides Act 1999* (NSW);

"**reasonable**" in relation to carrying out an activity, means making a legitimate effort and carrying out the activity in such a way as to have a minimal negative impact on the Conservation Values of the Conservation Area;

"**recovery plan**" means a recovery plan as defined in section 4 of the TSC Act, or a biodiversity conservation program established in accordance with Part 4 Division 6 of the BC Act;

"**road**" allows the passage of vehicles and persons and may be of more developed construction and surface improvement;

"**threatened species, populations and ecological communities**" and "**threatened species, population or ecological community**" have the same meaning as in the BC Act;

"**TSC Act**" means the *Threatened Species Conservation Act 1995* (NSW);

"**track**" allows non-vehicular access only;

"**trail**" allows the passage of vehicles and persons and is of minimal construction, being of limited width and minimal surface improvement; and

"**Year 1**" means twelve month period following the Commencement date.

1.2 **Interpretation**

In the Conservation Agreement, except where the context otherwise requires:

(a) words importing the singular number shall include the plural and masculine gender the feminine or neuter and vice versa; and

(b) any reference to a person shall be deemed to include a corporate body and vice versa.

## 2 CONSERVATION AGREEMENT UNDER THE NPW ACT

2.1 The Minister enters into the Conservation Agreement relating to the Land with the Owner under section 69B of the NPW Act and clause 17 (2) of the *Biodiversity Conservation (Savings and Transitional) Regulation 2017*.

2.2 The Owner acknowledges that the Minister, the Chief Executive or DPIE may delegate some or all of their roles or duties under the Conservation Agreement to another person or organisation, including the Biodiversity Conservation Trust established under the BC Act. The Minister, the Chief Executive or DPIE may give the Owner notice in writing of any change to their address for service of notices, and the Owner must use the address set out in any such notice.

**3 TERM**

The Conservation Agreement shall operate in perpetuity.

3.1 This agreement must not be terminated without the written consent of the Minister administering the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999.*

**4 OBTAINING OF CONSENTS, PERMITS AND AUTHORISATIONS**

The Owner is responsible for obtaining all necessary licenses, consents, authorisations, permits or approvals in order to lawfully comply with and carry out its obligations under the Conservation Agreement or to undertake or enable any other identified action or development under clauses 5 or 6.

**5 USE OF THE CONSERVATION AREA**

The Owner must not undertake, consent to or permit the following activities on or in the Conservation Area, unless provided for under the Conservation Agreement or with prior written consent of the Chief-Executive:

(a) the sowing or planting of trees, grasses or other plants;

(b) the introduction of any non-indigenous plants or non-indigenous fauna;

(c) the entry of domestic animals including pets (except for the Owner's domestic pets, and only if kept under control/on a leash) and domestic livestock;

(d) the use or application of fertilizers or pesticides;

(e) the use of trail bikes, four wheel drive vehicles or any other vehicle off any formed road (except for management purposes, research, firefighting and/or any emergency requirements);

(f) any works, especially any revegetation work, or any development which has the potential to adversely impact on any of the Conservation Values;

(g) the removal of any biological or inorganic component of the Conservation Area;

(h) any works which will adversely affect the natural flows of water;

(i) grazing of domestic livestock;

(j) any act or omission that may harm any native fauna, native plants, their habitats, cultural heritage or geo-heritage in the Conservation Area or the Conservation Values;

(k) the construction of any new road, access track, trail, building or internal fencing; and

(l) subdivide the Conservation Area.

**Commented [RM2]:** What about for purposes of weed management?

## 6 MANAGEMENT OF THE CONSERVATION AREA

6.1 The Owner must undertake the management actions and achieve aims listed in Item 1 of Annexure C to the Conservation Agreement on or in the Conservation Area, at the times specified in Item 1 of Annexure C to the Conservation Agreement, for a minimum period of 10 years from the Commencement date.

6.2 The Owner must undertake the management actions listed in Item 2 of Annexure C to the Conservation Agreement on or in the Conservation Area, from Year 11 for the duration of the Conservation Agreement.

6.3 The Owner must undertake the management actions specified above (in clauses 6.1 and 6.2) according to the permissions and guidelines specified in Item 3 of Annexure C.

6.4 The Owner may undertake additional management actions (not specified in clauses 6.1 and 6.2 above) listed in Item 3 of Annexure C to the Conservation Agreement on or in the Conservation Area, if carried out in the manner prescribed in Item 3 of Annexure C to the Conservation Agreement.

## 7 MONITORING

7.1 The Owner must engage a suitably qualified person (such as an ecologist) to undertake the monitoring program as set out in Annexure D to the Conservation Agreement (Monitoring Program).

7.2 The Monitoring Program must be undertaken for a minimum 10 year period after commencement of the Conservation Agreement.

7.3 The Monitoring Program may be reviewed and varied after the commencement date of the Conservation Agreement with written approval from DPIE.

## 8 REPORTING OBLIGATIONS

8.1 The Owner must notify the Chief-Executive in writing as soon as possible after becoming aware of the deterioration of any of the Conservation Values specified in Annexure B, or any threat to the Conservation Values specified in Annexure B.

8.2 Following completion of the Monitoring Program the Owner should (at least every three years) submit to DPIE basic photo point photos for the purpose of identifying changes occurring in the Conservation Area. At the time of submitting the photos, the Owner must also report any unforeseen deterioration of any of the Conservation Values specified in Annexure B, or any threat to the Conservation Values specified in Annexure B. This will form the basis for decisions about ongoing management actions for the Conservation Area. A copy of all monitoring reports should be forwarded to DPIE.

## 9 USE OF THE CONSERVATION AREA BY SERVANTS, AGENTS, LESSEES OR LICENSEES

The Owner must incorporate the terms of the Conservation Agreement in any lease or licence issued over the Conservation Area, and at all times ensure that any servant, contractor, consultant, agent, lessee, licensee occupying the Conservation Area shall be aware of the relevant provisions of the Conservation Agreement.

## 10 CHANGE OF OWNERSHIP

10.1 The Owner must notify the Chief-Executive in writing of any change of ownership or control of the Land within twenty-eight (28) days after the change of ownership or control. The notice must include the name and address of the new Owner of the Land or person in control of the Land.

10.2 If the Land is sold or ownership transferred within the first 10 years of this Agreement, the management actions listed in Item 1 of Annexure C and Monitoring Program detailed in Annexure D must be carried out by the new owner for the remaining period.

## 11 RIGHT TO INSPECT

The Minister may, at any time upon first giving reasonable notice to the Owner, enter upon the Conservation Area to inspect the condition of the Conservation Area and ensure compliance with the Conservation Agreement.

## 12 OBLIGATIONS OF THE MINISTER

12.1 The Minister agrees to notify the Registrar General when the Conservation Agreement has been entered into so that the Registrar General can carry out his or her responsibilities under section 69G of the NPW Act.

12.2 The Minister will arrange for the provision of technical advice and any other assistance to the Owner as the Minister deems necessary to assist with the implementation of the Conservation Agreement.

## 13 NON-COMPLIANCE

In the event that the Owner fails to comply with the Conservation Agreement, including, without limitation, damaging or causing damage to the Conservation Area, DPIE may issue a written notice to the Owner requiring the Owner to remedy the non-compliance or damage within a specified time period. This clause does not affect any rights of the parties under section 69G of the NPW Act.

## 14 DISPUTE RESOLUTION

14.1 Where there is a dispute, difference or claim (dispute), the party raising the dispute must notify the other party in writing of the nature of the dispute, including the factual and legal basis of the dispute (written notice).

14.2 Within fourteen (14) days of the written notice, the Chief-Executive of DPIE and the Owner, or nominated senior representatives of the parties, must attempt to resolve the dispute. If the dispute cannot be resolved within twenty-one (21) days of the written notice, the Chief-Executive of DPIE and the Owner will refer the matter to mediation.

14.3 The parties will agree on the terms of appointment of the mediator and the terms of the mediation in writing within twenty-eight (28) days, failing which the mediation will be at an end and either party may commence court proceedings in respect of the dispute.

