

# MACKAS SAND PROJECT

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INDEPENDENT ENVIRONMENTAL  
AUDIT

*for Mackas Sand Pty Limited*

*27 June 2024*



## DOCUMENT CONTROL

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### Document Status

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### Document Details

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<b>Our Reference</b>	240627 Mackas Sand Project IEA Report

## LIMITATIONS OF REPORT

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In preparing this Independent Environmental Audit on behalf of Mackas Sand Pty Limited, James Bailey and Associates has assessed all activities appropriate and necessary to evaluate the environmental status of the Mackas Sand Project during the audit period. James Bailey and Associates has addressed all technical matters which might reasonably be considered to be relevant to such an audit conducted to standards which apply in New South Wales. Based on discussions with appropriate staff and a review of available documentation, it is James Bailey and Associates' opinion that the potential critical environmental issues associated with the site and operations are those discussed in this report. However, James Bailey and Associates can only advise on the basis of the information available to them and therefore cannot dismiss absolutely the possibility that parts of the site, or adjacent properties, may give rise to additional issues.

The conclusions presented in this report are professional opinions based solely upon James Bailey and Associates' interpretation of the documentation reviewed, interviews and conversations with personnel knowledgeable about the site and other available information, as referenced in this report. These conclusions are intended exclusively for the purposes stated herein, at the site listed, and for the project indicated.

This report does not, and does not purport to, give legal advice on the actual or potential environmental liabilities of any individual or organisation, or to draw conclusions as to whether any particular circumstances constitute a breach of relevant legislation.

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# 1. INTRODUCTION

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## 1.1 BACKGROUND

James Bailey & Associates (JBA) has been commissioned by Mackas Sand Pty Limited (Mackas Sand) to conduct an Independent Environmental Audit (IEA) for the Mackas Sand Project (the Project) (PA 08\_0142). The Project is a sand quarry that operates within Lot 218 DP 1049608 and Lot 220 DP 1049608, located near Salt Ash, approximately 35 km north-east of Newcastle in the Port Stephens Local Government Area.

PA 08\_0142 approves the extraction and transport of up to 1,000,000 tonnes of product from Lot 218 and Lot 220 each calendar year.

The Project was granted PA 08\_0142 on 20 September 2009 under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act). **Figure 1** shows the layout of the Project as approved under PA 08\_0142.

A modification to PA 08\_0142 (MOD 1) for the reduction of extraction depths and for use of an alternative access route for Lot 218 was approved by the NSW Planning and Assessment Commission on 30 September 2013. PA 08\_0142 was again modified on 15 March 2016 to allow an increase in maximum hourly truck movements from Lot 218 (MOD2).

A third modification application (MOD3) was submitted in 2020 for approval to temporarily increase the transportation limit from Lot 218 by 100,000 tonnes for the 2020 calendar year. The MOD3 application was withdrawn in January 2021 due to time constraints.

The IEA has been conducted generally in accordance with the NSW DPIE 'Independent Audit Post Approval Requirements May 2020' (IEA Guidelines).

## 1.2 AUDIT TEAM

The IEA was completed by Dorian Walsh (Certified Auditor Certificate Number: 201881) and Travis Edwards of JBA. The following technical specialists also assisted with the IEA:

- Clayton Richards (Minesoils) – Rehabilitation Specialist;
- Patrick McEvoy (EcoResolve) – Biodiversity Specialist; and
- Bryce McKay (Australasian Groundwater & Environmental Consultants (AGE)) – Groundwater Specialist.

A copy of the Department of Planning, Housing and Infrastructure DPHI endorsement of the IEA team is included in **Appendix A**. The JBA Independent Environmental Audit Report Declaration for this IEA is included as **Appendix B**.

## 1.3 AUDIT OBJECTIVES

The IEA assesses Project activities during the audit period (see **Section 1.5**) and compliance with key regulatory approvals for the Project. The IEA assessed the status of conditions and commitments from:

- PA 08\_0142; and
- PA 08\_0142 management plans, strategies and programs.

## 1.4 AUDIT SCOPE

The IEA scope is defined under Schedule 5, Conditions 5 and 6 of PA 08\_0142 which is reproduced in **Table 1**.

## 1.5 AUDIT PERIOD

The IEA covers the period from 5 June 2021 to 2 May 2024, the date of the audit site visit (the audit period).

**Table 1 PA 08\_0142 IEA Requirements**

Condition	Requirement	Report Section
Schedule 5 Condition 5	Within 2 years of the date of the commencement of quarrying operations, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:	This IEA report
Schedule 5 Condition 5 (a)	Be conducted by suitably qualified, experienced and independent team of experts whose appointment has been approved by the Secretary;	<b>Section 1.2 and Appendix A</b>
Schedule 5 Condition 5 (b)	Assess the environmental performance of the project, and its effects on the surrounding environment;	<b>Section 3.6 and Appendix C</b>
Schedule 5 Condition 5 (c)	Assess whether the project is complying with the relevant standards, performance measures and statutory requirements;	<b>Section 3 and Appendix C</b>
Schedule 5 Condition 5 (d)	Review the adequacy of any strategy/plan/program required under this approval; and, if necessary;	<b>Section 3.6.7 and Appendix C</b>
Schedule 5 Condition 5 (e)	Recommend measures or actions to improve the environmental performance of the project, and/or any strategy/plan/program required under this approval.	<b>Section 4 and Appendix C</b>
Schedule 5 Condition 6	Within 1 month of completion of each Independent Environmental Audit, the Proponent shall submit a copy of the audit report to the Secretary and relevant agencies, with a response to any of the recommendations in the audit report.	N/A; Mackas Sand to complete

Figure 1 PA o8\_o142 Project Layout



Source: Department of Lands (2003)



- Legend**
- Lot Boundaries (218 & 220)
  - Mackas Sand (existing operations)
  - Unimin
  - Hunter Quarries
  - Quality Sands and Ceramics
  - Proposed Operational Area
  - Proposed Weighbridge
  - Site Access
  - Proposed Site Access

FIGURE 2.1  
The Study Area

## 2. AUDIT METHODOLOGY

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### 2.1 OVERVIEW

This IEA was undertaken in accordance with the requirements of PA 08\_0142 (see **Section 1.4**) and the IEA Guidelines. **Appendix A** includes a copy of DPHI endorsement for the IEA team (see **Section 1.2**) and confirmation over audit requirements.

The compliance status of Project activities during the audit period was determined by assessment of key approval documents regulating site activities (see **Section 3.1**) and a desktop review of all plans, strategies, programs, monitoring data and correspondence relevant to the audit period. The desktop review was used as a basis for this IEA report and identified potential compliance issues that were verified during the Project site inspection and interviews with key Mackas Sand personnel.

The audit methodology also included consultation with DPHI, Environment Protection Authority (EPA), Port Stephens Council, WaterNSW, Worimi Local Aboriginal Land Council (LALC), NSW Department of Climate Change, Energy and Environment (DCCEE) - Environment and Heritage and the Chair of the Project Community Consultative Committee (CCC) to seek any specific environmental issues that should be a focus of the IEA (see **Section 2.5**).

### 2.2 IEA PREPARATION

Preparation of the IEA involved:

- Submission of an information request to Mackas Sand seeking evidence to verify the compliance status of Project activities during the audit period;
- Engagement with key regulatory agencies for the Project regarding any specific issues that should be a focus of the IEA;
- Submission of an audit agenda to Mackas Sand (see **Appendix E**) and confirmation over the scope of the site inspection component of the IEA;
- Desktop review of documentation provided by Mackas Sand to determine the compliance status of approval and licencing conditions, identify good site practice and opportunities for improvement, in accordance with the requirements of the IEA Guidelines; and
- Preparation of compliance tables and protocols for the site inspections, including a checklist of specific regulatory requirements obtained from documents provided.

### 2.3 COMPLIANCE EVALUATION

The IEA consisted of a detailed desktop review of approval documentation and a site inspection. The findings of this IEA were based on verifiable evidence collected by:

- Review of documentation provided by Mackas Sand (including document reference, revision numbers, dates and authors);
- Interviews with site personnel; and
- Inspection of Lot 218 and Lot 220 activities and processes on 2 May 2024. Selected images taken during the site inspection are included as **Appendix F**.

Bret Jenkins was the primary contact for the audit and was present during the audit site inspection.

A list of the key documents reviewed for the IEA is found in **Section 3.1**. The evidence that was used to determine the compliance status of each condition of PA o8\_0142 has been documented in the tables provided in **Appendix C**, along with relevant observations, notes and recommended opportunities for improvement.

## **2.4 SITE INSPECTION**

A site inspection of PA o8\_0142 Lot 218 and Lot 220 was conducted by JBA on 2 May 2024 to ensure that all aspects of environmental management and performance of the Project were reviewed.

At the time of audit, Mackas Sand were undertaking the following activities:

- Sand extraction from Lot 218 only; and
- Progressive rehabilitation of Lot 220.

### **2.4.1 Opening Meeting**

The IEA site inspection commenced with an opening meeting; attendees included Dorian Walsh (JBA), Travis Edwards (JBA) and Bret Jenkins (Mackas Sand). The briefing included clarification of the audit objectives, scope, resources required and the methodology of the IEA.

### **2.4.2 Site Overview and Orientation Session**

An orientation session was conducted by Mackas Sand site personnel to provide JBA with a general overview of the Project during the audit period, an indication of the environmental setting, near neighbours, safety and emergency requirements and known environmental issues.

### **2.4.3 IEA Interviews**

The IEA included interviews with key Mackas Sand personnel involved with the management and operation of the Project. The IEA interviews during the site inspection were conducted to assist with verifying the compliance status of the Project. Mackas Sand personnel interviewed as part of the IEA included:

- Bret Jenkins (Mackas Sand HSE Manager);
- James Mackenzie (Site Coordinator); and
- Robert Mackenzie (Quarry Manager).

### **2.4.4 Focused Site Inspection**

A focused site inspection was conducted following the initial site overview and opening meeting. The purpose of the site inspection was to review specific operation and environmental aspects of the Project and to assess the Project's environmental management systems and performance in detail.

### **2.4.5 Site Documentation Review**

Relevant site documentation was reviewed with Mackas Sand personnel during the site inspection interviews to verify compliance. Key documents reviewed included PA o8\_0142, monitoring results, correspondence with regulatory agencies, Environmental Management Plans and procedures.

### **2.4.6 Follow Up Auditing**

Follow up interviews and document reviews were conducted to clarify any outstanding compliance issues to be resolved prior to inclusion in the final IEA report.

### 2.4.7 Exit Briefing

An exit briefing was conducted prior to JBA departure from the site. Attendees of exit briefing included Dorian Walsh, Travis Edwards and Bret Jenkins. The exit meeting included findings of the preliminary audit, recommendations and explanation of actions required by Mackas Sand and by JBA to complete the audit process required under the IEA Guidelines.

## 2.5 AUDIT CONSULTATION

Correspondence was sent to the DPHI, EPA, PSC, WaterNSW, Worimi LALC, NSW DCCEEW Environment and Heritage and the Project’s CCC requesting their input into the scope of the IEA. Responses were received from DPHI, EPA, PSC and the Project CCC Chair (see **Appendix D**), with comments provided in **Table 2**.

**Table 2 Feedback from Regulatory Consultation**

Comment	Response
<b>Department of Planning, Housing and Infrastructure</b>	
In regards to the 2024 IEA of Mackas Sand Quarry (MPo8_0142), in addition to assessing the environmental performance and compliance of the project, could you please consider the following in further detail: <ul style="list-style-type: none"> <li>Monitoring and compliance of groundwater requirements levels and extraction depths (Groundwater Management Plan)</li> </ul>	Comments on groundwater management are discussed in <b>Section 3.6.6</b> . Non-compliances and recommendations are included in <b>Table 6</b> and <b>Table 7</b> .
<ul style="list-style-type: none"> <li>Lot 220 – Rehabilitation progress and monitoring incl record keeping</li> </ul>	Comments on rehabilitation are included in <b>Section 3.6.4</b> and <b>Appendix C</b>
<ul style="list-style-type: none"> <li>Management, record keeping and monitoring of BOS areas and Biodiversity Monitoring Program</li> </ul>	Comments on rehabilitation and biodiversity offsets are included in <b>Section 3.6.4</b> and <b>Appendix C</b> .
<ul style="list-style-type: none"> <li>A review of the adequacy of all management plans and provide recommendation of measures or actions to improve the environmental performance of the project</li> </ul>	Comments on management plans are included in <b>Section 3.6.7</b> and <b>Appendix C</b> . Recommendations made to improve the environmental performance of the Project are provided in <b>Section 4</b> .
<ul style="list-style-type: none"> <li>Boundary indicators of project (IE. survey peg?, GIS?) and compliance with them</li> </ul>	Comments on boundary delineation and extraction controls are included in <b>Section 3.6.2</b> and <b>Appendix C</b> .
<ul style="list-style-type: none"> <li>Website requirements implemented?</li> </ul>	Comments on the Mackas Sand website are included in <b>Section 3.6.7</b> and <b>Appendix C</b> .
<ul style="list-style-type: none"> <li>In addition to the parties you have mentioned, could you also consult with the Worimi Local Aboriginal Land Council in relation to any impacts/encroachment to their land at Lot 229/1097995, directly to the west of Lot 218.</li> </ul>	JBA approached Worimi LALC for comment over the IEA scope. No feedback was received.
<b>EPA</b>	
I refer to your letter dated 17 April 2024 regarding input into the Independent Environmental Audit of the Mackas Sand Project. The NSW Environment Protection Authority (EPA) encourages independent audit towards proponents improving their environmental performance. We do not provide input as our role is to	Note only.

Comment	Response
<p>set environmental objectives for environmental/conservation management and manage outcomes.</p> <p>I refer you to the EPA’s public register <a href="http://www.epa.nsw.gov.au/prpoeo/index.htm">http://www.epa.nsw.gov.au/prpoeo/index.htm</a> where you can search for regulatory activity undertaken by the EPA for Environment Protection Licence 13218 for the Mackas Sand Project.</p>	
<b>Port Stephens Council</b>	
<p>There is no specific concerns that have been received in relation to the Mackas Sand Project that would inform the scope of the audit. Although, Council is mindful of potential encroachments and extraction outside of their approved areas due to the surrounding vegetation buffers. There is known sensitive biodiversity in these areas and nearby power easement.</p>	<p>Comments on boundary indicators and compliance with approved extraction areas are included in <b>Section 3.6.2</b>.</p>
<b>Mackas Sand Project Community Consultative Committee</b>	
<p>Confirming I canvassed the CCC members for any issues or concerns and as expected, there are none. Thanks for the opportunity to comment.</p>	<p>Note only.</p>

## 2.6 COMPLIANCE STATUS DESCRIPTORS

The compliance status of each condition reviewed during the IEA was assessed based on evidence provided and determined in accordance with the descriptors provided in the IEA Guidelines. No other terms have been used to describe the compliance status of conditions within this IEA.

### 3. AUDIT FINDINGS

#### 3.1 APPROVAL AND DOCUMENT LIST

Mackas Sand documentation for the IEA was sighted during a detailed desktop review and the audit site inspection of 2 May 2024. Approvals and documents assessed during the audit were related to:

- PA 08\_0142 approval conditions;
- PA 08\_0142 Statement of Commitments;
- PA 08\_0142 environmental management plans and procedures;
- Mackas Sand environmental monitoring data;
- Mackas Sand correspondence with regulatory agencies and other records of consultation; and
- Mackas Sand response to the findings and recommendations in the previous IEA.

The tables included in **Appendix C** discuss the documentation that was used to determine compliance with the conditions of PA 08\_0142 assessed during the IEA.

#### 3.2 COMPLIANCE PERFORMANCE

**Table 3** provides a summary of compliance for key Mackas Sand approvals and licensing during the audit period. A description of each identified non-compliance is provided in **Section 3.5** and **Appendix C**.

**Table 3** Summary of Compliance

Document	C	NC	NT	Note	Total
PA 08_0142	57	12	14	-	83
PA 08_0142 Statement of Commitments (SoC)	36	3	4	-	43

#### 3.3 SUMMARY OF AGENCY NOTICES AND ORDERS

Agency notices and orders received by the project during the audit period are summarised in **Table 4** below.

**Table 4** Summary of Agency Notices or Orders

Document	Document Summary	Status
DPE warning letter dated 01/07/21.	Warning letter from DPE regarding cattle grazing in the Biodiversity Offset Area (BOA) during 2020.	Mackas Sand has excluded cattle from the BOA. A standalone Biodiversity Offset Strategy (BOS) has been developed that was originally submitted to DPE for approval on 19/08/21. The BOS was subsequently reviewed and resubmitted to DPHI on 22/09/23 and feedback is yet to be received.  No evidence of cattle accessing the BOA was noted in Mackas Sand BOA inspections viewed during the audit

Document	Document Summary	Status
		(see <b>Appendix C</b> ).
DPE Notice to Furnish Information and Records (NFIR) dated 11/03/22.	DPE provided an NFIR to Mackas Sand in regard to a non-compliance identified within the Landscape Management Plan (LMP) during the 2021 IEA.	Mackas Sand provided the requested documents on 31/03/22.
DPE Show Cause Notice dated 3/05/22	DPE provided Mackas Sand with a Show Cause notice in relation to the LMP non-compliance.	Mackas Sand provided the information requested by DPE on 30/05/22.
DPE Penalty Notice dated 7/07/22.	Mackas Sand received a penalty notice for failing to comply with Schedule 3, Condition 25 of PA 08_0142 (LMP implementation)	Mackas Sand paid the penalty notice on 22/08/22.

### 3.4 ACTIONS FROM PREVIOUS AUDIT

A summary of the actions arising from the previous IEA (Hart, 2024) is provided in **Table 5**. Actions that have not been completed by Mackas Sand at the time of this audit have been retained in **Section 3.5** and **Section 4** below.

### 3.5 NON-COMPLIANCES DURING THE AUDIT PERIOD

**Table 6** lists the non-compliances identified during the audit period. Recommendations made in relation to these non-compliances are provided in **Section 4**, with further context provided in **Appendix C**.

**Table 5** Status of Actions Arising from Previous IEA

Ref	Previous IEA Findings	Mackas Sand Proposed Completion Date	2024 IEA Status
<b>PA 08_0142 Non-Compliances &amp; Recommendations</b>			
Schedule 2, Condition 2 Soc 1.1.1	Mackas Sand should ensure that appropriate processes are developed and implemented to action findings in this audit and ensure compliance with the requirements of the conditions of consent.	This audit period	Non-compliances against the conditions of PA 08_0142 were noted during the audit period. See <b>Appendix C</b> for further detail.
Schedule 3, Condition 4B	Actions to address truck movement issues were identified in reports to DPIE and have been implemented. No exceedances have been recorded since October 2019. No further action required.	Completed	Non-compliant. The number of laden trucks leaving Mackas Sand exceeded the approved limit on one occasion during the audit period. See <b>Appendix C</b> for further detail.

Ref	Previous IEA Findings	Mackas Sand Proposed Completion Date	2024 IEA Status
Schedule 3, Condition 22	Mackas Sand should ensure that a protocol for further groundwater modelling to confirm the limits to excavation depth is developed and included in the Ground Water Monitoring Program.	Completed	Compliant. A revised Soil and Water Management Plan (SWMP) that outlines model review requirements in the plan submitted to the DPE on 30/11/2021.
Schedule 3, Conditions 26 Soc 1.2.3	<p>Mackas Sands should ensure that all the requirements of the LMP are understood and implemented on site, including:</p> <ul style="list-style-type: none"> <li>Ensuring topsoil stockpiles are managed in accordance with the requirements of the LMP.</li> <li>Records should be maintained as evidence of completion of activities, including preclearance surveys and seed collection.</li> </ul>	Completed	Compliant. The Mackas Sand LMP was revised to include a section on training so that Mackas Sand staff are aware of their roles and responsibilities when implementing the requirements of the Mackas Sand LMP. The revised LMP was submitted to the DPE on 30/11/2021.
Schedule 5, Condition 2	Where non-compliances with limits/ performance criteria occur, Mackas Sand should notify the Department and other relevant agencies within 24 hours of the exceedance/incident.	Completed	Compliant. Two incidents requiring notification to the department occurred during the audit period. Both were reported to DPE within 24 hours of the incident being identified.
Schedule 5, Condition 5	Audits should be planned to ensure that they are commissioned within 3 years of the anniversary date of commencement of quarrying operations.	Completed	Compliant. Mackas Sand requested DPHI endorsement of the IEA team on 15/02/2024. JBA were endorsed by DPHI to complete this IEA on 13/03/2024 (see <b>Appendix A</b> ).
Schedule 5, Condition 6	Audit reports should be submitted to the Secretary within 1 month of the completion of the audit (date of inspection).	Completed	Not triggered. Mackas Sand to complete within one month of the date of this IEA report.
SoC 1.8.2	Mackas Sand should consider seeking approval for refuelling to be undertaken by site staff.	Q4 2021	<p>Compliant. A revised SWMP that states equipment on-site will be refuelled by appropriately qualified personnel in accordance with the Mackas Sand Operational Management Procedure (Umwelt, 2014) with no fuel or oil being stored onsite, was submitted to the DPE on 30/11/2021.</p> <p>A bunded refuelling tank for Project equipment is located on the site access road outside of the Lot 218 operational area.</p>

Ref	Previous IEA Findings	Mackas Sand Proposed Completion Date	2024 IEA Status
SOC 1.10.3	Mackas Sand should ensure that inspections are conducted and records of the inspections and outcomes are retained.	Q4 2021	Non-complaint. High visibility fencing around extraction areas within Lot 218 were not in place at time of audit. It was noted that this was at the request of the land holder (see <b>Table 6</b> and <b>Table 7</b> ).

**Table 6 IEA Non-Compliances**

Ref	Non-Compliance
<b>PA 08_0142</b>	
Schedule 2, Condition 2	Non-compliances (NC) with PA 08_0142 conditions were identified during this IEA as described below and in <b>Appendix C</b> .
Schedule 3, Condition 3	The Maximum Extraction Depth Map (MEDM) for the Project was not reviewed within three months of completion of the previous IEA.
Schedule 3, Condition 4B	Sections 6.10.2.1 and 11.1 of the 2022 AR note that 11 laden trucks (greater than the number approved for the time period under PA 08_0142) were recorded leaving Mackas Sand on 09/11/22. This was identified in an internal review completed on 13/12/22 and the incident was reported via letter lodged on the DPE portal 14/12/22.
Schedule 3, Conditions 11 and 13	Non-compliances with the AQMP were identified by Mackas Sand during the audit period: <ul style="list-style-type: none"> <li>Table 1.2, Section 1 of the 2022 AR notes that a late air quality monitoring sample for January 2022 depositional dust was taken on 2 February 2022;</li> <li>It is recommended that air quality monitoring samples are taken within the required sample period outlined in the AQMP;</li> <li>Table 1.2 Section 1 of the 2023 AR. Air quality monitoring samples for July 2023 were damaged whilst being transported and subsequently, no dust monitoring results were recorded for July 2023. This non-compliance was reported via the DPE portal dated 11/04/24. A courier has subsequently been engaged to transport dust samples from site to the lab for analysis; and</li> <li>Table 1.2 Section 1 of the 2023 AR. During September 2023, the air quality monitor at EPA point 8 was recorded as damaged and replaced.</li> </ul>
Schedule 3, Condition 25	Following a review of Project information supplied by Mackas Sand to the Department regarding the completion of pre-clearing actions in the previous audit period, DPE issued a Penalty Infringement Notice on 07/02/22 for 'failure to comply with Schedule 3, Condition 25 of SSD Project Approval MP 08_0142, as Modified'.
Schedule 3, Condition 28	The Project Rehabilitation Bond was lodged outside of the period required by DPHI. This non-compliance was acknowledged by Mackas Sand in Section 11.1 of the 2022 AR.
Schedule 3, Conditions 33B and 33D	Due to a supply fault in the powerlines, the video camera monitoring vehicle movements on the alternative access road lost power on the 19/11/23. Power and functionality were restored on the 22/11/23.  This incident was reported via the DPE portal on 29/11/23.

Ref	Non-Compliance
Schedule 3, Condition 39	A bunded refuelling tank for Project equipment has been set up outside of the Lot 218 operational area, however evidence was not available to confirm that the tank complies with the relevant Australian Standards.
Schedule 5, Condition 9	The 2023 AR was not available on the Project website at the time of audit.
Schedule 5, Condition 10	Air quality and groundwater monitoring reports from Q4 2023 were not available on the Project website at the time of audit.
<b>PA 08_0142 Statement of Commitments</b>	
SoC 1.1.1	Non-compliances against the conditions of PA 08_0142 were noted during the audit period.
SoCs 1.10.1 and 1.10.3	High visibility fencing around extraction areas within Lot 218 was not in place at the time of audit.

## 3.6 ENVIRONMENTAL PERFORMANCE

### 3.6.1 Site Inspection Summary

The site inspection of 2 May 2024 included a review Lot 218 and Lot 220, as shown on **Figure 1**. Selected images taken during the site inspection are included as **Appendix F**.

The site inspection found that sand extraction activities remained in operation within Lot 218. No sand was being extracted from Lot 220 and the process of progressive rehabilitation is underway (see **Section 3.6.2**).

### 3.6.2 Extraction

A desktop review confirmed that Mackas Sand are approved to extract sand from Lot 218 and Lot 220. The extraction boundaries are presented in **Figure 1**. Mackas Sand are also required to conduct extraction above the maximum predicted groundwater level as described in **Section 3.6.5**.

Mackas Sand personnel confirmed that sand extraction within Lot 218 is undertaken in accordance with a GPS base station that transmits operating parameters to Project mobile equipment (see Plate 3 of **Appendix F**). This process is calibrated quarterly and has superseded the previous method of distinguishing the extraction boundary with high visibility markers and is also used as a control for the depth of extraction in relation to groundwater levels. No incidents were reported during the audit period.

No sand extraction is currently taking place in Lot 220 and therefore no controls are implemented to ensure that the operation remains within the approved boundaries.

### 3.6.3 Truck Movements

Discussions with key Mackas Sand personnel confirmed that incoming and outgoing truck movements within Lot 218 and 220 are recorded by the weighbridges and cameras at the entrance to each site. The data from the weigh bridges is provided to Umwelt for review on a monthly basis to validate that truck movements have not exceeded the criteria of Schedule 3, Condition 4B of PA 08\_0142.

The site inspection confirmed that the Lot 218 weighbridge was operational (see Plate 9 of **Appendix F**). All trucks observed leaving site were covered and free from material that may fall on the road.

Two incidents relating to the frequency and tracking of Project truck movements were identified during the audit period (see **Section 3.5** and **Section 4**).

### 3.6.4 Rehabilitation

The desktop review confirmed that a Landscape Management Plan has been developed and approved for the Project to implement and monitor rehabilitation. Conversations with key Mackas Sand personnel confirmed that ongoing rehabilitation activities are being undertaken within Lot 220 after the cessation of sand extraction. A desktop review of annual rehabilitation monitoring and the site visit confirmed that Lot 220 was undergoing progressive rehabilitation consistent with the approved final landform (see Plate 15-22 of **Appendix F**).

During the site inspection completed by Minesoils on 24/04/24, it was noted that rehabilitation efforts within Lot 220 were generally consistent with the rehabilitation objectives associated with PA 08\_0142. Positive trends in species diversity and density were identified as well as ongoing weed management activities, installation of beehives to increase chances of fertile seeds, stag trees installed to encourage wildlife, seed collection from Lot 220 for growth in an onsite nursery.

Sand extraction operations are still ongoing within Lot 218 and no large scale progressive rehabilitation efforts have been made at the time of audit. The non-active face of the mining corridor has begun to establish vegetation. Debris collected during sand extraction is placed on the non-active face of the mining corridor to stabilise the slopes (see Plates 7 and 8 of **Appendix F**).

### 3.6.5 Water Management

The desktop review confirmed that Mackas Sand has prepared an SWMP for the Project. Schedule 2, Condition 7 of PA 08\_0142 requires Mackas Sand to ensure that no sand extraction is undertaken within 0.7 m of the maximum predicted groundwater level on Lot 220, and within 1.0 m of the maximum predicted groundwater level on Lot 218. Site personnel explained that the extraction limits for Lot 218 were now consistent with Lot 220 as confirmed by the core sample testing completed in 2017 that failed to identify the presence of acid sulphate soils.

Discussions with key Mackas Sand personnel confirmed that quarterly compliance surveys are undertaken to develop a contour plan to compare operations against approved elevations. A GPS system has been implemented in Project equipment to prevent operators from impacting the maximum predicted groundwater levels. A desktop review confirmed that quarterly groundwater monitoring for groundwater level, pH, electrical conductivity, turbidity and a suite of metals. Several exceedances of the groundwater investigation trigger levels were recorded during the audit period. Investigations were conducted to identify the causes of the trigger level exceedances and no non-compliances were identified.