14.4 If the matter has not been resolved within twenty-eight (28) days of the appointment of the mediator, the mediation process will be at an end and either party may commence court proceedings in respect of the dispute.

## 15 COSTS

The Owner will bear costs of, and incidental to, the preparation of the Conservation Agreement, including survey and legal costs.

## 16 COMMENCEMENT

The Conservation Agreement shall have effect from the day the Minister executes the Conservation Agreement.

**Executed as an agreement**

**SIGNED** by
The Chief Executive, Office of Environment and Heritage, as the Minister's delegate under Section 21(1) of the *National Parks and Wildlife Act 1974*

_____
Chief Executive

_____
Print Name

_____
Witness

_____
Date

_____
Witness Name and address

_____
Date

**SIGNED** by the **OWNER** Executed by **Holcim (Australia) Pty Ltd** pursuant to Section 127 of the *Corporations Act 2001* (Commonwealth).

| | |
|---|---|
| _____ | _____ |
| Director: Holcim (Australia) Pty Ltd | Secretary: Holcim (Australia) Pty Ltd |
| _____ | _____ |
| Date | Date |
| _____ | _____ |
| Witness signature | Witness signature |
| _____ | _____ |
| _____ | _____ |
| Witness Name and Address | Witness Name and Address |
| _____ | _____ |
| Date | Date |

**Address for service of notices on the Owner:**

Holcim (Australia) Pty Ltd
799 Pacific Highway
Chatswood, NSW, 2067

**Address for service of notices on the Chief Executive** DPIE

The Chief Executive
C/O NSW Biodiversity Conservation Trust
PO Box A290 Sydney South NSW 1232

**Address for service of notices on the Minister:**

NSW Minister for the Environment
GPO Box 5341 Sydney NSW 2001.

**Ranken Group Pty Limited (**previously Vireba Pty Limited**),** the lessee of Lot 3 DP 1107232 of the Conservation Area, consents to this Agreement.

Date: _____

Witness: _____

Date: _____

## ANNEXURE A DIAGRAM A1 – Lynwood Quarry Conservation Area



_____ _____
Director: Holcim (Australia) Pty Ltd) Chief Executive

_____
Secretary: Holcim (Australia) Pty Ltd)

**Insert Survey Diagram here that meets NSW LPI specifications shown here**

## ANNEXURE B - CONSERVATION VALUES

### 1. CONSERVATION VALUES

The Owner and the Minister recognise that the Conservation Area contains the following conservation values:

A The Conservation Area contains the following plant community types (PCTs):

- PCT 1330 – Yellow Box – Blakely's Red Gum Grassy Woodland on th Tablelands, South Eastern Highlands Bioregion in the following conditions:
    - Moderate to Good
    - Moderate to God – Derived Native Grassland
    - Low Condition Grassland
- PCT 1093 – Red Stringybark – Brittle Gum – Inland Scribbly Gum, dry open forest of the Tablelands, South Eastern Highlands Bioregion in the following conditions:
    - Moderate to Good
    - Low Condition Grassland

Descriptions of each of these communities are provided below.

**PCT 1330 – Yellow Box – Blakely's Red Gum Grassy Woodland on the Tablelands, South Eastern Highlands Bioregion**

This community is a tall woodland or grassland that occupies fertile lower parts of the landscape where resources such as water and nutrients are more available. This PCT contains areas of both the grassy woodland and derived native grassland components of the community. The woodland component in the Conservation Area is dominated by Blakely's red gum (*Eucalyptus blakelyi*) and Yellow box (*Eucalyptus melliodora*), with occurrences of Bundy (*Eucalyptus goniocalyx*), Apple box (*Eucalyptus bridgesiana*), Argyle Apple (*Eucalyptus cinerea*) and Red stringybark (*Eucalyptus macrorhyncha*). A small tree layer of Black she-oak (*Allocasuarina littoralis*) is sometimes present. Common shrubs include Sifton bush (*Cassinia arcuata*), Peach heath (*Lissanthe strigosa*) and Nodding blue-lily (*Stypandra glauca*). Common groundcover species include Weeping grass (*Microlaena stipoides*), Speargrass (*Austrostipa scabra*), Purple wiregrass (*Aristida ramosa*), *Poa sieberiana*, Stinking pennywort (*Hydrocotyle laxiflora*), Wattle mat-rush (*Lomandra filiformis* subsp. *coriacea*), *Gonocarpus tetragynus* and Ivy goodenia (*Goodenia hederacea* subsp. *hederacea*).

The grassland component is located within the previously cleared lower slopes and drainage areas. At the woodland interface, regeneration of canopy species is common. The grassland component has been split into two condition types, comprising moderate to good condition derived native grassland and low condition grassland. The moderate to good condition derived native grassland is dominated by a variety of native species, including Sifton bush (*Cassinia arcuata*), Peach heath (*Lissanthe strigosa*), Wattle mat-rush (*Lomandra filiformis* subsp. *coriacea*), Poison rock fern (*Cheilanthes sieberi* subsp. *sieberi*), *Gonocarpus tetragynus*, Ivy goodenia (*Goodenia hederacea* subsp. *hederacea*), Speargrass (*Austrostipa scabra*) and Weeping grass (*Microlaena stipoides*). Hoary sunray (*Leucochrysum albicans* var. *tricolor*), listed as endangered under the EPBC Act was recorded at the permanent monitoring plot established in the moderate to good condition derived native grassland.

The low condition grassland form of this PCT comprises a mixture of exotic and native species. Weed cover is high, consisting of Catsear (*Hypochaeris radicata*), Fireweed (*Senecio madagascariensis*), Serrated tussock (*Nassella trichotoma*), *Setaria parviflora* and Sheep sorrel (*Acetosella vulgaris*). Common native groundcover species include Purple wiregrass (*Aristida ramosa*), Weeping grass (*Microlaena stipoides*), Peach heath (*Lissanthe strigosa*) and *Gonocarpus tetragynus*. A high number of likely Blakely's red gum (*Eucalyptus blakelyi*) and Yellow box (*Eucalyptus melliodora*) seedlings are

present as a result of recent active revegetation works. Parramatta wattle (*Acacia parramattensis*) is dispersed throughout the low condition grasslands.

The Conservation Area contains approximately 68.83 hectares of PCT 1330 Yellow Box – Blakely's Red Gum Grassy Woodland on the Tablelands, South Eastern Highlands Bioregion.

**PCT 1093 – Red Stringybark – Brittle Gum – Inland Scribbly Gum, dry open forest of the Tablelands, South Eastern Highlands Bioregion**

This vegetation community occurs on poor soils usually on a rocky substrate. Common canopy species include Inland scribbly gum (*Eucalyptus rossii*), Red stringybark (*Eucalyptus macrorhyncha*), Blue-leaved stringybark (*Eucalyptus agglomerata*), Bundy (*Eucalyptus goniocalyx*) and Brittle gum (*Eucalyptus mannifera subsp. mannifera*). There are also occurrences of Broad-leaved peppermint (*Eucalyptus dives*), Argyle apple (*Eucalyptus cinerea*) and Silvertop ash (*Eucalyptus sieberi*). The understorey is open through to entirely absent with characteristic shrub species comprising *Brachyloma daphnoides*, Sifton bush (*Cassinia arcuata*) and Peach heath (*Lissanthe strigosa*). The ground layer is typically sparse and dominated by a range of sedges, grasses and forbs such as Nodding blue-lily (*Stypandra glauca*) and Speargrass (*Austrostipa scabra*). Other common species included Ivy goodenia (*Goodenia hederacea*), *Dianella revoluta*, Twisted mat-rush (*Lomandra obliqua*), *Gonocarpus tetragynus*, Many-flowered mat-rush (*Lomandra multiflora*) and Wattle mat-rush (*Lomandra filiformis* subsp. *coriacea*).

The grassland component is considered to be in low condition as it has a high cover of exotic grasses such as Serrated tussock (*Nassella trichotoma*) and Phalaris (*Phalaris aquatica*). Other common weeds included Catsear (*Hypochaeris radicata*) and Sheep sorrel (*Acetosella vulgaris*). Native species occur at low abundance, including *Leptospermum* sp., Many-flowered mat-rush (*Lomandra multiflora* subsp. *multiflora*), Wattle mat-rush (*Lomandra filiformis* subsp. *coriacea*) and Hairy panic (*Panicum effusum*). Scattered Peach heath (*Lissanthe strigosa*) and Sifton bush (*Cassinia arcuata*) are present in the broader area of this zone. The potential former identity of these low condition grasslands has been determined from landscape position and adjacent intact woodland areas.

The Conservation Area contains approximately 146.51 hectares of PCT 1093 Red Stringybark – Brittle Gum – Inland Scribbly Gum, dry open forest of the Tablelands, South Eastern Highlands Bioregion.

**Table 1** shows the area of each plant community type by condition state (refer also to Diagram B1).

**Table 1: PCTs present in the Lynwood Quarry Conservation Area**

| PCT | Condition | Area (ha) |
|---|---|---|
| 1330 Yellow Box – Blakely's Red Gum Grassy Woodland on the Tablelands, South Eastern Highlands Bioregion | Moderate to Good | 23.59 |
| | Moderate to Good - Derived Native Grassland | 3.50 |
| | Low Condition Grassland | 41.74 |
| 1093 Red Stringybark – Brittle Gum – Inland Scribbly Gum, dry open forest of the Tablelands, South Eastern Highlands Bioregion | Moderate to Good | 91.86 |
| | Low Condition Grassland | 54.65 |

| PCT | Condition | Area (ha) |
|---|---|---|
| Dams | N/A | 0.55 |
| **TOTAL** | | **215.89** |

Note: Values are subject to minor mapping/GIS-based variation

B The Conservation Area contains following threatened ecological communities (TECs) and threatened species:

**White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC under the EPBC Act and White Box Yellow Box Blakely's Red Gum Woodland EEC under the BC Act**

This community occurs along the western slopes and tablelands of the Great Dividing Range from southern Queensland through New South Wales and the Australian Capital Territory to Victoria. It is listed as a critically endangered ecological community under the EPBC Act and an endangered ecological community under the BC Act. It is characterised by a species-rich understory of native tussock grasses, herbs and scattered shrubs (where shrub cover comprises less than 30% cover) and a dominance or prior dominance of White box (*Eucalyptus albens*) and/or Yellow box (*Eucalyptus melliodora*) and/or Blakely's red gum (*Eucalyptus blakelyi*) trees. Grey box (*Eucalyptus microcarpa* or *Eucalyptus moluccana*) may also be dominant or co-dominant. In the woodland state, tree cover is generally discontinuous and of medium height with canopies that are clearly separated.

Within the Conservation Area this community occurs at the lower footslopes of low rocky hills or the upper margins of valleys extensively modified as a result of agricultural activities. This is where the better soils of the valley meet the poorer soils of the low hills. Blakely's red gum (*Eucalyptus blakelyi*) and Yellow box (*Eucalyptus melliodora*) are the dominant trees and were likely to have been in the grassland areas prior to clearing. Blakely's red gum (*Eucalyptus blakelyi*) is replaced by a dominance of Scribbly gum (*Eucalyptus rossii*), Red stringybark (*Eucalyptus macrorhyncha*), Blue-leaved stringybark (*Eucalyptus agglomerata*), Bundy (*Eucalyptus goniocalyx*) and Brittle gum (*Eucalyptus mannifera* subsp. *mannifera*) woodland on the low hills. The community occurs as grassy woodland and derived native grassland with varying levels of woodland dominance. The Conservation Area is known to contain approximately 23.59 hectares of grassy woodland form and 3.50 hectares of the derived native grassland form. The area of the two condition types present within the Conservation Area is shown in **Table 2** and illustrated in **Diagram B1**).

**Table 2: Threatened ecological communities present in the Conservation Area**

| Threatened Ecological Community | Condition | BC Listed (ha) | EPBC Listed (ha) |
|---|---|---|---|
| White Box – Yellow Box – Blakely's Red Gum Grassy Woodlands and Derived Native Grasslands CEEC | Intact | - | 23.59 |
| | DNG | - | 3.50 |
| White Box - Yellow Box Blakely's Red Gum Woodland EEC | Intact | 23.59 | |
| **Total** | | **23.59** | **27.09** |

The areas of Box Gum Woodland CEEC/EEC mapped in the Conservation Area generally correspond with map unit 3 Tableland Grassy Box-Gum Woodland as previously mapped by Umwelt (2005). This map unit was derived from the vegetation classification and mapping project by Tindall *et al.* (2004), which has since been updated in Tozer *et al.* (2010). According to the revised vegetation classification

and mapping project, the mapped patches of Box Gum Woodland are modelled as map unit p24 Tableland Grassy Box-Gum Woodland. This community is described as having the potential to form part of the Box Gum Woodland CEEC/EEC (Tozer *et al.* 2010), which specifically states that '*no map units are directly equivalent to this CEEC/EEC described, however some areas of p24 Tableland Grassy Box-Gum Woodland may match the CEEC/EEC description*'. This community is described by Tozer *et al.* (2010) as containing up to nine different species of eucalypts, so depending on the proportions of a given patch, it may or may not conform to the definition of the Box Gum Woodland CEEC/EEC. Therefore, while the site contains large areas of p24 Tableland Grassy Box-Gum Woodland, only certain areas represent the Box Gum Woodland CEEC/EEC, which is driven by the local biophysical attributes of a given area.

Some areas of the Conservation Area which may have once supported the Box Gum Woodland CEEC/EEC have been modified such that they no longer conform to the definition of Box Gum Woodland CEEC/EEC. For example, some areas have a highly modified understory and are dominated by exotic species.

**Threatened Flora Species**

Two threatened flora species listed under the BC and/or EPBC Act have been recorded in the Conservation Area, being Hoary sunray (*Leucochrysum albicans* var. *tricolor*) listed as endangered under the EPBC Act and Camden woollybutt (*Eucalyptus macarthurii*) listed as endangered under the BC and EPBC Acts.

Hoary sunray (*Leucochrysum albicans* var. *tricolor*) occurs in localised areas in the eastern portion of the Conservation Area. The population of Hoary sunray (*Leucochrysum albicans* var. *tricolor*) which had previously not been observed despite extensive ecological survey between 2003 and 2004 became apparent in 2011 in large numbers. This followed a period of above average rainfall immediately after an extensive period of drought and the removal of grazing stock in 2010. Approximately 200,000 Hoary sunray (*Leucochrysum albicans* var. *tricolor*) individuals have been recorded in the habitats of the Conservation Area with up to 27.3 hectares of habitat identified (refer to **Diagram B4**).

One record of Camden woollybutt (*Eucalyptus macarthurii*) occurs in the eastern portion of the Conservation Area according to the DPIE BioNet Atlas of NSW Wildlife (refer to **Diagram B4**). This record occurs from 2004 with an estimated accuracy of location of 100 km. It is noted that a stand of planted Camden woollybutt (*Eucalyptus macarthurii*) previously occurred within the disturbance footprint of the approved Lynwood Quarry Project. It was determined in consultation with DPIE (formerly Office of Environment and Heritage) as part of the assessment process for Lynwood Quarry in 2005 that this species was planted on Lynwood Quarry site. It is unknown whether this other record plotted within the Conservation Area actually occurs within the boundaries of the Conservation Area as it has not been relocated.

A list of the threatened species recorded within 10 km of the Conservation Area with the potential to occur based on suitable habitat, is included in **Annexure B**.

**Threatened Fauna Species**

The Conservation Area contain known records (being from site surveys and/or BioNet) of the following eight threatened fauna species listed under the BC Act (refer to **Diagram B4**):

- Speckled warbler (*Chthonicola sagittata*),
- Varied sittella (*Daphoenositta chrysoptera*),
- Scarlet robin (*Petroica boodang*),
- Dusky woodswallow (*Artamus cyanopterus cyanopterus*),
- Squirrel glider (*Petaurus norfolcensis*),
- Eastern bentwing-bat (*Miniopterus orianae oceanensis*),

- East-coast freetail-bat (*Micronomus norfolkensis*), and
- Eastern false pipistrelle (*Falsistrellus tasmaniensis*).