### 3.6.6 Heritage

A desktop review confirmed that Mackas Sand has prepared an Aboriginal Cultural Heritage Management Plan (ACHMP) and Non-indigenous Heritage Management Plan (NIHMP) to identify potential impacts and detail management of indigenous or non-indigenous heritage. No impacts to items of cultural heritage significance have been identified during the audit period.

Discussions with key Mackas Sand personnel confirmed that an Aboriginal Cultural Heritage Group (ACHG) has been established for the Project to oversee the implementation of the ACHMP and provide input when an item of aboriginal cultural significance has been identified. Mackas Sand personnel confirmed that screened material from site operations is retained for inspection by the ACHG, however the regular inspection of this material for heritage items of significance had not been undertaken during the audit period due to the availability of ACHG representatives.

The site inspection confirmed the presence of tank traps within Lot 220 (see Plate 18 of **Appendix F**). Mackas Sand personnel confirmed that coordinates of each of the tank traps were recorded to allow them to be placed in their original locations at completion of extraction and rehabilitation. No incidents of damage to the heritage tank traps stored within Lot 220 were recorded during the audit period.

### 3.6.7 Environmental Management Documents

The adequacy of Mackas Sand environmental management documents for the Project and the implementation of these plans was reviewed as a component of this IEA. In general, the review of this documentation found that Mackas Sand is operating in accordance with the environmental procedures and systems required under PA 08\_0142.

Management plans reviewed as part of this IEA included the Mackas Sand Environmental Management Strategy, ACHMP, NIHMP, Air Quality Management Plan, Noise Management Plan, Soil and Water Management Plan, Unexploded Ordinance Management Plan and Landscape Management Plan. Each of the management plans and procedures are available from the Mackas Sand website along with Annual Reviews and previous IEA's as required by Schedule 5, Condition 9 of PA 08\_0142.

Non-compliances identified in relation to Project management plans are listed in **Table 6**.

### 3.6.8 Environmental Incidents

No environmental incidents requiring notification to regulatory agencies were recorded during the audit period.

### 3.6.9 Environmental Complaints

Discussions with Mackas Sand employees found that no community complaints were received regarding Project activities during the audit period.

### 3.6.10 Environmental Impact Comparison

A desktop review of the Environmental Impact Statement (EIS) prepared by Umwelt for PA 08\_0142 as part of the IEA. A comparison with observed impacts was also undertaken during the site inspection, which found that the Project has been operating generally in accordance with the conditions of PA 08\_0142.

The Project EIS noted that sand will be extracted from Lots 218 and 220 using up to four front-end loaders, with sand to be processed using vibrating screens to remove debris and resize material. The desktop review and site inspection confirmed that adequate controls have been implemented generally in accordance with the EIS and PA 08\_0142 management plans to ensure the Project remains within the approved extraction boundaries. The equipment operating within Lot 218 for sand extraction during the audit site inspections was found to be generally consistent with the EIS. Recommendations for further improvement opportunities for Stage 1 have been made in **Table 7**.

The EIS describes the operational controls to be implemented to minimise impacts to the air quality. They include dust suppression activities such as watering unsealed roads and working areas using water carts and maintaining vehicles to manufacturers standards. Discussion with key Mackas Sand personnel that dust suppression using water carts is undertaken on an as needs basis, however no records are retained to support this. Mackas Sand maintain speed limits across Lot 218 and Lot 220, conduct regular visual inspections of active haul routes to ensure all laden trucks leaving the site are covered. Monthly depositional dust monitoring is also undertaken at two dust gauges across site.

The EIS outlines the progression of extraction and haulage from Lot 218 with extraction to commence at the south-western end of the 150 m extraction area and progress in an easterly direction at a rate of approximately one million tonnes per annum. Mackas Sand has remained within approved extraction areas as described in the EIS. During the audit period, Mackas Sand continued to be undertaken in the westerly and northern portions of the Lot 218 extraction area width of approximately 150 m. The full extent of the extraction boundary is yet to be reached. Mackas Sand has remained below the permitted volume of sand transported from site during the audit period.

MOD2 to PA 08\_0142 was sought for the construction of the alternate access road to be constructed from Nelson Bay Road to Lot 218. The Alternate Access Route has subsequently been constructed and no trucks entered the site via Lavis Lane during the audit period.

The review of PA 08\_0142 EIS commitments completed for this IEA is detailed in Table C2 of **Appendix C**.

## 4. RECOMMENDATIONS

A summary of the non-compliances with Mackas Sand approvals identified during the audit period is provided in **Table 6**. Recommendations made to respond to these non-compliances, as well as opportunities identified to improve the general environmental performance of the Project are provided in **Table 7**.

**Table 7 IEA Recommendations**

Ref	Recommendation Description
<b>PA o8_o142</b>	
Schedule 3, Condition 3	It is recommended that a review of the Project MEDM is completed within three months of this IEA and submitted to DPHI for approval.
Schedule 3, Condition 4B	It is recommended that Mackas Sand continue to implement the actions put in place in response to the November 2022 truck frequency incident, including the validation of truck movement records and regular review of the site induction and Drivers Code of Conduct (CoC).
Schedule 3, Condition 13	It is recommended that air quality monitoring samples are taken within the required sample period outlined in the AQMP.
Schedule 3, Condition 24	It is recommended that Mackas Sand document the completion of rehabilitation management actions raised in the annual rehabilitation inspection reports.
Schedule 3, Condition 28A	It is recommended that Mackas Sand continue to liaise closely with DPHI and NSW DCCCEEW to gain approval for the Project BOS.
Schedule 3, Condition 29	It is recommended that Mackas Sand consult with the Worimi LALC over recommencing inspections of screened material recovered during site operations, in accordance with the ACHMP.
Schedule 3, Condition 30	It is recommended that records of consultation and approval of the NIHMP are included in the next revision of the document.
Schedule 3, Condition 39	It is recommended that the existing refuelling tank is decommissioned and removed from site as soon as possible once the replacement tank is in operation.
Schedule 3, Condition 42	It is recommended that Mackas Sand retain evidence of annual production data being lodged on the Resources Regulatory portal.
Schedule 5, Condition 10	It is recommended that Mackas Sand regularly review the Project website to ensure it includes the document required to be published under Schedule 5, Conditions 9 and 10.
<b>PA o8_o142 Statement of Commitments</b>	
SoC 1.3.3 and SoC 1.3.5.	It is recommended that Mackas Sand consult with the Worimi LALC over recommencing inspections of screened material recovered during site operations, in accordance with the ACHMP.
SoC 1.10.1	It is recommended that Mackas Sand seek to formalise the arrangement for not installing high visibility fencing and signage on the seaward side of the Lot 218 extraction face, in consultation with the landholder.

**APPENDIX A**  
**ENDORSEMENT OF IEA TEAM**

NSW Planning ref: MP08-0142-PA-48

Bret Jenkins  
HSE Manager  
Macka's Sand Pty Ltd  
2684 NELSON BAY ROAD  
SALT ASH New South Wales 2318  
19/03/2024

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Sent via the Major Projects Portal only

Subject: Mackas Quarry - 2024 IEA Audit Team Endorsement Request

Dear Mr Jenkins,

Reference is made to your post approval matter, MP08-0142-PA-48, request for the Planning Secretary's approval of suitably qualified, experienced, and independent person/s to conduct an Independent Audit of the Mackas Sand Quarry, submitted as required by Schedule 5, Condition 5 of MP08-0142 as modified (the consent) to NSW Department of Planning, Housing and Infrastructure (NSW Planning) on 15 February 2024 and 14 March 2024.

NSW Planning has reviewed the independent auditor and specialist nominations and based on the information you have provided, is satisfied that the proposed persons are suitably qualified, experienced, and independent.

Consequently, as nominee of the Planning Secretary, I endorse the following independent audit team:

- Mr Dorian Walsh – Lead Auditor
- Mr Travis Edwards – Assistant Auditor
- Mr Clayton Edwards – Rehabilitation Specialist
- Patrick McEvoy – Biodiversity Specialist
- Bryce McKay – Groundwater Specialist

Please ensure this correspondence is appended to the Independent Audit Report.

NSW Planning requires the Independent Audit be prepared, undertaken, and finalised in accordance with the conditions of consent and the *Independent Audit Post Approval Requirements* (2020). Failure to meet these requirements may require revision and resubmission.

The 2024 IEA period will be 5 June 2021 – 30 April 2024 and the audit site inspection must be carried out as close to the end of this period as possible. The IEA and Response to Auditors Recommendations (RAR) will be due 30 May 2024 unless otherwise approved by the Planning Secretary.

This endorsement is for the 2024 IEA only. NSW Planning reserves the right to request an alternate auditor or audit team for future audits.

Should you wish to discuss the matter further, please contact Laura Gothard, Senior Compliance Officer on 0484269988 or email [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au)

Yours sincerely

A handwritten signature in black ink that reads "H Watters".

Heidi Watters  
Team Leader Northern  
Compliance

As nominee of the Planning Secretary

**APPENDIX B**  
**IEA DECLARATION**



**APPENDIX C**  
**IEA COMPLIANCE TABLES**

**Table C1 Development Consent PA 08\_0142**

Cond	Development Consent PA 08_0142	Status	Evidence
<b>SCHEDULE 2 – ADMINISTRATIVE CONTROLS</b>			
<b>Obligation to Minimise Harm to the Environment</b>			
1.	The Proponent shall implement all reasonable and feasible measures to prevent or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.	C	Mackas Sand were generally implementing reasonable and feasible controls to minimise potential harm to the environment at the time of audit. Improvement recommendations are provided under the relevant conditions below.
<b>Terms of Approval</b>			
2.	The Proponent shall carry out the project: (a) generally in accordance with the EA; (b) generally in accordance with the EA (MOD 1); (c) generally in accordance with the EA (MOD 2); (d) in accordance with the statement of commitments; and (e) in accordance with the conditions of this approval. <i>Notes:</i> <i>The general layout of the project is shown on the figures in Appendix 1;</i> <i>The statement of commitments is reproduced in Appendix 2.</i>	NC	<b>Non-compliances against the conditions of this approval were noted during the audit period.</b> These non-compliances are discussed further under the relevant conditions below.
3.	If there is any inconsistency between the documents in conditions 2(a) to 2 (c), the more recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.	NT	BJ (pers comms) confirmed no inconsistencies were noted during the audit period.
4.	The Proponent shall comply with any reasonable requirement/s of the Secretary arising from the Department’s assessment of: (a) any reports, plans, programs or correspondence that are submitted in accordance with this approval; and (b) the implementation of any actions or measures contained in these reports, plans, programs or correspondence.	C	Department of Planning, Housing and Infrastructure (DPHI) comments on Mackas Sand Project (Project) documentation for PA 08_0142 is described under the relevant conditions below.  BJ (pers comms) noted that DPHI had not required the implementation of any specific management actions during the audit period.

Cond	Development Consent PA o8_o142	Status	Evidence
<b>Limits on Approval</b>			
5.	<p>Quarrying operations may take place on site until 31 December 2029.</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> <li>• Under this approval, the Proponent is required to rehabilitate the site to the satisfaction of the Secretary. Consequently this approval will continue to apply in all other respects other than the right to conduct quarrying operations until the site has been rehabilitated to a satisfactory standard;</li> <li>• The Department acknowledges that additional sand resources may exist on the site at the end of this period. Any extension of quarrying operations after this time will be subject to further approval.</li> </ul>	C	The audit period is within approval limits.
6.	<p>The Proponent shall not transport, or permit to be transported, more than:</p> <p>(a) 1,000,000 tonnes of product in a calendar year from Lot 218; and</p> <p>(b) 1,000,000 tonnes of product in a calendar year from Lot 220.</p>	C	<p>Viewed 2021, 2022 and 2023 Project Annual Reviews (ARs). Product transport volumes from both Lots were within approved volumes.</p> <p>2024 production to the end of April was:</p> <ul style="list-style-type: none"> <li>• 279,895 tonnes from Lot 218; and</li> <li>• 1,856 tonnes from Lot 220.</li> </ul>
7.	<p>The Proponent shall not undertake any sand extraction:</p> <p>(a) within 0.7 m of the maximum predicted groundwater level on Lot 220; and</p> <p>(b) within 1.0 m of the maximum predicted groundwater level on Lot 218, unless the core sample testing program demonstrates that extraction to within 0.7 m of the maximum predicted groundwater level can be undertaken without disturbing acid sulphate soils.</p> <p><i>Note: The core sample testing program is detailed in the Soil and Water Management Plan in condition 22 of Schedule 3.</i></p>	C	<p>Audit period ARs state: "Mackas Sand operates a GPS unit in at least one operating loader at Lot 218 which is used to check the vertical and horizontal extraction limits of the active extraction/processing areas at each lot. GPS checks have been supported by quarterly surveys".</p> <p>Appendix 1 of ARs show quarterly level extraction maps completed by Centurion Survey to validate conformance of operating levels against maximum groundwater levels defined in Umwelt (2011) <i>Determination of Maximum Predicted Groundwater Level and Maximum Extraction Level at Lot 218 and 220, Salt Ash.</i></p> <p>BJ (pers comms) confirmed that Centurion Survey check and calibrate equipment GPS systems and base station levels (see <b>Plate 3</b>) as part of the quarterly review process, to ensure ongoing accuracy.</p>
7A.	The Proponent shall ensure that the final rehabilitated ground surface level on Lot 218 and Lot 220	NT	Final rehabilitation of Lot 218 and Lot 220 was not

Cond	Development Consent PA o8_o142	Status	Evidence
	is at least 1.0 m above the maximum predicted groundwater level.		completed during the audit period.
<b>Updating and Staging Strategies, Plans or Programs</b>			
8.	<p>The Proponent must regularly review the strategies, plans and programs required under this consent and ensure that these documents are updated to incorporate measures to improve the environmental performance of the development and reflect current best practice in the quarrying industry. To facilitate these updates, the Proponent may at any time submit revised strategies, plans or programs for the approval of the Secretary. With the agreement of the Secretary, the Proponent may also submit any strategy, plan or program required by this consent on a staged basis.</p> <p>With the agreement of the Secretary, the Proponent may prepare a revision or stage of any strategy, plan or program required under this consent without undertaking consultation with all parties nominated under the applicable condition in this consent.</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> <li>• While any strategy, plan or program may be submitted on a staged basis, the Proponent must ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times.</li> <li>• If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.</li> </ul>	NT	BJ (pers comms) confirmed that the staging of Project management documents was not required during the audit period.
<b>Structural Adequacy</b>			
9.	<p>The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> <li>• Under Part 4A of the EP&amp;A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works;</li> <li>• Part 8 of the EP&amp;A Regulation sets out the requirements for the certification of the project.</li> </ul>	NT	BJ (pers comms) stated that no structures were developed or modified during the audit period.
<b>Demolition</b>			
10.	The Proponent shall ensure that all demolition work is carried out in accordance with AS 2601-2001: The Demolition of Structures, or its latest version.	NT	BJ (pers comms) confirmed that no demolition work occurred during the audit period.