The Conservation Area contains four broad habitat formations which provide different habitat characteristics that influence the fauna habitat value and the range of species likely to utilise each habitat type. The broad habitat formations were woodland, grassland, riparian and aquatic habitats.

A list of the threatened species recorded within 10 km of the Conservation Area, that have the potential to occur based on suitable habitat is included in **Annexure B**.

C The Conservation Area contains connectivity to adjacent reserves and or bushland areas at local and regional scale.

The remaining areas of remnant woodland occurring within the Holcim lands include dense patches of native woodland as well as scattered trees and vegetated riparian areas. The vegetation communities in the Conservation Area and the wider locality have been heavily modified by agricultural activities. The broad vegetation types include box-gum woodlands, low open forests, riparian woodlands, derived native grasslands and disturbed pasture. Widespread grazing across the region has resulted in the fragmentation and subsequent high disturbance and degradation of these communities.

Broad vegetated corridors in the Holcim lands in the locality include isolated remnants of vegetation from the Conservation Area in the south to Joarimin Creek through to the Habitat Management Area in the north (refer to **Diagram B3**). The corridor occurs to the north of the Main Southern Railway linking remnant vegetation along Joarimin Creek with the Habitat Management Area and adjoining habitat areas to the north. Linkages to this corridor area are provided by a 'stepping stone' habitat to the south of the Main Southern Railway through to the Conservation Area. This section of the corridor is comprised of patches of remnant vegetation crossed by infrastructure in several locations. Despite this, a movement corridor is available for a range of threatened species and fauna generally whilst also supporting pollination and dispersal of local flora.

There are a number of large conservation reserves near the Conservation Area, including Morton National Park, Tarlo River National Park and Bungonia National Park and State Conservation Area (SCA). These areas form large patches of native vegetation in a relatively disturbed agricultural landscape and provide habitat refuges and connectivity for dispersing species.

D The Conservation Area contains sites/objects of high Aboriginal cultural and archaeological value.

The Conservation Area contains 22 Aboriginal sites including eight isolated finds, eight artefact scatters with potential archaeological deposit, five scarred trees and one stone arrangement. Of these Aboriginal sites, two isolated finds, four artefact scatters, five scarred trees and one stone arrangement are within a Cultural Heritage Management Zone set aside for long-term conservation. This area is of especially high Aboriginal cultural and archaeological value as it contains a rare site complex related to male initiation. All of the Aboriginal sites within the Conservation Area are protected and managed in accordance with the Lynwood Quarry Aboriginal Heritage Management Plan and the Conditions of DPIE Aboriginal Heritage Impact Permit #1100264. In compliance with the Aboriginal Heritage Management Plan the sites are fenced with appropriate signage and are subject to monitoring on an annual or triennial basis (refer to **Diagram B7**).

## ANNEXURE B

**TABLE 3: Threatened species found within 10km radius of site which may occur within the Conservation Area due to the presence of suitable habitat.**

| Common Species Name | Scientific Species Name | BC Act Listing | EPBC Act Listing | Confirmed on site Y/N |
|---|---|---|---|---|
| **Fauna Species** | | | | |
| Little eagle | *Hieraaetus morphnoides* | V | - | N |
| White-bellied sea-eagle | *Haliaeetus leucogaster* | V | - | N |
| Square-tailed kite | *Lophoictinia isura* | V | - | N |
| Gang-gang cockatoo | *Callocephalon fimbriatum* | V | - | N |
| Glossy black-cockatoo | *Calyptorhynchus lathami* | V | - | N |
| Little lorikeet | *Glossopsitta pusilla* | V | - | N |
| Swift parrot | *Lathamus discolor* | E | CE | N |
| Powerful owl | *Ninox strenua* | V | - | N |
| Masked owl | *Tyto novaehollandiae* | V | - | N |
| Sooty owl | *Tyto tenebricosa* | V | - | N |
| Brown treecreeper (eastern subspecies) | *Climacteris picumnus victoriae* | V | - | N |
| Speckled warbler | *Chthonicola sagittata* | V | - | Y |
| Regent honeyeater | *Anthochaera phrygia* | CE | CE | N |
| Black-chinned honeyeater (eastern subspecies) | *Melithreptus gularis gularis* | V | - | N |
| Varied sittella | *Daphoenositta chrysoptera* | V | - | Y |
| Dusky woodswallow | *Artamus cyanopterus cyanopterus* | V | - | Y |
| Hooded robin (south-eastern form) | *Melanodryas cucullata cucullata* | V | - | N |
| Scarlet robin | *Petroica boodang* | V | - | Y |
| Flame robin | *Petroica phoenicea* | V | - | N |
| Diamond firetail | *Stagonopleura guttata* | V | - | N |
| Spotted-tailed quoll | *Dasyurus maculatus* | V | E | N |
| Koala | *Phascolarctos cinereus* | V | V | N |

| Common Species Name | Scientific Species Name | BC Act Listing | EPBC Act Listing | Confirmed on site Y/N |
|---|---|---|---|---|
| Yellow-bellied glider | *Petaurus australis* | V | - | N |
| Squirrel glider | *Petaurus norfolcensis* | V | - | Y |
| Greater glider | *Petauroides volans* | - | V | N |
| Brush-tailed rock-wallaby | *Petrogale penicillata* | E | V | N |
| Grey-headed flying-fox | *Pteropus poliocephalus* | V | V | N |
| Yellow-bellied sheathtail-bat | *Saccolaimus flaviventris* | V | - | N |
| East-coast freetail-bat | *Micronomus norfolkensis* | V | - | Y |
| Large-eared pied bat | *Chalinolobus dwyeri* | V | V | N |
| Eastern false pipistrelle | *Falsistrellus tasmaniensis* | V | - | Y |
| Little bentwing-bat | *Miniopterus australis* | V | - | N |
| Eastern bentwing-bat | *Miniopterus orianae oceanensis* | V | - | Y |
| Southern myotis | *Myotis macropus* | V | - | N |
| Greater broad-nosed bat | *Scoteanax rueppellii* | V | - | N |
| **Fauna Species** | | | | |
| Hoary sunray | *Leucochrysum albicans* var. *tricolor* | - | E | Y |
| Matted bush-pea | *Pultenaea pedunculata* | E | - | N |
| Dwarf kerrawang | *Commersonia prostrata* | E | E | N |
| Black gum | *Eucalyptus aggregata* | V | V | N |
| Camden woollybutt | *Eucalyptus macarthurii* | E | E | Y^ |
| Tallong midge orchid | *Genoplesium plumosum* | CE | E | N |
| Wingello grevillea | *Grevillea molyneuxii* | V | E | N |
| Cotoneaster pomaderris | *Pomaderris cotoneaster* | E | E | N |
| Pale pomaderris | *Pomaderris pallida* | V | V | N |
| | *Solanum celatum* | E | - | N |
| Bungonia rice-flower | *Pimelea axiflora* subsp. *pubescens* | E | - | N |

V= Vulnerable, E= Endangered, CE= Critically Endangered, ^ = Record not confirmed in the Conservation Area.

**ANNEXURE B DIAGRAM B1 - VEGETATION COMMUNITIES AND LOCATION OF BIOBANKING PLOTS AND PHOTO POINTS**

## ANNEXURE B DIAGRAM B2 – REGIONAL SETTING

## ANNEXURE B DIAGRAM B3 – BIODIVERSITY CORRIDOR

## ANNEXURE B DIAGRAM B4 – THREATENED SPECIES LOCATIONS

## ANNEXURE B DIAGRAM B5 – FIRE MANAGEMENT ZONES

## ANNEXURE B DIAGRAM B6 – MANAGEMENT ZONES

**ANNEXURE B DIAGRAM B7 – LOCATION OF CULTURAL HERITAGE MANAGEMENT ZONE**

## ANNEXURE B - PHOTO POINT PHOTOGRAPHS

Four photos were taken at each point in a clockwise direction, with the first photo orientated facing north from the north-east corner of the site. Compass directions (magnetic degrees) of each photo from the star picket are given below and GPS reference points for each site are provided in **Annexure D Table 1**.

Photos are presented below.

**Biometric Plot 1 -** PCT 1093 - Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion (Moderate to Good Condition)

**Biometric Plot 1** is dominated by Inland scribbly gum (*Eucalyptus rossii*) and Blue-leaved stringybark (*Eucalyptus agglomerata*), along with a single Red stringybark (*Eucalyptus macrorhyncha*) tree. Brittle gum (*Eucalyptus mannifera* subsp. *mannifera*), Broad-leaved peppermint (*Eucalyptus dives*) and Argyle apple (*Eucalyptus cinerea*) are common in the immediate area. A mid-storey or shrub layer is absent from **Biometric Plot 1**. Whilst very sparse, dominant **Biometric Plot 1** groundcover species include Speargrass (*Austrostipa scabra*), Ivy goodenia (*Goodenia hederacea*), Many-flowered mat-rush (*Lomandra multiflora*), Twisted mat-rush (*Lomandra obliqua*) and Wattle mat-rush (*Lomandra filiformis* subsp. *coriacea*). Weeds are largely absent.

**Biometric Plot 1 facing 0º (magnetic)(15/06/2017)**

**Biometric Plot 1 facing 90º (magnetic) (15/06/2017)**

**Biometric Plot 1 facing 180º (magnetic) (15/06/2017)**

**Biometric Plot 1 facing 270º (magnetic) (15/06/2017)**

**Biometric Plot 2 -** PCT 1093 - Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion (Low Condition Grassland)

Weed cover is high (100 percent) and dense in **Biometric Plot 2** and dominated by Phalaris (*Phalaris aquatica*) and Serrated tussock (*Nassella trichotoma*). Other common weeds include Sheep sorrel (*Acetosella vulgaris*), *Trifolium* sp. and Catsear (*Hypochaeris radicata*). Native species are limited to a single *Leptospermum* sp. shrub and a low abundance of Many-flowered mat-rush (*Lomandra multiflora* subsp. *multiflora*), Wattle mat-rush (*Lomandra filiformis* subsp. *coriacea*) and Hairy panic (*Panicum effusum*). Scattered Peach heath (*Lissanthe strigosa*) and Sifton bush (*Cassinia arcuata*) are also present in the broader area of this zone.

This area has not been subject to any revegetation activities.

**Biometric Plot 2 facing 0º (magnetic) (15/06/2017)**

**Biometric Plot 2 facing 90º (magnetic) (15/06/2017)**

**Biometric Plot 2 facing 180º (magnetic) (15/06/2017)**

**Biometric Plot 2 facing 270º (magnetic) (15/06/2017)**

**Biometric Plot 3 -** PCT 1330 - Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion (Moderate to Good Condition)

**Biometric Plot 3** is dominated by Blakely's red gum (*Eucalyptus blakelyi*) with occurrences of Bundy (*Eucalyptus goniocalyx*) and Red stringybark (*Eucalyptus macrorhyncha*). Apple box (*Eucalyptus bridgesiana*) and Yellow box (*Eucalyptus melliodora*) also occur within this zone. **Biometric Plot 3** contains a small tree layer of Black she-oak (*Allocasuarina littoralis*) and a shrub layer dominated by Sifton bush (*Cassinia arcuata*), Peach heath (*Lissanthe strigosa*) and Nodding blue-lily (*Stypandra glauca*). Common groundcover species include Weeping grass (*Microlaena stipoides*), *Gonocarpus tetragynus*, Wattle mat-rush (*Lomandra filiformis* subsp. *coriacea*) and Speargrass (*Austrostipa scabra*).

Weed cover is generally low and includes Scarlet pimpernel (*Lysimachia arvensis*), Sheep sorrel (*Acetosella vulgaris*), Lawn burweed (*Soliva sessilis*) and Catsear (*Hypochaeris radicata*).

**Biometric Plot 3 facing 0º (magnetic) (15/06/2017)**

**Biometric Plot 3 facing 90º (magnetic) (15/06/2017)**

**Biometric Plot 3 facing 180º (magnetic) (15/06/2017)**

**Biometric Plot 3 facing 270º (magnetic) (15/06/2017)**

**Biometric Plot 4 -** PCT 1330 - Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion (Derived Native Grassland Condition)

**Biometric Plot 4** includes sparse regeneration of the canopy species Blakely's red gum (*Eucalyptus blakelyi*) and Bundy (*Eucalyptus goniocalyx*). The shrub layer is dominated by Sifton bush (*Cassinia arcuata*) and Peach heath (*Lissanthe strigosa*). Common groundcover species include Wattle mat-rush (*Lomandra filiformis* subsp. *coriacea*), *Gonocarpus tetragynus*, Speargrass (*Austrostipa scabra*) and Purple wiregrass (*Aristida ramosa*). Approximately 50 individuals of the endangered (EPBC Act) Hoary sunray (*Leucochrysum albicans* var. *tricolor*) were recorded.

Weed cover is low and includes the exotic species Sheep sorrel (*Acetosella vulgaris*) and Catsear (*Hypochaeris radicata*).

Vegetation in **Biometric Plot 4** conforms to *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC* under the EPBC Act and *White Box Yellow Box Blakely's Red Gum Woodland EEC* under the BC Act.

**Biometric Plot 4 facing 0º (magnetic) (15/06/2017)**

**Biometric Plot 4 facing 90º (magnetic) (15/06/2017)**

**Biometric Plot 4 facing 180º (magnetic) (15/06/2017)**

**Biometric Plot 4 facing 270º (magnetic) (15/06/2017)**

**Biometric Plot 5 -** PCT 1330 - Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion (Low Condition Grassland)

**Biometric Plot 5** comprises recent plantings of likely Blakely's red gum (*Eucalyptus blakelyi*) and Yellow box (*Eucalyptus melliodora*) less than 20 cm high (identification of these seedlings will be confirmed during future monitoring when mature material is available). Parramatta wattle (*Acacia parramattensis*) is dispersed throughout the low condition grasslands.

Weed cover is high and consist mainly of Catsear (*Hypochaeris radicata*), Fireweed (*Senecio madagascariensis*), Serrated tussock (*Nassella trichotoma*), *Setaria parviflora* and Sheep sorrel (*Acetosella vulgaris*). Common native groundcover species include Purple wiregrass (*Aristida ramosa*), Weeping grass (*Microlaena stipoides*), Peach heath (*Lissanthe strigosa*) and *Gonocarpus tetragynus*.

This area has been subject to direct seeding activities subsequent to plot establishment.

**Biometric Plot 5 facing 0º (magnetic) (15/06/2017)**

**Biometric Plot 5 facing 90º (magnetic) (15/06/2017)**

**Biometric Plot 5 facing 180º (magnetic) (15/06/2017)**

**Biometric Plot 5 facing 270º (magnetic) (15/06/2017)**

**Photo Point 1 -** PCT 1330 - Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion (Moderate to Good Condition)

**Photo Point 1** comprises intact woodland dominated by Blakely's red gum (*Eucalyptus blakelyi*), Yellow box (*Eucalyptus melliodora*) and Argyle apple (*Eucalyptus cinerea*) with Apple box (*Eucalyptus bridgesiana*) occurring less frequently. The sparse shrub layer is dominated by Sifton bush (*Cassinia arcuata*) and Peach heath (*Lissanthe strigosa*). Common groundcover species include Stinking pennywort (*Hydrocotyle laxiflora*), Wattle mat-rush (*Lomandra filiformis* subsp. *coriacea*), *Poa sieberiana*, *Austrostipa* sp. and Purple wiregrass (*Aristida ramosa*).

Weeds are absent.

Vegetation in Photo Point 1 conforms to *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC* under the EPBC Act and *White Box Yellow Box Blakely's Red Gum Woodland EEC* under the BC Act.