Cond	Development Consent PA o8_o142	Status	Evidence
<b>Protection of Public Infrastructure</b>			
11.	<p>The Proponent shall:</p> <p>(a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the project; and</p> <p>(b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the project.</p> <p><i>Note: This condition does not apply to any road maintenance works which are covered by the Section 94 contributions described below in condition 13.</i></p>	NT	<p>BJ (pers comms) noted that relocation or repairs to public infrastructure was not required during the audit period.</p> <p>Also see Schedule 2, Condition 13 below.</p>
<b>Operation of Plant and Equipment</b>			
12	<p>The Proponent shall ensure that all plant and equipment used at the site is:</p> <p>(a) maintained in a proper and efficient condition; and</p> <p>(b) operated in a proper and efficient condition.</p>	C	<p>(a) Viewed Project documents for the operation and maintenance of equipment, including:</p> <ul style="list-style-type: none"> <li>• Safe Work Procedure 0960 for Front End Loader (07/03/24) and 1644 for Mobile Sand Screener (29/02/24);</li> <li>• Example of Front End Loader prestart inspection dated 06/06/24; and</li> <li>• Service records 7396 (04/10/23), 7414 (14/07/23) and 7609 (09/09/23) for maintenance of Front End Loaders.</li> </ul> <p>(b) Viewed copy of <i>Staff Induction Mackas Sand</i> dated 09/04/24 and online induction 2024 spreadsheet recording the details of site inductions by Project staff and haulage contractors for the period 2022 - 2024. The induction package includes content on site layout, mine entry and operational hours, environmental controls and reporting requirements for incidents and complaints.</p>
<b>Section 94 Contributions</b>			
13	<p>The Proponent shall pay Council contributions for roadworks in accordance with the Port Stephens Section 94 Development Contributions Plan 2007, as may be updated from time to time, to the satisfaction of the Secretary.</p>	C	<p>Viewed records of Project contributions being paid to Port Stephens Council on 21/04/22, 20/04/23 and 18/04/24.</p>

Cond	Development Consent PA o8_o142	Status	Evidence
<b>SCHEDULE 3 – ENVIRONMENTAL PERFORMANCE CONDITIONS</b>			
<b>Identification of Boundaries</b>			
1.	<p>Prior to carrying out any development on site, or as otherwise agreed by the Secretary, the Proponent shall:</p> <p>(a) engage an independent registered surveyor to survey the boundaries of the approved limit of extraction;</p> <p>(b) submit a survey plan of these boundaries to the Secretary; and</p> <p>(c) make provision for the accurate identification of these boundaries by operational staff during extraction operations using a Global Positioning System.</p> <p><i>Notes: The limit of extraction is shown on the figures in Appendix 1.</i></p>	C	Deemed compliant by previous IEA.
<b>Maximum Extraction Depth Map</b>			
2.	<p>The Proponent shall:</p> <p>(a) establish the average year and highest predicted groundwater levels for the site based on all available (and at least 12 months) site specific and HWC groundwater monitoring data;</p> <p>(b) engage a suitably qualified and experienced expert to establish the maximum extraction depths to which extraction can be undertaken on site, to comply with condition 7 of schedule 2;</p> <p>(c) submit a Maximum Extraction Depth Map (contour map or similar) for the project to the Secretary within 6 months of the date of this approval; and</p> <p>(d) comply with the extraction depths specified in the map, to the satisfaction of the Secretary.</p>	C	<p>a) Average and maximum groundwater levels originally determined in EA (Umwelt, 2009). These levels were reviewed in Umwelt (2011) <i>Determination of Maximum Predicted Groundwater Level and Maximum Extraction Level at Lot 218 and 220, Salt Ash</i> and again in 2019 and 2023.</p> <p>b) Outlined in Umwelt (2011) <i>Determination of Maximum Predicted Groundwater Level and Maximum Extraction Level at Lot 218 and 220, Salt Ash</i>. Maximum extraction depth map last updated 06/02/23 in <i>Mackas Sand Groundwater Model Rerun</i> completed by GHD.</p> <p>c) Deemed compliant by previous IEA.</p> <p>d) AR documents for the relevant period state: “Mackas Sand operates a GPS unit in at least one operating loader at Lot 218 which is used to check the vertical and horizontal extraction limits of the active extraction/processing areas at each lot. GPS checks have been supported by quarterly surveys”.</p> <p>In addition, Appendix 1 of Annual Reviews for the</p>

Cond	Development Consent PA o8_o142	Status	Evidence
			<p>relevant period show conformance against maximum groundwater levels in quarterly survey maps completed by Centurion Survey.</p> <p>Non-compliances with maximum extraction depths were not identified during the audit period.</p>
3.	<p>Within 3 months of the completion of the Independent Environmental Audit (see condition 5 of schedule 5), the Proponent shall review and update as required the Maximum Extraction Depth Map for the project to the satisfaction of the Secretary.</p>	NC	<p><b>The Maximum Extraction Depth Map (MEDM) for the Project was not reviewed within three months of completion of the previous IEA.</b></p> <p>Mackas Sand submitted an extension to DPPI on 22/12/22 to complete an update of the MEDM by 3/02/23.</p> <p><b>It is recommended that a review of the Project MEDM is completed within three months of this IEA and submitted to DPPI for approval.</b></p>
<b>Noise - Impact Assessment Criteria</b>			
4.	<p>The Proponent shall ensure that the noise generated by the project, except for noise generated by the use of the Alternate access road, does not exceed the noise impact assessment criteria in Table 1.</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> <li><i>To interpret the locations referred to Table 1, see the figure in Appendix 3.</i></li> <li><i>Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.</i></li> <li><i>The noise limits do not apply if the Proponent has an agreement with the relevant owner/s of these residences/land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</i></li> </ul>	C	<p>Viewed Annual Environmental Monitoring Noise reports September 2021, September 2022 and August 2023 prepared for the Project by Umwelt. No exceedances of Project noise criteria were identified.</p> <p>No community complaints regarding Project noise were received during the period.</p>
4A.	<p>The Proponent shall ensure that the noise generated by the use of the Alternate access road does not exceed the noise criteria in Table 1A.</p>	C	<p>See Schedule 3, Condition 4 above. Annual noise monitoring reports for the Project included an assessment of noise levels for the Alternate access road.</p>
<b>Noise - Operating Conditions</b>			

Cond	Development Consent PA o8_0142	Status	Evidence
4B.	<p>The Proponent shall ensure, for the use of the Alternate access road, that:</p> <p>(a) a speed limit of 40 km/hour is applied and enforced for all vehicles;</p> <p>(b) trucks slowing to use the intersection of the access road and Nelson Bay Road do not use engine or compression braking systems;</p> <p>(c) laden truck movements exiting the site do not exceed 14 per hour during the period from 5 am to 6 am, Monday to Friday (except for Public Holidays);</p> <p>(d) laden truck movements exiting the site do not exceed 8 per hour during the period from 6 am to 9 am, Monday to Friday (except for Public Holidays);</p> <p>(e) laden truck movements exiting the site do not exceed 24 per hour during the period from 9 am to 10 pm, Monday to Friday (except for Public Holidays);</p> <p>(f) laden truck movements exiting the site do not exceed 5 per hour between 5 am and 6 am on Saturdays (except for Public Holidays);</p> <p>(g) laden truck movements exiting the site do not exceed 9 per hour between 6 am and 7 am on Saturdays (except for Public Holidays);</p> <p>(h) laden truck movements exiting the site do not exceed 24 per hour between 7 am and 4 pm on Saturdays (except for Public Holidays); and</p> <p>(i) combined laden truck movements exiting from Lots 218 and 220 do not exceed 10 per hour in total on Sundays and Public Holidays.</p> <p><i>Note: In this condition, "per hour" means within any period of 60 minutes following the change of hour.</i></p>	NC	<p>See Schedule 2, Condition 12 (b) above. The <i>Staff Induction Mackas Sand</i> dated 09/04/24 includes requirements for speed limits, not using compression braking and approved hours for site access.</p> <p>Viewed speed limit signage in place on Project access roads and within the site (see <b>Plate 1</b>, <b>Plate 2</b> and <b>Plate 13</b>).</p> <p>Viewed an example of <i>Macka's Sand and Soil Supplies Transport Log</i> dated 14/12/23 for the period 11/11/12 – 29/11/23, created from site weighbridge data. The log records vehicle details, weights and times in / out of each for each truck movement. BJ (pers comms) confirmed that the log is reviewed on a monthly basis as a check that vehicle movements are in compliant with PA o8_0142 requirements.</p> <p><b>Sections 6.10.2.1 and 11.1 of the 2022 AR note that 11 laden trucks (greater than the number approved for the time period under PA o8_0142) were recorded leaving Mackas Sand on 09/11/22. This was identified in an internal review completed on 13/12/22 and the incident was reported via letter lodged on the DPE portal 14/12/22.</b> It is noted that the see Schedule 5, Condition 1 was updated following this incident.</p> <p><b>It is recommended that Mackas Sand continue to implement the actions put in place in response to the incident, including the validation of truck movement records and regular review of the site induction and Drivers Code of Conduct (CoC). The CoC is described below against Schedule 3, Condition 33A.</b></p>
<b>Noise - Land Acquisition Criteria</b>			
5.	If the noise generated by the project exceeds the criteria in Table 2, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with	NT	BJ (pers comms) confirmed no requests for acquisition had been received.

Cond	Development Consent PA o8_o142	Status	Evidence
	the procedures in conditions 6-8 of schedule 4.		
<b>Noise - Cumulative Noise Criteria</b>			
6.	<p>The Proponent shall take all reasonable and feasible measures to ensure that the noise generated by the quarrying operations combined with the noise generated by other extractive industries does not exceed the following amenity criteria on any privately owned land, to the satisfaction of the Secretary:</p> <ul style="list-style-type: none"> <li>• LAeq(11 hour) 50 dB(A) – Day;</li> <li>• LAeq(4 hour) 45 dB(A) – Evening; and</li> <li>• LAeq(9 hour) 40 dB(A) – Night.</li> </ul> <p><i>Note: Cumulative noise is to be measured in accordance with the relevant procedures in the NSW Industrial Noise Policy.</i></p>	NT	See Schedule 3, Condition 4 above.
<b>Noise - Traffic Noise Impact Assessment Criteria</b>			
7.	<p>The Proponent shall take all reasonable and feasible measures to ensure that the traffic noise generated by the project does not exceed the traffic noise impact assessment criteria in Table 3.</p> <p><i>Note: Traffic noise generated by the project is to be measured in accordance with the relevant procedures in EPA's Road Noise Policy.</i></p>	NT	See Schedule 3, Condition 4 above.
<b>Noise - Additional Noise Mitigation Measures</b>			
8.	<p>Upon receiving a written request from:</p> <ul style="list-style-type: none"> <li>• the owner of residence R1, if the residence is habitable in the opinion of the Secretary; or</li> <li>• the owner of any residence where operational noise monitoring shows the noise generated by the project at night is greater than or equal to: <ul style="list-style-type: none"> <li>o 40 dB(A) LAeq(15 minute) for residences R1 to R4;</li> <li>o 39 dB(A) LAeq(15 minute) for residences R20 to R23; and</li> <li>o 38 dB(A) LAeq(15 minute) for all other privately-owned residences,</li> </ul> </li> </ul> <p>the Proponent shall implement additional noise mitigation measures such as double glazing, insulation, and/or air conditioning at the residence in consultation with the landowner.</p> <p>These additional mitigation measures must be reasonable and feasible.</p> <p>If within 3 months of receiving this request from the landowner, the Proponent and the landowner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.</p>	NT	See Schedule 3, Condition 4 above. BJ (pers comms) noted that no requests for noise mitigation had been received.

Cond	Development Consent PA o8_o142	Status	Evidence
	<p><i>Notes:</i></p> <ul style="list-style-type: none"> <li>• To interpret the locations referred to in this condition, see the figure in Appendix 3.</li> <li>• The noise limits do not apply if the Proponent has an agreement with the relevant owner/s of these residences/land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.</li> </ul>		
<b>Noise - Operating Hours</b>			
9.	<p>The Proponent shall comply with the operating hours in Table 4:</p> <p>However, the Proponent may undertake:</p> <p>(a) quarrying operations within 250 metres of residence R27 if the Proponent has an agreement with the owner of the residence to extend the hours of operation; and/or</p> <p>(b) transportation outside the hours in Table 4, to a maximum of 5.00am to 10.00pm Monday to Saturday, and 8.00am to 12.00pm on Sundays and Public Holidays, if the Proponent has agreements to extend the hours of transportation with the following:</p> <ul style="list-style-type: none"> <li>• all owners of privately-owned land with frontage to Lavis Lane (between the site and Nelson Bay Road), for transportation from Lot 218 using the Lavis Lane access road; and/or</li> <li>• all owners of 2344, 2353 and 2368 Nelson Bay Road, for transportation from Lot 218 using the Alternate access road; and/or</li> <li>• all owners of privately-owned land with frontage to Oakvale Road (between the site and Nelson Bay Road), for transportation from Lot 220;</li> </ul> <p>and the Proponent has advised the Department in writing of the terms of these agreements.</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> <li>• To interpret the residence location referred to in this condition, see the figure in Appendix 3.</li> <li>• For the purposes of this condition, transportation includes all laden truck movements on site access roads, Lavis Lane, the Alternate access road and Oakvale Road.</li> <li>• Transportation is further restricted under condition 32 below.</li> <li>• Maintenance activities may be conducted outside the hours in Table 4 provided that the activities are not audible at any privately-owned residence.</li> <li>• This condition does not apply to delivery of material if that delivery is required by police or other authorities for safety reasons, and/or the operation or personnel or equipment are endangered. In such circumstances, notification is to be provided to EPA and the affected residents as soon as possible, or within a reasonable period in the case of emergency.</li> </ul>	C	<p>See Schedule 3, Condition 4B above.</p> <p>No out of hours truck operations were identified during the audit period.</p>