**Photo Point 1 facing 0º (magnetic) (16/06/2017)**

**Photo Point 1 facing 90º (magnetic) (16/06/2017)**

**Photo Point 1 facing 180º (magnetic) (16/06/2017)**

**Photo Point 1 facing 270º (magnetic) (16/06/2017)**

**Photo Point 2 -** PCT 1330 - Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion (Low Condition Grassland)

**Photo Point 2** is dominated by regenerating Blakely's red gum (*Eucalyptus blakelyi*) and Argyle apple (*Eucalyptus cinerea*). The shrub layer is limited to Sifton bush (*Cassinia arcuata*). The ground layer is dominated by the exotic species including Serrated tussock (*Nassella trichotoma*), Catsear (*Hypochaeris radicata*) and *Trifolium* sp. Native groundcover species include Weeping grass (*Microlaena stipoides*) and *Juncus* sp. Weed cover is high.

This area is naturally regenerating.

**Photo Point 2 facing 0º (magnetic) (16/06/2017)**

**Photo Point 2 facing 90º (magnetic) (16/06/2017)**

**Photo Point 2 facing 180º (magnetic) (16/06/2017)**

**Photo Point 2 facing 270º (magnetic) (16/06/2017)**

## ANNEXURE C MANAGEMENT OF THE CONSERVATION AREA

### ITEM 1: MANAGEMENT AIMS AND ACTIONS REQUIRED TO BE UNDERTAKEN FOR MINIMUM PERIOD OF 10 YEARS. ALL ACTIONS TO BE UNDERTAKEN IN ACCORDANCE WITH ANNEXURE C ITEM 3 PERMISSIONS AND GUIDELINES.

| Aim | Timing | Management action | Indicative minimum cost for management action |
|---|---|---|---|
| **Maintenance of active revegetation areas (i.e. weeding, tubestock planting or direct seeding)** | Years 1-10 | Weed control will be undertaken across the conservation area annually as per a Weed Management Plan that is developed for the site and reviewed every three years post monitoring.<br>Direct seeding completed | **$2,200 per annum**<br>**$22,000 total** |
| **Installation of additional fencing to exclude stock from the Conservation Area** | Year 1-5 | Install 1,190m of new fence.<br>Cost of new fencing $10/m | **$11,900 total**<br>**Completed** |
| **Removal of Unnecessary Internal Fences** | Years 1-5 | Remove 2,840 m unnecessary internal fences within Conservation Area. (Does not include the removal of the internal fence surrounding the Cultural Heritage Management Zone). | **$12,496 total**<br>**Completed** |
| **Fence maintenance to exclude stock from the Conservation Area** | Years 2-10 | Maintain fences as required. Provision of three subsequent rounds of fence maintenance (Years 3, 6 and 9). Total perimeter fence length is 11,950 m. Costing of maintenance based on 1/20$^{th}$ new fencing rate ($10.m). | **$5,975 per round**<br>**$17, 925 total** |
| **Fire management hazard reduction burn (If required)**<br>**Undertaken in collaboration with NSW Rural Fire Service or fire management contractor to implement mosaic or partial area hazard reduction burn.** | Year 5 and 10. | Implement hazard reduction burn during low risk fire season. Must take into account the recommended fire intervals given in the *Bush Fire Environmental Assessment Code for New South Wales* (Rural Fire Service February 2006) and the guidelines contained in the *Threatened Species Hazard Reduction Lists for the Bush Fire Environmental Assessment Code* or equivalent replacements. Current recommendations are:<br>• Box-Gum Woodland CEEC should not be subjected to fires more frequently than once every five years. Slashing is permitted for hazard reduction, however | $5,000 per fire round<br>**$10,000 total** |

| | | | |
|---|---|---|---|
| | | no trittering or tree removal. | |
| **Plant Tubestock in Conservation Area** | Year 2-5 | Some areas of existing native pasture will be revegetated using tube stock.<br>The final target rate for box-gum grassy woodlands is 30/40 stems per hectare of canopy species with scattered shrubs (Rawlings et al 2010). In order to allow for seedling mortalities as revegetation areas mature, it is recommended that small trees (trees that have grown to less than 10cm diameter at breast height) have a density of at least 400 stems per hectare. As trees mature to dimensions greater than 10cm diameter and taller than breast height it is considered that 250 stems per hectare is a minimum target density.<br>In order to account for mortality of seedlings a planting rate of 600 stems per hectare has been allowed. | **$33,000 total** |
| | Site preparation - Year 2 following propagation | Slashing / mowing of tubestock area prior to planting. | **$5,280** |
| **Monitoring of revegetation / regeneration areas and Annual Reports for Monitoring Program** | Years 2-10 | Annual reports to be prepared according to specifications in Annexure D Monitoring Program.<br>Annual monitoring will be conducted in order to determine the success or otherwise of revegetation works, weed control and the progress of natural regeneration.<br>Permanent monitoring plots have been established within the Conservation Area. | **$10,500** per annum<br>**$94,500** total |
| Aboriginal Places and Aboriginal Objects | Years 1-10 | The Owner must preserve and protect Aboriginal Places and Aboriginal Objects and other sites of cultural heritage significance on or in the Conservation Area and in accordance with the relevant legislation.<br>The Owner must ensure that these protective measures are undertaken in accordance with the management measures provided in the Lynwood Quarry Aboriginal Heritage Management Plan (AHMP) or other approved AHMP | **$11,932 per annum**<br>**$119,320 total** |

| | | | |
|---|---|---|---|
| | | This includes requirements to undertake an ongoing monitoring program | |
| Pest animal monitoring and control (local co-ordination with Local Land Services and DPIE ) | Years 1-10 | Feral animal control (bait, trapping and/or shooting). Years 3, 6 and 9. Management actions to be undertaken to be determined in consultation with contractor. | **$3,300 per round**<br>**$9,900 total** |
| Managing visitor impacts (visitors include DPIE inspectors; weed control contractors; fire maintenance contractors; NSW Rural Fire Service; fencing and maintenance contractors and the Owner) | Years 1-10 | The Owner must ensure that visitor disturbance to the Conservation Area is minimised by keeping visitors to tracks and trails except for management purposes and ensuring all visitor vehicles and equipment entering the Conservation Area are clean and free from weeds and/or seeds. Guidance specified in Annexure C Item 3 Visitation and research must be used. | N/A |
| Threatened species, populations and endangered ecological communities (EEC) | Years 1-10 | The Owner must follow current best practice advice regarding the management of threatened species when carrying out any activities within the Conservation Area. This advice may be provided by Department of Planning, Industry and the Environment, Local Land Services, the Commonwealth Department of Agriculture, Water and the Environment or subsequent authorities. | N/A |
| Signage Installation | Years 1-10 | Commitment of Aboriginal Heritage Management Plan (AHMP) | **$368 total** |
| **Total indicative cost for 10 year period** | | | **$336,689** |

**ANNEXURE C MANAGEMENT OF THE CONSERVATION AREA**
**ITEM 2: MANAGEMENT ACTIONS REQUIRED TO BE UNDERTAKEN FROM YEAR 11 ONWARDS.**
**ALL ACTIONS TO BE COMPLETED ACCORDING TO ANNEXURE C ITEM 3 PERMISSIONS AND GUIDELINES.**

| Issue | Management action |
|---|---|
| Exotic plants | The Owner must take reasonable measures in relation to the control of exotic plants.<br>Techniques specified in Annexure C Item 3 must be used. |
| Pest animals | The Owner must take reasonable measures in relation to monitoring of pest animals.<br>Techniques specified in Annexure C Item 3 must be used. |
| Threatened species, populations and endangered ecological communities (EEC) | The Owner must follow current best practice advice regarding the management of threatened species when carrying out any activities within the Conservation Area. This advice may be provided by DPIE, Local Land Services, the Commonwealth Department of Environment and Energy or subsequent authorities. |
| Managing visitor impacts (visitors include DPIE inspectors; weed control contractors; fire maintenance contractors; NSW Rural Fire Service; fencing and maintenance contractors and the Owner) | The Owner must take reasonable measures to ensure that visitor disturbance to the Conservation Area is minimised by keeping visitors to tracks and trails except for management purposes and ensuring all visitor vehicles and equipment entering the Conservation Area are clean and free from weeds and/or seeds. Guidance specified in Annexure C Item 3 Visitation and research must be used. |
| Maintain vehicle access to Conservation Area for visitor management, fire management, weed and fencing management | The Owner must take reasonable measures to ensure that vehicle access is maintained by maintaining and repairing access trails as required. Techniques specified in Annexure C Item 3 must be used. |
| Monitoring and Reporting | The Owner must complete a monitoring report at least every 3 years as described in Clause 8 of the Conservation Agreement. |
| Livestock | The Owner must remove any livestock which have entered the Conservation Area as soon as practical. |
| Aboriginal Places and Aboriginal Objects | The Owner must preserve and protect Aboriginal Places and Aboriginal Objects and other sites of cultural heritage significance on or in the Conservation Area and in accordance with the relevant legislation. |
| Fencing | The Owner must take reasonable measures to construct and maintain fences along the boundaries of the Conservation Area where adjacent land use cause or are likely to cause adverse impacts on or in the Conservation Area. Techniques specified in Annexure C Item 3 must be used. |