Cond	Development Consent PA o8_o142	Status	Evidence
<b>Noise - Noise Monitoring</b>			
10.	<p>The Proponent shall prepare a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with EPA, and be submitted to the Secretary for approval within 3 months of the date of this approval;</p> <p>(b) include:</p> <ul style="list-style-type: none"> <li>• a description of the measures that would be implemented to minimise noise emissions from the project, with particular focus on: <ul style="list-style-type: none"> <li>o quarrying operations within 250 metres of residences on privately-owned land;</li> <li>o transportation activities; and</li> <li>o continual improvement of noise performance;</li> </ul> </li> <li>• a noise monitoring protocol for evaluating compliance with the relevant noise limits in this approval (including traffic noise);</li> <li>• a protocol for the investigation, notification and mitigation of identified exceedances of the relevant noise limits; and</li> <li>• a continual improvement program for investigating, implementing and reporting on reasonable and feasible measures to reduce noise generated by the project.</li> </ul> <p>The Proponent shall implement the approved management plan as approved from time to time by the Secretary.</p>	C	<p>Viewed the Project Noise Management Plan (NMP) dated November 2018 prepared by Umwelt.</p> <p>a) The NMP was approved by DPE letter dated 13/11/18.</p> <p>b) The NMP includes:</p> <ul style="list-style-type: none"> <li>• A summary of measures put in place to minimise Project noise (Section 3.3);</li> <li>• A noise monitoring program (Section 4);</li> <li>• Noise investigation and continual improvement procedures (Sections 5.3 and 3.3, respectively).</li> </ul> <p>Viewed a copy of the staff induction slides in place for the Project workforce dated 09/05/24 and online induction 2024 spreadsheet recording the details of site inductions by Project staff and haulage contractors for the period 2022 - 2024. The slide pack include content on the requirement to minimise noise in accordance with the NMP.</p>
<b>Air Quality - Impact Assessment Criteria</b>			
11.	<p>The Proponent shall ensure that the dust emissions generated by the project do not cause additional exceedances of the air quality impact assessment criteria listed in Tables 5, 6 and 7 at any residence on privately owned land, or on more than 25 percent of any privately owned land.</p> <p><i>Note:</i></p> <p><i>Deposited dust is assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.</i></p>	NC	<p><b>See Schedule 3, Condition 13 below</b> regarding non-compliances against air quality compliance monitoring requirements and the investigation of elevated air quality monitoring results.</p>
<b>Air Quality - Operating Conditions</b>			
12.	<p>The Proponent shall ensure any visible air pollution generated by the project is assessed regularly, and that quarrying operations are relocated, modified, and/or stopped as required to minimise air</p>	C	<p>Minimal dust emissions were observed from Project operational areas during the site inspection (see <b>Plate</b></p>

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	quality impacts on privately-owned land, to the satisfaction of the Secretary.		<b>2 – Plate 6)</b> , with a watercart available on site. Speed limit signage was in place to restrict wheel generated dust, and the road surface leaving site was well maintained, with minimal fines observed (see <b>Plate 9, Plate 10, Plate 14</b> ).
<b>Air Quality - Air Quality Monitoring</b>			
13.	<p>The Proponent shall prepare an Air Quality Monitoring Program for the project to the satisfaction of the Secretary. This program must:</p> <p>(a) be prepared in consultation with EPA, and be submitted to the Secretary for approval within 3 months of the date of this approval; and</p> <p>(b) include details of how the air quality performance of the project will be monitored, and include a protocol for evaluating compliance with the relevant air quality criteria in this approval.</p> <p><i>Note: Initially, this program should concentrate on monitoring the dust deposition impacts of the project. However, in time, it may be expanded to include other pollutants.</i></p> <p><i>The Proponent shall implement the approved monitoring program as approved from time to time by the Secretary.</i></p>	<b>NC</b>	<p>Viewed the Project Air Quality Management Plan (AQMP) dated June 2018, prepared by Umwelt.</p> <p>(a) Section 1.4.3 of the AQMP notes that consultation over the 2018 document was undertaken with EPA and DPE (now DPHI). Viewed DPE approval letter for the AQMP dated 13/07/18;</p> <p>(b) Section 3 of the AQMP described air quality management controls for the Project, with the monitoring program described in Section 4.</p> <p>Viewed examples of monthly ALS Certificates of Analysis for Project depositional dust gauges for August 2023 and January 2024.</p> <p>The following non-compliances with the AQMP were identified by Mackas Sand during the audit period:</p> <ul style="list-style-type: none"> <li>• <b>Table 1.2, Section 1 of the 2022 AR notes that a late air quality monitoring sample for January 2022 depositional dust was taken on 2 February 2022.</b></li> </ul> <p>It is recommended that air quality monitoring samples are taken within the required sample period outlined in the AQMP.</p> <ul style="list-style-type: none"> <li>• <b>Table 1.2 Section 1 of the 2023 AR. Air quality monitoring samples for July 2023 were damaged whilst being transported and subsequently, no dust monitoring results were recorded for July 2023. This non-compliance was reported via the DPE portal dated 11/04/24. A courier has</b></li> </ul>

Cond	Development Consent PA o8_o142	Status	Evidence
			<p>subsequently been engaged to transport dust samples from site to the lab for analysis.</p> <ul style="list-style-type: none"> <li>Table 1.2 Section 1 of the 2023 AR. During September 2023, the air quality monitor at EPA point 8 was recorded as damaged and replaced.</li> </ul> <p>Elevated deposition dust results were also recorded during the period December 2023 - April 2024. This included at DDG1 (in December 2023, February 2024 and March 2024) and DDG2 (in January, February 2024). These results were investigated and were reported as being influenced by agricultural activity.</p>
<b>Meteorological Monitoring</b>			
14.	During the life of the project, the Proponent shall ensure that there is a suitable meteorological station in the vicinity of the site that complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline.	C	Section 4.2.4 of the Project Environmental Management Strategy (EMS) (see Schedule 5, Condition 1) notes that representative weather data will be sourced from the Williamstown Airport weather station.
<b>Soil and Water - Water Supply</b>			
15.	The Proponent shall ensure that it has sufficient water for all stages of the project, and if necessary, adjust the scale of operations to match its water supply. Note: The Proponent is required to obtain necessary water licences for the project under the Water Management Act 2000.	C	BL (pers comms) confirm that WAL 20AL220960 has been retained for the Project, although water demand is minimal. Water use for the Project is described in Section 7 of the ARs for the audit period.
<b>Soil and Water - Pollution of Waters</b>			
16.	Except as may be expressly provided for by an EPL, the Proponent shall comply with section 120 of the Protection of the Environment Operations Act 1997 during the carrying out of the project.	NT	No water pollution incidents were reported in audit period ARs. BJ (pers comms) confirmed no water incidents had occurred in 2024 to the date of audit.
<b>Soil and Water - Wastewater Treatment</b>			
17.	The Proponent shall manage on-site sewage to the satisfaction of Council and EPA. The facility must comply with the requirements of the Environment and Health Protection Guidelines – On-site Sewage Management for Single Households (1998).	NT	BJ (pers comms) confirmed that on-site sewage collection or treatment is not required for the Project. No Council or EPA approvals are required.

Cond	Development Consent PA o8_o142	Status	Evidence
<b>Soil and Water - Soil and Water Management</b>			
18.	<p>The Proponent shall prepare a Soil and Water Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with EPA, DPI Water and HWC, and be submitted to the Secretary for approval within 3 months of the date of this approval; and</p> <p>(b) include a:</p> <ul style="list-style-type: none"> <li>• Site Water Balance;</li> <li>• Erosion and Sediment Control Plan;</li> <li>• Surface Water Monitoring Program; and</li> <li>• Ground Water Monitoring Program.</li> </ul> <p>The Proponent shall implement the approved management plan as approved from time to time by the Secretary.</p> <p><i>Note: The Department accepts that the initial Soil and Water Management Plan may not include a detailed Site Water Balance. However, the detailed Site Water Balance must be approved prior to the commencement of any sand washing or groundwater extraction activities for the project.</i></p>	C	<p>Viewed November 2021 Soil and Water Management Plan (SWMP) for the Project prepared by Umwelt.</p> <p>(a) Viewed DPE letter dated 03/08/22 approving the SWMP.</p> <p>(b) The SWMP includes:</p> <ul style="list-style-type: none"> <li>• Site Water Balance (Section 2);</li> <li>• Erosion and Sediment Control Plan (Section 3);</li> <li>• Surface Water Monitoring Program (Section 4); and</li> <li>• Groundwater Monitoring Program (Section 5).</li> </ul>
19.	<p>The Site Water Balance must:</p> <p>(a) include details of:</p> <ul style="list-style-type: none"> <li>• sources and security of water supply;</li> <li>• water use on site;</li> <li>• water management on site;</li> <li>• any off-site water transfers;</li> <li>• reporting procedures; and</li> </ul> <p>(b) investigate and describe measures to minimise water use by the project.</p>	C	<p>Section 2 of the SWMP summarises the water requirements for the Project and notes that extraordinary water usage will be reported as part of ARs.</p> <p>Section 7 of the ARs submitted during the audit period describe site water management.</p>
20.	<p>The Erosion and Sediment Control Plan must:</p> <p>(a) be consistent with the requirements of Managing Urban Stormwater: Soils and Construction, Volume 1, 4th Edition, 2004 (Landcom);</p> <p>(b) identify activities that could cause soil erosion and generate sediment;</p> <p>(c) describe measures to minimise soil erosion and the potential for the transport of sediment off site;</p> <p>(d) describe the location, function, and capacity of erosion and sediment control structures; and</p>	C	<p>The Project Erosion and Sediment Control Plan is included as Section 3 of the SWMP.</p> <p>BJ (pers comms) confirmed that no permanent sediment controls are required for operational areas as identified in the SWMP, due to the high permeability of the pit. No issues with site access were noted during site inspection, despite the period of</p>

Cond	Development Consent PA o8_o142	Status	Evidence
	(e) describe what measures would be implemented to maintain the structures over time.		heavy rain in the days prior.
21.	<p>The Surface Water Monitoring Program must include:</p> <p>(a) baseline data on surface water quality, where available;</p> <p>(b) surface water impact assessment criteria;</p> <p>(c) a program to monitor surface water quality (particularly in project sediment basins); and</p> <p>(d) a protocol for the investigation, notification and mitigation of identified exceedances of the surface water impact assessment criteria.</p>	C	<p>Section 4 of the SWMP notes the lack of surface water present in Lot 218 and Lot 220 due to the permeability of the sand environment and that surface water monitoring will not be undertaken.</p> <p>The inspection regime for ESC structures is described in Schedule 3, Condition 20 above.</p>
22.	<p>The Ground Water Monitoring Program must include:</p> <p>(a) detailed baseline data on ground water levels and quality, based on statistical analysis (including available HWC data);</p> <p>(b) groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts;</p> <p>(c) a program to monitor groundwater levels and quality, including a groundwater core sample testing program to monitor changes in metallic species above the maximum predicted groundwater level at Lot 218, that;</p> <p>(i) is developed in consultation with EPA;</p> <p>(ii) samples to a depth at least 2 m below the proposed extraction depth of 0.7 m above the maximum predicted groundwater level, from at least two locations within the area proposed to be extracted within the first 3 years; and</p> <p>(iii) includes testing for acid forming minerals at regular depth and time intervals;</p> <p>(d) a protocol for further groundwater modelling to confirm the limits to excavation depth across the site permitted in accordance with condition 7 of schedule 2; and</p> <p>(e) a protocol for the investigation, notification and mitigation of identified exceedances of the ground water impact assessment criteria.</p>	C	<p>Section 5 of the SWMP describes the Project Groundwater Monitoring Program. Audit period AR's note that triggers of the SWMP groundwater TARP did not occur during the audit period.</p>
<b>Unexploded Ordnance</b>			
23.	<p>The Proponent shall prepare and implement an Unexploded Ordnance Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared by a suitable qualified ordnance expert whose appointment has been approved by the Secretary, and be submitted to the Secretary for approval prior to the commencement of quarrying operations on Lot 218; and</p> <p>(b) include:</p>	C	<p>Viewed Gibson Nominees September 2011 'Unexploded Ordnance Management Plan for the Extraction of Wind-Blown Sand from Lot 218 in Deposited Plan 1044608 at Williamtown NSW' (UXOMP) deemed compliant by previous IEA.</p> <p>BJ (pers comms) noted that the 2011 plan remains</p>

Cond	Development Consent PA o8_o142	Status	Evidence
	<ul style="list-style-type: none"> <li>• a protocol for managing unexploded ordnance risk on Lot 218 during quarrying operations; and</li> <li>• a description of the measures that would be undertaken if any unexploded ordnance is discovered during the project.</li> </ul>		valid for the Project and that no operations during the audit period were undertaken in the artillery range identified in Figure 1 of the UXOMP.
<b>Rehabilitation and Landscape Management - Rehabilitation</b>			
24.	<p>The Proponent shall progressively rehabilitate the site in a manner that is generally consistent with the final landform in the EA (as reproduced in Appendix 4), to the satisfaction of the Secretary.</p> <p>Note: The Department acknowledges that rehabilitation activities on Lot 218 may be limited given the planned ongoing extraction on this lot. However, the long-term/final landform for Lot 218 must be addressed as part of the Landscape Management Plan (see below).</p>	C	<p>Progressive rehabilitation was being undertaken on site, generally in accordance with the Project EA.</p> <p>The long-term final landform is addressed in Section 1.5 of the Landscape Management Plan (November 2021) (LMP) prepared by Umwelt (see Schedule 3, Condition 25), with the progression of rehabilitation reported in audit period ARs.</p> <p>The Minesoils site inspection of 24/04/24 found that rehabilitation effort within Lot 220 was generally consistent with PA o8_o142 documentation, with positive trends in rehabilitation species diversity and density (see <b>Plate 15 – Plate 22</b>). Evidence of the following rehabilitation activities was noted:</p> <ul style="list-style-type: none"> <li>• Ongoing weed management activities, including Lot 220 Mackas Sand Rehabilitation Progress Reports dated 01/04/23 (for 2022) and 01/04/24 (for 2023);</li> <li>• Placement of bee hives in rehabilitation areas to increase the chances of fertile seed being blown onsite from surrounding bushland areas (see <b>Plate 21</b>);</li> <li>• Tank traps are located to restrict unapproved access prior to relocation in place on mining ceases and rehabilitation is completed;</li> <li>• Stage trees being installed to encourage wildlife to actively use rehabilitation areas and provide nesting sites (see <b>Plate 22</b>);</li> <li>• Seed is collected on site and propagated/grown out in an onsite nursery which is considered industry best practice to ensure local provenance</li> </ul>

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			<p>species are used in the rehabilitation (see <b>Plate 23</b>).</p> <p>Viewed examples of Mackas Sand annual Rehabilitation Walkover Inspection Reports completed by Umwelt for 2022 and 2023. The reports document a rapid condition assessment of Lot 220 rehabilitation and provide comments on general performance and recommendations on corrective actions. <b>It is recommended that Mackas Sand document the completion of rehabilitation management actions documented in the annual inspection reports.</b></p>
<b>Rehabilitation and Landscape Management - Landscape Management Plan</b>			
25.	<p>The Proponent shall prepare a Landscape Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with OEH, DPI Water and Council, and be submitted to the Secretary within 6 months of the date of this approval, or prior to any vegetation clearing on Lot 220, whichever is sooner;</p> <p>(b) include a:</p> <ul style="list-style-type: none"> <li>• Rehabilitation Management Plan; and</li> <li>• Long Term Management Strategy.</li> </ul> <p>The Proponent shall implement the approved management plan as approved from time to time by the Secretary.</p> <p><i>Note: The Department accepts that the initial Landscape Management Plan may not include the detailed Long Term Management Strategy. However, a conceptual strategy must be included in the initial plan, along with a timetable for augmentation of the strategy with each subsequent review of the plan.</i></p>	<b>NC</b>	<p>(a) Viewed letter from DPE dated 19/08/22 approving the LMP;</p> <p>(b) The LMP includes a Rehabilitation Management Plan (Section 3) and Long Term Management Strategy (Section 4).</p> <p>Viewed DPE Notice to Furnish Information and Records dated 09/03/22 regarding a potential failure to comply with pre-clearing actions during the previous IEA period, in accordance with the LMP and Schedule 3, Condition 26 of PA o8_0142. A further Show Cause notice was provided to Mackas Sand on 03/05/22.</p> <p><b>Following a review of Project information supplied by Mackas Sand to the Department, DPE issued a Penalty Infringement Notice on 07/02/22 for 'failure to comply with Schedule 3, Condition 25 of SSD Project Approval MP o8_0142, as Modified'.</b> Viewed Mackas Sand Remittance for payment of the PIN cost to DPE dated 22/08/22.</p>
26.	The Rehabilitation Management Plan must include:		The LMP Rehabilitation Management Plan includes:

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	<p>(a) the objectives for the site rehabilitation and site landscaping;</p> <p>(b) a description of the short, medium, and long term measures that would be implemented to rehabilitate and landscape the site;</p> <p>(c) detailed performance and completion criteria for the site rehabilitation and site landscaping;</p> <p>(d) a detailed description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for:</p> <ul style="list-style-type: none"> <li>• progressively rehabilitating disturbed areas;</li> <li>• landscaping the site to minimise visual impacts;</li> <li>• protecting vegetation and soil outside the disturbance areas;</li> <li>• preventing and/or minimising the accretion of sand dunes outside the project disturbance areas;</li> <li>• undertaking pre-clearance surveys;</li> <li>• salvaging and reusing material from the site for habitat enhancement;</li> <li>• managing impacts on fauna;</li> <li>• maintaining koala habitat linkages;</li> <li>• conserving and reusing topsoil;</li> <li>• collecting and propagating seed for rehabilitation works;</li> <li>• salvaging and reusing material from the site for habitat enhancement;</li> <li>• controlling weeds and feral pests;</li> <li>• controlling access; and</li> <li>• bushfire management;</li> </ul> <p>(e) a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria;</p> <p>(f) a description of the potential risks to successful rehabilitation, and a description of the contingency measures that would be implemented to mitigate these risks; and</p> <p>(g) details of who would be responsible for monitoring, reviewing, and implementing the plan.</p>		<p>(a) Rehabilitation objectives (Section 3.1);</p> <p>(b) A discussion of short term (Section 3.4), medium-term (Section 3.5) and long-term rehabilitation measures (Section 3.6);</p> <p>(c) Section 7 outlines a three-yearly plan for rehabilitation of the site (to Q4 2024);</p> <p>(d) Section 3.7 of the LMP describes:</p> <ul style="list-style-type: none"> <li>• Progressive rehabilitation (Section 3.7);</li> <li>• Landscaping the site to minimise visual impacts (Section 3.7.2);</li> <li>• Protection of vegetation and soil outside of disturbance areas (Section 3.7.3);</li> <li>• Preventing and/or minimising accretion of sand dunes outside the project disturbance areas (Section 3.7.4);</li> <li>• Undertaking pre-clearance surveys (Section 3.7.5);</li> <li>• Salvaging and reusing material from the site for habitat enhancement (Section 3.7.6);</li> <li>• Managing impacts on fauna (Section 3.7.7);</li> <li>• Maintaining koala habitat linkages (Section 3.7.8);</li> <li>• Conserving and reusing topsoil (Section 3.7.9)</li> <li>• Collecting and propagating seed for rehabilitation works (Section 3.7.10);</li> <li>• Controlling weeds and feral pests (Section 3.7.11, and Section 3.7.12);</li> <li>• Controlling access (Section 3.7.1);</li> <li>• Bushfire management (Section 3.7.14);</li> </ul> <p>(e) Monitoring of performance measures addressed through the Mackas Sand Environmental Management Strategy (EMS) and described in LMP V5 Sections 3.8.2.1 &amp; 3.8.2.2;</p>

Cond	Development Consent PA o8_0142	Status	Evidence
			(f) Potential risks to rehabilitation success are described in Section 3.9; and (g) Section 1.4 provides the Quarry Manager as the responsible person for ensuring the monitoring, reviewing, and implementation of the LMP.
27.	The Long Term Management Strategy must: <ul style="list-style-type: none"> <li>define the objectives and criteria for quarry closure and post-extraction management;</li> <li>investigate and/or describe options for the future use of the site;</li> <li>describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and</li> <li>describe how the performance of these measures would be monitored over time.</li> </ul>	C	The LMP includes: <ul style="list-style-type: none"> <li>Rehabilitation objectives and closure criteria (Section 3.1, 3.2 and 3.3);</li> <li>Options for future use of the site (Section 1.5 and Section 4.2);</li> <li>Measures that would be implemented for the ongoing environmental effects of the Project (Sections 3.0 and 4.3);</li> <li>Monitoring of these performance measures addressed through the Project EMS (Section 3.8.2.1 and Section 3.8.2.2).</li> </ul>
<b>Rehabilitation and Landscape Management - Rehabilitation Bond</b>			
28.	Within 3 months of the approval of the Landscape Management Plan, the Proponent shall lodge a rehabilitation bond for the project with the Secretary to ensure that the site rehabilitation is implemented in accordance with the performance and completion criteria of the Landscape Management Plan. The sum of the bond shall be determined by: <p>(a) calculating the full cost of rehabilitating the site in each 3 year review period (see condition 7 of schedule 5); and</p> <p>(b) employing a suitably qualified expert to verify the calculated costs, to the satisfaction of the Secretary.</p> <p><i>Notes:</i></p> <ul style="list-style-type: none"> <li><i>If the rehabilitation is completed to the satisfaction of the Secretary, the Secretary will release the bond.</i></li> <li><i>If the rehabilitation is not completed to the satisfaction of the Secretary, the Secretary will call in all or part of the bond, and arrange for the satisfactory completion of the relevant works.</i></li> </ul>	<b>NC</b>	Viewed DPHI letters to Mackas Sand dated: <ul style="list-style-type: none"> <li>11 March 2021, approving the expert proposed by Mackas Sand to verify the Rehabilitation Bond;</li> <li>19 August 2022, approving the LMP; and</li> <li>19 September 2022, approving the rehabilitation bond calculation of 30/11/21 and requiring that the bond is lodged by 19/12/21.</li> </ul> Viewed copy of Bank Guarantee to DPHI on behalf of Mackas Sand for the value required by DPHI for 'Mackas Sand Pty Ltd Project (o8-0142) Rehabilitation Bond dated 22/12/22. <b>The Project Rehabilitation Bond was lodged outside of the period required by DPHI. This non-compliance was acknowledged by Mackas Sand in Section 11.1 of the 2022 AR.</b>

Cond	Development Consent PA o8_o142	Status	Evidence
			Viewed DPHI letter to Mackas Sand date 02/06/23 acknowledging the receipt of the Bank Guarantee for the rehabilitation bond.
<b>Rehabilitation and Landscape Management - Biodiversity Offset Strategy</b>			
28A.	<p>The Proponent shall prepare a Biodiversity Offset Strategy for the Biodiversity Offset Area, in consultation with OEH and to the satisfaction of the Secretary. The strategy must include:</p> <p>(a) performance criteria for the offset area;</p> <p>(b) a description of the proposed short-term and long-term management measures for the offset area, including to:</p> <ul style="list-style-type: none"> <li>• protect, conserve and enhance the vegetation within the offset area;</li> <li>• control access to the offset area;</li> <li>• control weeds and feral pests; and</li> </ul> <p>(c) a program to measure and monitor the effectiveness of the Strategy against the performance criteria.</p> <p>The Proponent shall implement the approved strategy as approved from time to time by the Secretary.</p>	NT	<p>Viewed correspondence between Mackas Sand and DPHI during the audit period over the Project Biodiversity Offset Strategy (BOS), including:</p> <ul style="list-style-type: none"> <li>• Letter from Umwelt to DPE seeking guidance of the form of the BOS on 19/08/21 and DPE-BCD response dated 26/08/32;</li> <li>• DPE-BCD letter to Umwelt providing comment on the draft BOS, dated 04/10/22;</li> <li>• Draft BOS dates June 2023;</li> <li>• Revised Draft BOS dated September 2023.</li> </ul> <p><b>It is recommended that Mackas Sand continue to liaise closely with DPHI and NSW DCCCEEW to gain approval for the Project BOS.</b></p> <p>Viewed examples of monthly biodiversity offset area (BOA) inspection reports completed by Mackas Sand on 25/01/24, 28/03/24 and 02/05/24. The inspection reports document the condition of BOA stock exclusion fencing, presence of weeds and rubbish, fuel loads and photos of observations.</p>

Cond	Development Consent PA o8_o142	Status	Evidence
<b>Rehabilitation and Landscape Management - Long Term Security of Biodiversity Offset</b>			
28B.	<p>Prior to the end of December 2014, or as otherwise agreed by the Secretary, the Proponent shall make suitable arrangements to provide appropriate long-term security for the Biodiversity Offset Area, to the satisfaction of the Secretary.</p> <p><i>Note: Mechanisms to provide appropriate long term security to the land within the Biodiversity Offset Strategy include a Biobanking Agreement under Part 7A Division 2 of the Threatened Species Conservation Act 1995, a Voluntary Conservation Agreement under section 69B of the National Parks and Wildlife Act 1974, or any alternative mechanism that results in similar conservation outcomes. Any mechanism used to secure the land must remain in force in perpetuity.</i></p>	C	Viewed a copy of Conservation Agreement VCo532 for Mackas Sand Biodiversity Offset Area between B & RB MacKenzie FT Pty Ltd and DPIE, executed 30/06/20.
<b>Heritage - Aboriginal Cultural Heritage Management Plan</b>			
29.	<p>The Proponent shall prepare an Aboriginal Cultural Heritage Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with OEH and the Aboriginal community, and be submitted to the Secretary for approval prior to the disturbance of any Aboriginal object or site; and</p> <p>(b) include a:</p> <ul style="list-style-type: none"> <li>• detailed salvage program and management plan for all identified Aboriginal sites within the project disturbance area;</li> <li>• detailed description of the measures that would be implemented to protect Aboriginal sites and PAD outside the project disturbance area;</li> <li>• protocol for monitoring operations and vegetation removal on the site;</li> <li>• protocol for undertaking additional archaeological investigation, and where warranted excavation and/or salvage, on: <ul style="list-style-type: none"> <li>o any identified stabilised soil surfaces on Lot 218 that are proposed to be disturbed; or</li> <li>o any area of the identified PAD on Lot 220 that is proposed to be disturbed;</li> </ul> </li> <li>• protocol for monitoring of reject material;</li> <li>• description of the measures that would be implemented if any new Aboriginal objects or skeletal remains are discovered during the project; and</li> <li>• protocol for the ongoing consultation and involvement of the Aboriginal community in the conservation and management of Aboriginal cultural heritage on the site, including the establishment of a management group comprising Aboriginal stakeholders and a suitably qualified archaeologist.</li> </ul>	C	<p>Viewed July 2016 Aboriginal Cultural Heritage Management Plan (ACHMP) for the Project prepared by Umwelt. The ACHMP includes:</p> <p>(a) Summary of consultation undertaken with the local Aboriginal community (Section 2.1) and Appendix A of the plan;</p> <p>(b) Measures for the protection and salvage of Aboriginal artefacts and for heritage sites outside of the Project disturbance boundary (Section 5.1 – 5.3)</p> <ul style="list-style-type: none"> <li>• Monitoring protocols, including for reject material screened during site operations (Sections 5.7);</li> <li>• Procedures for the discovery of any new heritage sites (Sections 5.8 – 5.13);</li> <li>• Ongoing consultation processes (Sections 5.13 – 5.17).</li> </ul> <p>BJ (pers comms) noted that reject material has continued to be screening during the audit period, with no new artefacts identified during the audit period.</p> <p>Viewed R. Mackenzie email to BJ dated 06/06/24, noting that meetings and site inspections by the Aboriginal Heritage Working Group were cancelled</p>

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	The Proponent shall implement the approved management plan as approved from time to time by the Secretary.		during Covid (2020 and 2021). Following this, Worimi LALC have been unavailable to attend site to review collected samples due to heavy workload on other projects.  <b>It is recommended that Mackas Sand consult with the Worimi LALC over recommending inspections of screened material recovered during site operations, in accordance with the ACHMP.</b>
<b>Heritage - Non-Indigenous Heritage Management Plan</b>			
30.	<p>The Proponent shall prepare a non-indigenous Heritage Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with the Heritage Branch and Council, and be submitted to the Secretary for approval prior to the disturbance of any heritage item, including the identified tank traps;</p> <p>(b) include:</p> <ul style="list-style-type: none"> <li>• archival recording of the tank traps, in accordance with the requirements and guidelines of the Heritage Branch;</li> <li>• a protocol for the investigation, removal and storage of the tank traps, and for their reinstallation following quarrying operations; and</li> <li>• a description of the measures that would be implemented if any new heritage objects or items are discovered during the project.</li> </ul> <p>The Proponent shall implement the approved management plan as approved from time to time by the Secretary.</p>	C	<p>Viewed the Non-Indigenous Heritage Management Plan (NIHMP) prepared for the Project by Umwelt, dated July 2016.</p> <p>(a) Consultation records for the 2016 NIHMP are not included in the approved plan. <b>It is recommended that records of consultation and approval of the NIHMP are included in the next revision of the document.</b></p> <p>(b) Section 5 of the NIHMP describes the archival recording of the heritage tank traps located within Lot 220 and a process for their removal, storage and reinstallation during Project operations.</p> <p>Viewed tank traps stockpiled and partially reinstalled along the alignment within Lot 220 where existing rehabilitation allows (see <b>Plate 18</b>).</p> <p>Section 5.3 of the NIHMP provides a protocol for the investigation of new heritage items during Project operations. BJ (pers comms) confirmed that no new non-indigenous heritage items were identified during the reporting period.</p>
<b>Traffic and Transport - Road Upgrades</b>			
31.	The Proponent shall upgrade Lavis Lane (including the eastern section leading to the private haul	NT	BJ (pers comms) confirmed that the Lavis Lane access