## ANNEXURE C ITEM 3: PERMISSIONS AND GUIDELINES

**Control of pest animals and non-indigenous fauna** (in addition to pest animal control management actions in Items 1 and 2 of Annexure C to the Conservation Agreement)

a) Participate in community pest animal control programs, and encourage neighbours to implement pest animal control programs. Contact your Local Land Services office or National Parks and Wildlife Service Area office to find out where community control programs are occurring.

b) Methods for pest animal control can include; shooting, trapping and use of poisonous baits consistent with advice from DPIE and Local Land Services. Use control methods identified as 'humane' as defined in the NSW Codes of Practice and Standard Operating Procedures for Humane Pest Vertebrate Control (Control Capture and Destruction of Feral Animals in Australia) as developed by the NSW Department of Primary Industries.

c) Pest animal control activities to be determined based on density and species of pest animals. Methods for monitoring pest animal activity should include:

    i) observations and/or hearing calls,

    ii) the use of standard "sand plots",

    iii) the use of non-poisoned "bait stations",

    iv) scat counts, and

    v) other quantitative techniques which can be designed in discussion with DPIE or Local Land Services.

**Control of weeds and exotic plants** (in addition to weed control management actions in Items 1 and 2 of Annexure C to the Conservation Agreement)

d) Apply a range of techniques including:

    i) Removal of weeds by hand ensuring that all plant parts which can reproduce are removed and that soils do not become prone to erosion.

    ii) Use of carefully selected herbicide according to label directions and/or current off label permit, ensuring minimal off target damage.

    iii) Use of appropriate control measures as recommended in the Department of Primary Industries Noxious and Environmental Weed Control Handbook 6th Edition 2014 or equivalent replacements for control of weeds, ensuring minimal off target damage.

    iv) Use of forestry mulching or slashing machinery only with prior written permission from DPIE.

    v) Ensure control programs are commenced when timing and extent of weed removal will minimise adverse effects on wildlife (weeds may provide protection or habitat for native fauna). Dense thickets of lantana should be removed gradually in mosaic patterns to minimise disturbance to the habitat of native animals.

    vi) Other weed control methods may only be undertaken with prior written permission of DPIE.

    vii) Contact DPIE if any uncertainty exists regarding weed control methods.

**Cultural heritage**

e) Recording and management of any newly identified Aboriginal Objects or artefacts, in consultation with DPIE (and the relevant local Aboriginal community where applicable).

**Development**

f) Carrying out any development as described in the Conservation Agreement and maintaining development (including existing fire trails, access trails and infrastructure), with the following conditions:

i) clear a corridor not greater than 3 metres wide during construction or for maintenance for the installation of fences or other agreed rural structures;

ii) move fallen timber and any other obstructions to maintain access trails, tracks and fences;

iii) where clearing is permitted under the Agreement and necessary, undertake all works in a manner that minimises disturbance to soil and hydrological characteristics.

**Fencing, tracks and trails**

g) Construction and maintenance of all fences using wildlife friendly materials including plain wire (non-barbed) on top and bottom strands.

h) Construction of any new internal fence, access track or trail only with prior written approval from DPIE.

i) Maintaining existing access walking tracks in the Conservation Area to a maximum width of 2m.

j) Maintaining existing access vehicular trails in the Conservation Area to a maximum width of 4m with 1m either side permissible for clearing.

k) Removal of old fences and closing of unwanted tracks within the Conservation Area and facilitate restoration of indigenous vegetation according to Annexure C Item 3 (points 'n' and 'o' over page).

**Fire management** (in addition to fire management actions in Item 1 of Annexure C to the Conservation Agreement)

l) Using fire hazard reduction burns and controlled burning which take into account the recommended fire intervals given in the *Bush Fire Environmental Assessment Code for New South Wales* (Rural Fire Service February 2006) and the guidelines contained in the *Threatened Species Hazard Reduction Lists for the Bush Fire Environmental Assessment Code* or equivalent replacements.

Current recommendations are:

| PCT | Minimum Interval | Maximum Interval |
|---|---|---|
| 1330 Yellow Box – Blakely's Red Gum Grassy Woodland on the Tablelands, South Eastern Highlands Bioregion | 5 | 40 |
| 1093 Red Stringybark – Brittle Gum – Inland Scribbly Gum, dry open forest of the Tablelands, South Eastern Highlands Bioregion | 7 | 30 |
| Grasslands | 2 | 10 |

i) Flowering of Hoary sunray (*Leucochrysum albicans* var. *tricolor*) occurs from spring to summer. It is recommended that burns do not occur during this period or within a

minimum of one month following completion of flowering so as not to interfere with seed set.

ii) Box-Gum Woodland CEEC should not be subjected to fires more frequently than once every five years. Slashing is permitted for hazard reduction, however no trittering or tree removal.

iii) wherever possible canopy or crown fires should be avoided.

iv) wherever possible no more than 50% of the Conservation Area should be burnt in any twelve month period.

v) both live and dead trees with hollows should be protected from burning as far as practicable in order to preserve nesting habitat for hollow dwelling animals.

vi) Regenerating/revegetation areas have been classed as grassy woodlands given their expected structural formation over the life of the project. Fire within regenerating/revegetated areas should be excluded for at least 15 years to allow the build up of a soil seed bank.

m) Lighting a fire, or causing a fire to be lit on the Conservation Area if it complies with the *Rural Fires Act 1997* (NSW), and:

i) the lighting of the fire is a necessary component of bush fire hazard reduction work carried out in accordance with a notice served on the Owner under the Rural Fires Act 1997 (NSW) or other applicable legislation; or

ii) life or property is in immediate threat by bush fire and the lighting of the fire is reasonably necessary to protect life or property; or

iii) the fire is a camp fire, subject to the compliance with the Rural Fires Act 1997 (NSW), or

iv) the Chief-Executive gives prior written consent to the lighting of the fire.

**Restoration of indigenous vegetation**

n) Restoration of native vegetation on the Conservation Area using a preferred method of encouraging and retaining natural regeneration. Preferred methods include:

i) bush regeneration

ii) brush mulching; and/or

iii) direct seeding.

o) Revegetation to establish indigenous plants to maintain the vegetation structure in keeping with the identified vegetation community, using species produced from material sourced locally and without fertilisers, where the ability to regenerate naturally within a reasonable time frame has been lost, or to prevent soil erosion.

**Seed collection**

p) Collection of seed on the Conservation Area for non-commercial use in accordance with Guidelines and Codes of Practice developed by Florabank (www.florabank.org.au), or subsequent equivalent and with the following limitations and permissions:

i) Collect seed in the Conservation Area only if seed of the particular species and genotype is not available elsewhere, or if the seed collected is intended for seedlings that will be planted within the Conservation Area or adjacent to the Conservation Area.

ii) Seeds may be collected from within endangered ecological communities.

iii) Seeds may not be collected from species individually listed in Schedules 1or 2 to the BC Act without prior written approval from the Chief-Executive, or under a licence granted under section 132C of the NPW Act or Division 3 of the BC Act.

iv) Seeds may be collected from any protected species listed in Schedule 13 to the NPW Act.

v) Seeds may be collected from any other native species.