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	road) to provide a minimum 6 metre sealed carriageway, to the satisfaction of Council, prior to the commencement of transportation using the Lavis Lane access road, unless otherwise agreed by the Secretary.		route has not been developed.
<b>Traffic and Transport - Alternate Access to Lot 218</b>			
31A.	<p>If the Proponent intends to use the Alternate access road, the Proponent shall:</p> <p>(a) arrange for an independent Road Safety Audit to be undertaken based on the existing concept design plan for the intersection on Nelson Bay Road and the proposed alternate access road . The Road Safety audit should assess the impact of construction of the proposed acceleration lane and the safety of vehicles turning into the existing driveways of the properties located on the northern side of Nelson Bay Road and into Sansom Road/Nelson Bay Road. The Road Safety Audit should also identify appropriate safety measures to make right turn manoeuvres from Nelson Bay Road safer. The Road Safety Audit is to be conducted prior to construction and to the satisfaction of RMS.</p> <p>(b) construct the Alternate access road, in consultation with, and to the satisfaction of, Council;</p> <p>(c) tar seal and maintain the first 200 m of the Alternate access road south from Nelson Bay Road, to the satisfaction of Council;</p> <p>(d) construct a left-in, left-out intersection from Nelson Bay Road to the Alternate access road, with appropriate acceleration and deceleration lanes, advance "Trucks Entering" warning signage and road markings in accordance with relevant Austroads standards, in consultation with RMS and Council, and to the satisfaction of RMS;</p> <p>(e) upgrade the access point to 2344 Nelson Bay Road, in consultation with the landowner and to the satisfaction of RMS;</p> <p>(f) not use the Alternate access road to transport sand until all RMS requirements regarding the intersection have been fully met; and</p> <p>(g) use its best endeavours to obtain an agreement from local bus operators to not make unscheduled stops in, or immediately adjacent to, the proposed acceleration and deceleration lanes.</p> <p><i>Note: The conceptual alignment of the alternate access road is shown in Appendix 1.</i></p>	C	Deemed compliant by previous IEA.
31B.	The Proponent shall not restrict public access to any Crown road or public road located along the alignment of the Alternate access road, whilever the roads remain Crown roads or public roads.	C	No restrictions to access were observed during the site inspection, and no community complaints were received in relation to access during the audit period.
<b>Traffic and Transport - Traffic Restrictions</b>			

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32.	<p>The Proponent shall restrict truck movements (in plus out) on Lavis Lane and Oakvale Road to a maximum of 10 per hour during the night time period and on Sundays and public holidays, unless otherwise approved by the Secretary.</p> <p><i>Note: The Secretary may consider allowing additional truck movements if the Proponent has agreements with residents on Lavis Lane and Oakvale Road, as described in condition 9 above.</i></p>	C	<p>See Schedule 3, Condition 4B above.</p> <p>BJ (pers comms) confirmed that the Lavis Lane access route has not been developed.</p>
<b>Traffic and Transport - Road Haulage</b>			
33.	<p>The Proponent shall ensure that:</p> <p>(a) all loaded vehicles entering or leaving the site are covered; and</p> <p>(b) all loaded vehicles leaving the site are cleaned of materials that may fall on the road, before they leave the site.</p>	C	<p>Trucks entering and leaving site observed during the site inspection were covered and a hose reel was in place at the Lot 220 weighbridge to allow trucks to be cleaned off before leaving site (see <b>Plate 10</b>).</p> <p>BJ (pers comms) noted that the site access road surface is regularly maintained by a road sweeper. Viewed copy of SPS invoice to Mackas Sand dated 31/10/23 for labour hire of a Road Sweeper.</p> <p>Requirements for vehicles entering site are provided in the Project Code of Conduct (see Schedule 3, Condition 33A below).</p>
<b>Traffic and Transport - Driver's Code of Conduct</b>			
33A.	<p>Prior to 14 April 2016, the Proponent shall prepare a Drivers' Code of Conduct applicable to drivers of all project-related vehicles, including trucks that haul sand from Mackas Sand's operations on Lots 218 and 220. This Code of Conduct must:</p> <p>(a) be prepared in consultation with Council and RMS and be submitted to the Secretary for approval;</p> <p>(b) describe the measures that would be implemented to ensure that drivers of all project-related vehicles, including sand haulage trucks:</p> <ul style="list-style-type: none"> <li>• comply with this Drivers' Code of Conduct;</li> <li>• are made aware of potential safety issues both on site and on the public road haulage routes;</li> <li>• are informed of when heavy traffic volumes are likely to be encountered on Nelson Bay Road, including the 6 am to 9 am peak and the summer holiday period;</li> <li>• are informed of usual school bus travel times on Nelson Bay Road and Cabbage Tree Road as well as the location of all bus stops on these roads;</li> <li>• are made aware of potential interactions with general traffic on Nelson Bay Road whilst merging</li> </ul>	C	<p>Viewed the Drivers Code of Conduct (CoC) for the Project dated February 2023 prepared by Umwelt.</p> <p>(a) Section 2.1 of the CoC notes that consultation over the original 2016 version of the document was completed. Viewed DPE letter dated 07/03/23 approving the February 2023 version of the CoC.</p> <p>(b) Section 3 of the CoC includes content on:</p> <ul style="list-style-type: none"> <li>• Requirement for all drivers to comply with the CoC and be informed of potential haulage safety issues (Sections 3.1, 3.3);</li> <li>• Peak traffic volume periods, and school times, bus stops (Section 3.3.2);</li> <li>• Contact details for incidents or emergency situations (Section 3.4);</li> </ul>

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	<p>from the acceleration lane of the access road intersection;</p> <ul style="list-style-type: none"> <li>• are provided with contact details in case of emergencies or accidents;</li> <li>• are provided with details of potential environmental hazards, such as potential for fauna to cross the access road, particularly at dawn and dusk;</li> <li>• are provided with a detailed protocol that sets out what drivers are required to do to arrange for the care of any injured fauna and that they must immediately report all fauna strikes on the site to Mackas Sand's management;</li> <li>• provided with updates on local road conditions;</li> <li>• minimise truck noise impacts at residences; and</li> <li>• minimise travel to the site prior to 5 am on weekdays;</li> </ul> <p>(c) include a monitoring program of the measures in (b).</p> <p>The Proponent shall implement the approved Drivers' Code of Conduct as approved from time to time by the Secretary.</p>		<ul style="list-style-type: none"> <li>• Potential environmental hazards, including fauna crossing Project access roads (Section 3.5);</li> <li>• Protocol for reporting and responding to fauna strike incidents (Section 3.5);</li> <li>• Notification of local road conditions and any changes to site access arrangements (Section 3.6); and</li> <li>• Minimising truck noise impacts and access to site prior to 5am weekdays (Section 3.3).</li> </ul> <p>(c) Section 4 of the CoC includes procedures for the monitoring of compliance with the CoC. Appendix 1 of the CoC includes a proforma to be completed by all truck operators to acknowledge the requirement to comply with Project procedures.</p> <p>Viewed evidence of the Mackas Sand induction and CoC being signed off by staff and haulage contractors and the records retained. BJ (pers comms) confirmed that the inductions are provided to truck operators via the Mackas Sand website:  <a href="https://mackassand.com.au/about/induction_courses/">https://mackassand.com.au/about/induction_courses/</a>.</p>
<b>Traffic and Transport - Vehicle Monitoring</b>			
33B.	The Proponent shall assess the effectiveness of the measures contained within the Drivers' Code of Conduct, to the satisfaction of the Secretary.	<b>NC</b>	See Schedule 3, Condition 33D.
33C.	The Proponent shall provide, in each Annual Review, a report on condition 33B above and which includes details of all fauna injured or killed by vehicle strikes, time and date of any such strike, species involved, action taken immediately following the strike and any consequent measures put in place to prevent or minimise a recurrence of fauna strikes.	C	Section 6.10.2.3 of the audit period ARs report on fauna strikes. None were recorded during the audit period.
33D.	The Proponent shall install and operate video cameras adjacent to the Alternative access road approximately 100 metres from its intersection with Nelson Bay Road to monitor the time and direction of travel of vehicles as they enter and leave the Lot 218 sand quarry, to the satisfaction of the Secretary. These cameras must be located in a fixed position with a field of view that only incorporates lands owned by the Proponent. Recordings from these cameras must be securely	<b>NC</b>	Viewed Table 1.2 Section 1 of the 2023 AR. Due to a supply fault in the powerlines, <b>the video camera at the alternative access road lost power on the 19/11/23. Power and functionality were restored on the 22/11/23.</b>

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	stored for at least 30 days and made available to the Department on request.		<p><b>This incident was reported via the DPE portal on 29/11/23.</b> The letter attached to the non-compliance notification letter of 29/11/23 noted that Mackas Sand would consider the installation of surge protection and/or a UPS to the camera and associated hard disk memory in response to the incident.</p> <p>A response to the non-compliance notification was provided by DPHI to Mackas Sand via email on 21/02/24, noting that the matter has been investigated by the Department and that no formal action would be undertaken due to the nature of the incident and the proposed response.</p> <p>Viewed Jarvie Tech invoice to Mackas Sand for supply and install of replacement UPS for site access camera power supply contingency dated 19/03/24.</p>
33E.	The Proponent shall, by the use of its weighbridge on the Alternate access road to Lot 218, make, and retain for 12 months, records of the time of arrival, time of dispatch, weight of load and vehicle identification for each laden truck dispatched via the Alternate access road. These records shall be made available to the Department on request.	C	Deemed compliant by previous IEA.
<b>Traffic and Transport - Parking</b>			
34.	The Proponent shall provide sufficient parking on-site for all project-related traffic, in accordance with Council's parking codes, and to the satisfaction of the Secretary.	C	Deemed compliant by previous IEA. Sufficient parking was available at the time of audit.
<b>Visual - Visual Amenity</b>			
35.	The Proponent shall minimise the visual impacts of the project to the satisfaction of the Secretary.	C	Section 3.7.2 of the Project LMP describes measures to minimise visual impacts of the Project. Project disturbance and rehabilitation areas were found to be well shielded from external view at the time audit.
<b>Visual - Lighting Emissions</b>			
36.	The Proponent shall: (a) take all practicable measures to mitigate off-site lighting impacts from the project; and (b) ensure that all external lighting associated with the project complies with Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting, to the satisfaction of the	C	BJ (pers comms) noted that the Project did not require lighting additional to equipment-mounted lights, given the approved hours of operation. Lighting from operating equipment is generally shielded from

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	Secretary.		external view by screening topography and vegetation. No lighting complaints were received during the audit period.
<b>Visual - Advertising</b>			
37.	The Proponent shall not erect or display any advertising structure(s) or signs on the site without the written approval of the Secretary. <i>Note: This does not include traffic management and safety or environmental signs.</i>	C	No advertising structures were observed on the Project site during the audit inspection.
<b>Waste Management - Waste Minimisation</b>			
38.	The Proponent shall minimise the amount of waste generated by the project to the satisfaction of the Secretary.	C	Minimal waste materials were on site at the time of audit, with waste bins in place for key areas on entry/ exit from site. Viewed example waste collection invoices during the audit period, including: <ul style="list-style-type: none"> <li>Cleanaway, for waste oils, on 19/05/22; and</li> <li>Remondis, for general waste in April 2022, July 2023 and August 2023.</li> </ul>
<b>Emergency and Hazards Management - Dangerous Goods</b>			
39.	The Proponent shall ensure that the storage, handling, and transport of fuels and dangerous goods are conducted in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the Dangerous Goods Code.	NC	No significant volumes of fuels or other potentially hazardous materials were observed to be stored in pit during the site inspection.  <b>A bunded refuelling tank for Project equipment has been set up outside of the Lot 218 operational area, however evidence was not available to confirm that the tank complies with the relevant AS (see Plate 12).</b>  BJ (pers comms) noted that a replacement 33,000 L fuel tank has been acquired by Mackas Sand and will be installed in mid-2024. The replacement fuel tank is manufactured in accordance with AS 1940-2017 (see Plate 24).  <b>It is recommended that the existing tank is</b>

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			decommissioned and removed from site as soon as possible once the replacement tank is in operation.
<b>Emergency and Hazards Management - Safety</b>			
40.	The Proponent shall secure the project to ensure public safety to the satisfaction of the Secretary.	C	Viewed signage, fencing and gates in place on access roads to notify the public of the Project and prevent access (see <b>Plate 1, Plate 2, Plate 13</b> ). BJ (pers comms) confirmed no issues regarding public safety had been raised by DPHI or members of the community during the audit period.
<b>Emergency and Hazards Management - Bushfire Management Production Data</b>			
41.	The Proponent shall: (a) ensure that the project is suitably equipped to respond to any fires on-site; and (b) assist the rural fire service and emergency services as much as possible if there is a fire on-site.	C	(a) A watercart is retained on site that can be used for initial response to fires. Also viewed example Frontline Fire systems service report for Project equipment dated 18/01/24; (b) BJ (pers comms) noted that regular meetings are held on site with RFS and BCD representatives over fire response and access.
<b>Production Data</b>			
42.	The Proponent shall: (a) provide annual production data to the DRE using the standard form for that purpose; and (b) include a copy of this data in the Annual Review.	C	(a) Viewed examples of Extractive Materials Returns for Lot 218 (22/09/21) and Lot 220 (27/08/21) lodged with the Resources Regulator. BJ (pers comms) confirmed that subsequent data was lodged on the RR portal. <b>It is recommended that Mackas Sand retain evidence of annual production data being lodged on the Resources Regulatory portal.</b> (b) Annual production data is reported in Project ARs (see Schedule 2, Condition 6 above).
<b>SCHEDULE 4 – ADDITIONAL PROCEDURES</b>			
<b>Notification of Landholders</b>			

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1.	Within 1 month of the date of this approval, the Proponent shall notify the landowner of residence R1 in writing that they have the right to require the Proponent to undertake additional noise mitigation measures on their residence in accordance with condition 8 of schedule 3 at any stage during the project, if the residence is habitable in the opinion of the Secretary.	C	Deemed compliant by previous IEA.
2.	If the results of the monitoring required in schedule 3 identify that impacts generated by the project are greater than the relevant impact assessment criteria, except where a negotiated agreement has been entered into in relation to that impact, then the Proponent shall, within 2 weeks of obtaining the monitoring results, notify the Secretary, the affected landowners and tenants (including tenants of quarry-owned properties) accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the criteria in schedule 3.	NT	No exceedances of noise and air quality impact assessment criteria as a result of the Project were recorded during the audit period. See Schedule 3, Conditions 4 – 8, 11.
<b>Independent Review</b>			
3.	If a landowner of privately-owned land considers the project to be exceeding the impact assessment criteria in schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the project on his/her land.	NT	BJ (pers comms) confirmed that no independent reviews were requested during the audit period.
4.	If the Secretary is satisfied that an independent review is warranted, the Proponent shall within 2 months of the Secretary's decision: (a) consult with the landowner to determine his/her concerns; (b) commission a suitably qualified, experienced, and independent person, whose appointment has been approved by the Secretary, to conduct monitoring on the land, to: <ul style="list-style-type: none"> <li>determine whether the project is complying with the relevant impact assessment criteria in schedule 3; and</li> <li>identify the source(s) and scale of any impact on the land, and the project's contribution to this impact; and</li> </ul> (c) give the Secretary and landowner a copy of the independent review.	NT	See Schedule 4, Condition 3 above.
5.	If the independent review determines that the project is complying with the relevant impact assessment criteria in schedule 3, then the Proponent may discontinue the independent review with the approval of the Secretary. If the independent review determines that the project is not complying with the relevant impact assessment criteria in schedule 3, then the Proponent shall: (a) implement all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria, and conduct further monitoring to determine	NT	See Schedule 4, Condition 3 above.