**Thinning of indigenous vegetation**

q) Thinning of regenerating indigenous species which are altering the structure of the vegetation in the Conservation Area and/or reducing the Conservation Values only with prior written approval from the Chief-Executive DPIE.

**Threatened species**

r) Implementing any measures included in recovery plans for any threatened species, population or ecological communities which are or may be found in the Conservation Area.

s) Implementing other specific management advice from DPIE for any threatened species, populations or ecological communities which are or may be found in the Conservation Area.

**Visitation and research** (in addition to management actions in Items 1 and 2 of Annexure C to the Conservation Agreement)

t) Visitation, research and community use at a level that does not adversely impact on the Conservation Values or the amenity of the Owner. Research projects must be first discussed with DPIE before being carried out.

## ANNEXURE D - MONITORING PROGRAM

(a) The Owner must engage a suitably qualified person (such as an ecologist) to undertake a monitoring event in each year, beginning in 2018 (Monitoring Event).

(b) Each Monitoring Event must include:

i) **photo monitoring** – 4 photos are required to be taken at each of the 7 monitoring photo points. Photos must be taken from the exact location and bearing to allow subsequent comparison and assessment. Photo point locations are provided in **Table 1** of Annexure D to the Conservation Agreement (**below**). Baseline photographs are provided in Annexure A to the Conservation Agreement;

ii) **quadrat monitoring** – quadrat data must be collected at each of the 5 floristic quadrat monitoring sites. Quadrat locations are provided in **Table 1** of Annexure D to the Conservation Agreement (**below**). Results must be compared to baseline and benchmark quadrat data which is provided in **Tables 1** and **2** of Annexure D to the Conservation Agreement **below**.

iii) a **walk through assessment** to record opportunistic sightings within the Conservation Area including:

i. fire events or impacts of fire management
ii. weeds (including compiling a list of exotic species and recording new weed infestations including location and extent)
iii. pest animals (species and location must be recorded, including evidence of pest animals such as burrows, scats or disturbance)
iv. visitor impact and vehicle access (including evidence of any recent usage, and the presence of any new access tracks)
v. rubbish dumping
vi. natural regeneration of previously disturbed areas; and
vii. sightings of threatened species.

(c) After each Monitoring Event, the Owner must produce a monitoring report on the Conservation Area by March of each year, beginning in 2018 (Monitoring Report).

The Monitoring Report must include:

i. a description of all completed management actions undertaken in the previous 12 month period;
ii. copies of all receipts from third party contractors engaged by the Owner to undertake management actions listed in items 1 and 2 of Annexure C to the Conservation Agreement;
iii. completed monitoring data sheets (including photographs) using the template provided in **Table 3** of Annexure D to the Conservation Agreement **(below)**;
iv. a discussion of the changes recorded at monitoring points and quadrats;
v. a discussion of the condition of Conservation Values;
vi. a discussion of effectiveness of any management actions implemented; and
vii. recommendations and proposed management actions to be performed in following year(s).

The Monitoring Report must be submitted to DPIE within **21 days** of it being received by the Owner.

(d) The Monitoring Event and the Monitoring Report comprise the monitoring program (Monitoring Program). The Owner must complete the Monitoring Program to the satisfaction of DPIE, for a minimum period of 10 years from the date of the Conservation Agreement.

## ANNEXURE D TABLE 1 - MONITORING POINT LOCATIONS AND CORRESPONDING VEGETATION COMMUNITIES REPRESENTED AS AT JUNE 2017

| Photo Point | Quadrat N0 | Easting/Northing GDA 94 MGA 56 | | Photo bearing degrees | Vegetation Community Represented |
|---|---|---|---|---|---|
| **Biometric Plots** | | | | | |
| - | **Biometric Plot 1** | 0771831 | 6153851 | 0º, 90 º, 180º, 270 º | PCT 1093 - Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion *Moderate to Good Condition* |
| - | **Biometric Plot 2** | 0771682 | 6154105 | 0º, 90 º, 180º, 270 º | PCT 1093 - Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion *Low Condition Grassland* |
| - | **Biometric Plot 3** | 0771710 | 6152950 | 0º, 90 º, 180º, 270 º | PCT 1330 - Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion *Moderate to Good Condition* |
| - | **Biometric Plot 4** | 0771834 | 6152947 | 0º, 90 º, 180º, 270 º | PCT 1330 - Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion *Derived Native Grassland Condition (CEEC)* |
| - | **Biometric Plot 5** | 0772257 | 6152963 | 0º, 90 º, 180º, 270 º | PCT 1330 - Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion *Low Condition Grassland* |
| **Photo Points** | | | | | |
| **Photo Point 1** | - | 0769654 | 6153932 | 0º, 90 º, 180º, 270 º | PCT 1330 - Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion *Moderate to Good Condition (CEEC)* |
| **Photo Point 2** | - | 0769738 | 6153980 | 0º, 90 º, 180º, 270 º | PCT 1330 - Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion *Low Condition Grassland* |

## ANNEXURE D TABLE 2 – BIOMETRIC VEGETATION TYPE BENCHMARKS AND BASELINE QUADRAT SCORES AS AT JUNE 2017

| Photo Point | Quadrat No | Native species richness | Overstorey cover %pfc | Mid-storey cover %pfc | Ground cover – grasses %pfc | Ground cover – shrubs %pfc | Ground cover – other %pfc | Proportion oversotrey regen | Exotic cover | Number of Trees with Hollows | Total length of fallen logs |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1093 - Red Stringybark - Brittle Gum - Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion** | | | | | | | | | | | |
| **Benchmark values^** | | 17 | 28.5-33.5 | 0-15 | 1-10 | 8-12.5 | 14.5-18.5 | NA | NA | 1 | 50 |
| Biometric Plot 1 | | 13 | 8.9 | 3.5 | 8 | 0 | 10 | 0.8 | 0 | 7 | 85 |
| Biometric Plot 2 | | 8 | 0 | 0 | 6 | 0 | 4 | 0.8 | 100 | 0 | 0 |
| **1330 - Yellow Box - Blakely's Red Gum grassy woodland on the tablelands, South Eastern Highlands Bioregion** | | | | | | | | | | | |
| **Benchmark values^** | | 20 | 17-27 | 7.5-12.5 | 24-30 | 0-5 | 12.75-18.75 | NA | NA | 0 | 0 |
| Biometric Plot 3 | | 17 | 4 | 4.5 | 76 | 16 | 10 | 0.75 | 20 | 1 | 93 |
| Biometric Plot 4 | | 15 | 0 | 0 | 78 | 12 | 16 | 0.75 | 4 | 0 | 0 |
| Biometric Plot 5 | | 10 | 0 | 0 | 52 | 0 | 2 | 0.75 | 60 | 0 | 1 |

^Data for the Hawkesbury Nepean CMA as per the Vegetation Information System (VIS) at June 2017.

## ANNEXURE D TABLE 3 - MONITORING DATA SHEET

| Monitoring Data Sheet | | | |
|---|---|---|---|
| **Monitoring Point Number** | | **Date** | |
| **Vegetation Community** | | | |
| **1. Site Photo(s)Taken** | | | |
| **2. Floristic BioMetric attributes** | | | |
| Native cover | | | |
| Overstorey: | | | |
| Midstorey: | | | |
| Groundcover(grass): | | | |
| Groundcover (shrub): | | | |
| Groundcover (other): | | | |
| Native species richness: | | | |
| Proportion of canopy species regenerating | | | |
| Exotic cover | | | |
| Number of trees with hollows | | | |
| Total length of fallen logs | | | |
| **3. Opportunistic observations** | **GPS coordinates** | **Photo number** | **Observations** |
| Natural regeneration of disturbed areas | | | |
| Threatened species sightings | | | |
| Fire event/fuel | | | |
| Weeds | | | |
| Pest animals | | | |
| Visitor impact/vehicles | | | |
| Rubbish dumping | | | |

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**Director: Holcim (Australia) Pty Ltd**

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**Secretary: Holcim (Australia) Pty Ltd**

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**Chief Executive**

**<<End of Agreement to be signed by all parties to the Agreement>>**