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	<p>whether these measures ensure compliance; or            (b) secure a written agreement with the landowner to allow exceedances of the relevant impact assessment criteria,            to the satisfaction of the Secretary.</p> <p>If the further monitoring referred to under paragraph (a) above determines that the project is complying with the relevant impact assessment criteria, then the Proponent may discontinue the independent review with the approval of the Secretary.</p>		
<b>Land Acquisition</b>			
6.	<p>Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall make a binding written offer to the landowner based on:</p> <p>(a) the current market value of the landowner's interest in the property at the date of this written request, as if the property was unaffected by the project the subject of the project application, having regard to the:</p> <ul style="list-style-type: none"> <li>• existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and</li> <li>• presence of improvements on the property and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of the 'additional noise mitigation measures' in condition 8 of schedule 3;</li> </ul> <p>(b) the reasonable costs associated with:</p> <ul style="list-style-type: none"> <li>• relocating within the Port Stephens local government area, or to any other local government area determined by the Secretary;</li> <li>• obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and</li> </ul> <p>(c) reasonable compensation for any disturbance caused by the land acquisition process.</p> <p>However, if following this period, the Proponent and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Secretary for resolution.</p> <p>Upon receiving such a request, the Secretary shall request the President of the NSW Division of the Australian Property Institute (the API) to appoint a qualified independent valuer to:</p> <p>(a) consider submissions from both parties;</p> <p>(b) determine a fair and reasonable acquisition price for the land and/or the terms upon which the</p>	NT	BJ (pers comms) confirmed that no acquisition requests were received during the audit period.

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	<p>land is to be acquired, having regard to the matters referred to in paragraphs (a)-(c) above;</p> <p>(c) prepare a detailed report setting out the reasons for any determination; and</p> <p>(d) provide a copy of the report to both parties.</p> <p>Within 14 days of receiving the independent valuer's report, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination.</p> <p>However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Secretary for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Secretary shall determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above and the independent valuer's report. Within 14 days of this determination, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the Secretary's determination.</p> <p>If the landowner refuses to accept the Proponent's binding written offer under this condition within 6 months of the offer being made, then the Proponent's obligations to acquire the land shall cease, unless the Secretary determines otherwise.</p>		
7.	The Proponent shall pay all reasonable costs associated with the land acquisition process described in condition 6 above.	NT	See Schedule 4, Condition 6 above.
8.	If the Proponent and landowner agree that only part of the land shall be acquired, then the Proponent shall also pay all reasonable costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of the plan at the Office of the Registrar-General.	NT	See Schedule 4, Condition 6 above.
<b>SCHEDULE 5 – ENVIRONMENTAL MANAGEMENT AND MONITORING CONDITIONS</b>			
<b>Environmental Management Strategy</b>			
1.	<p>The Proponent shall prepare an Environmental Management Strategy for the project to the satisfaction of the Secretary. This strategy must:</p> <p>(a) be submitted to the Secretary for approval within 3 months of the date of this approval;</p> <p>(b) provide the strategic framework for environmental management of the project;</p> <p>(c) identify the statutory approvals that apply to the project;</p>	C	<p>Viewed Project EMS dated July 2016 prepared by Umwelt. The EMS contains:</p> <p>(a) Reference to consultation undertaken for approval of the EMS (deemed compliance by previous IEA);</p> <p>(b) Strategic framework for the Project (Section 1,5);</p>

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	<p>(d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;</p> <p>(e) describe the procedures that would be implemented to:</p> <ul style="list-style-type: none"> <li>• keep the local community and relevant agencies informed about the operation and environmental performance of the project;</li> <li>• receive, handle, respond to, and record complaints;</li> <li>• resolve any disputes that may arise during the course of the project;</li> <li>• respond to any non-compliance; and</li> <li>• respond to emergencies; and</li> </ul> <p>(f) include:</p> <ul style="list-style-type: none"> <li>• copies of the various strategies, plans and programs that are required under the conditions of this approval once they have been approved; and</li> <li>• a clear plan depicting all the monitoring currently being carried out within the project area.</li> </ul> <p>The Proponent shall implement the approved strategy as approved from time to time by the Secretary.</p>		<p>(c) Approvals framework (Section 2.0);</p> <p>(d) Roles and responsibilities for the Quarry Manager as the accountable person for implementation of the EMS (Section 1.6);</p> <p>(e) Community engagement ad complaints / dispute resolution (Section 3.1). Viewed records of annual Pollution Incident Response Plan testing and training completed during the audit period as per the EMS in April 2021, October 2022, November 2023 and January 2024; and</p> <p>(f) Reference to other environmental management documentation required under the conditions of PA o8_o142 and an overview of environmental monitoring locations (Section 1.4 and Section 4).</p>
<b>Incident Reporting</b>			
2.	<p>Within 24 hours of detecting an exceedance of the limits/performance criteria in this approval or the occurrence of an incident that causes (or may cause) material harm to the environment, the Proponent shall notify the Department and other relevant agencies of the exceedance/incident.</p>	C	<p>The Department were notified of two Project incidents during the audit period. See Schedule 3, Conditions 4B and 33D for a description of each incident and associated Mackas Sand correspondence with DPHI.</p>
3.	<p>Within 6 days of notifying the Department and other relevant agencies of an exceedance/incident, the Proponent shall provide the Department and these agencies with a written report that must:</p> <p>(a) describe the date, time, and nature of the exceedance/incident;</p> <p>(b) identify the cause (or likely cause) of the exceedance/incident;</p> <p>(c) describe what action has been taken to date; and</p> <p>(d) describe the proposed measures to address the exceedance/incident.</p>	C	<p>See Schedule 5, Condition 2 above. Reports for the two incidents that occurred during the audit period were provided to DPHI within six days of the initial notification being made.</p>
<b>Annual Review</b>			
4.	<p>By the end of March each year, or other timing agreed by the Secretary, the Proponent shall review the environmental performance of the project to the satisfaction of the Secretary. This</p>	C	<p>(a) Viewed record of AR lodgement for the audit period to the Department via the Planning portal,</p>

Cond	Development Consent PA o8_o142	Status	Evidence
	<p>review must:</p> <p>(a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the next year;</p> <p>(b) include a comprehensive review of the monitoring results and complaints records of the project over the past calendar year, which includes a comparison of these results against the:</p> <ul style="list-style-type: none"> <li>• relevant statutory requirements, limits or performance measures/criteria;</li> <li>• requirements of any plan, program or strategy required under this approval;</li> <li>• monitoring results of previous years; and</li> <li>• relevant predictions in the EA and EA (MOD 1);</li> </ul> <p>(c) identify any non-compliance over the past calendar year, and describe what actions were (or are being) taken to ensure compliance;</p> <p>(d) identify any trends in the monitoring data over the life of the project;</p> <p>(e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and</p> <p>(f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the project.</p>		<p>including on:</p> <ul style="list-style-type: none"> <li>• 2021 AR, 31 March 2022. The AR was accepted as adequate by DPE letter 02/05/22;</li> <li>• 2022 AR, on 31 March 2023; and</li> <li>• 2023 AR, on 28 March 2024.</li> </ul> <p>(b) Viewed Section 9.1 of the audit period ARs. No complaints were received during the audit period.</p> <p>(c) Section 1 of the audit period ARs provides a statement of compliance for each year;</p> <p>(d) Sections 6 and 7 of the audit period ARs review monitoring data trends;</p> <p>(e) Sections 6 and 7 of the audit period ARs review performance of Project operations against predictions; and</p> <p>(f) Sections 6 and 12 of the audit period ARs describe management and mitigation improvements.</p>
<b>Revision of strategies, plans and programs</b>			
4A.	<p>Within 3 months of:</p> <p>(a) the submission of an incident report under conditions 2 or 3 above;</p> <p>(b) the submission of an annual review under condition 4 above;</p> <p>(c) the submission of an audit report under condition 6 below; or</p> <p>(d) any modification to the conditions of this approval, (unless the conditions require otherwise), the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this consent, to the satisfaction of the Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Secretary.</p> <p><i>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.</i></p>	C	<p>The status of PA o8_o142 management plans is outlined in Section 3.2 of the audit period ARs. These sections note the review and update of Project documents completed each year, including those in response to incidents, audits and as part of the AR process.</p>
<b>Independent Environmental Audit</b>			

Cond	Development Consent PA o8_o142	Status	Evidence
5.	<p>Within 2 years of the date of the commencement of quarrying operations, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:</p> <p>(a) be conducted by a suitably qualified, experienced, and independent team of experts whose appointment has been approved by the Secretary;</p> <p>(b) assess the environmental performance of the project, and its effects on the surrounding environment;</p> <p>(c) assess whether the project is complying with the relevant standards, performance measures and statutory requirements;</p> <p>(d) review the adequacy of any strategy/plan/program required under this approval; and, if necessary,</p> <p>(e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy/plan/program required under this approval.</p>	C	This audit report.
6.	<p>Within 1 month of completion of each Independent Environmental Audit, the Proponent shall submit a copy of the audit report to the Secretary and relevant agencies, with a response to any of the recommendations in the audit report.</p>	NT	Mackas Sand to complete
7.	<p>Within 3 months of submitting a copy of the audit report to the Secretary, the Proponent shall review and if necessary revise the:</p> <p>(a) strategies/plans/programs required under this approval; and</p> <p>(b) rehabilitation bond, to consider the:</p> <ul style="list-style-type: none"> <li>• effects of inflation;</li> <li>• changes to the total area of disturbance; and</li> <li>• performance of the rehabilitation against the completion criteria of the Landscape Management Plan,</li> </ul> <p>to the satisfaction of the Secretary.</p>	NT	Mackas Sand to complete
<b>Community Consultative Committee</b>			
8.	<p>Within 3 months of the commencement of quarrying operations, the Proponent shall establish a Community Consultative Committee (CCC) for the project to the satisfaction of the Secretary, in accordance with the Department's Guideline for Establishing and Operating Community Consultative Committees for Mining Projects.</p>	C	<p>Establishment of the Project CCC was deemed compliant by previous IEA.</p> <p>Viewed copies of minutes of CCC Meetings held six-monthly during the audit period up to July 2023. The CCC was suspended with DPHI's approval in 2023 (see</p>

Cond	Development Consent PA o8_o142	Status	Evidence
			email correspondence from the CCC Chair in Appendix D).
<b>Access to Information</b>			
9.	<p>Within 1 month of the approval of any strategies/plans/programs required under this approval (or any subsequent revision of these strategies/plans/programs), or the completion of the audits or Annual Review required under this approval, the Proponent shall:</p> <p>(a) provide a copy of the relevant document/s to the relevant agencies and to members of the general public upon request; and</p> <p>(b) ensure that a copy of the relevant document/s is made publicly available on its website and at the site.</p>	<b>NC</b>	<p><b>The 2023 AR was not available on the Project website at the time of audit.</b> The website has since been updated on 02/05/24 to include the AR document lodged with DPHI on 28/03/24.</p>
10.	<p>During the project, the Proponent shall:</p> <p>(a) make a summary of monitoring results required under this approval publicly available on its website and at the site; and</p> <p>(b) update these results on a regular basis (at least every 3 months).</p>	<b>NC</b>	<p><b>Air quality and groundwater monitoring reports from Q4 2023 were not available on the Project website at the time of audit.</b> The website has since been updated to include the required data.</p> <p><b>It is recommended that Mackas Sand regularly review the Project website to ensure it includes the document required to be published under Schedule 5, Conditions 9 and 10.</b></p>

Table C2 PA 08\_0142 Statement of Commitments

Ref	Commitment	Status	Evidence
<b>PA 08_0142 APPENDIX 2: STATEMENT OF COMMITMENTS</b>			
<b>1.1 OPERATIONAL CONTROLS</b>			
1.1.1	All activities will be undertaken in accordance with the EA, EA (MOD 1) and EA (MOD 2).	NC	<b>Non-compliances against the conditions of PA 08_0142 were noted during the audit period.</b> These are discussed further under the relevant conditions below and in Table C1.
1.1.2	Sand extraction and processing activities at Lot 218 and Lot 220 may be undertaken 24 hours per day, seven days per week. No sand extraction operations will be undertaken within 250 metres of R27 (Hufnagl residence) between the hours of 6.00 pm and 7.00 am unless an agreement with the owner of R27 for extraction activities within these hours is obtained.	C	See Schedule 2, Condition 4B in <b>Table C1</b> . Project operations during the audit period were consistent with approved hours.
1.1.3	Transport of product from Lot 218 will be undertaken between 5.00 am and 10.00 pm, Monday to Saturday and 8.00 am to 12.00 pm on Sundays and Public Holidays. Transport of product from Lot 220 will be undertaken between 5.00 am and 10.00 pm, Monday to Saturday and 8.00 am to 12.00 pm on Sundays and Public Holidays.	C	See Schedule 2, Condition 4B in <b>Table C1</b> . Project operations during the audit period were consistent with approved hours.
1.1.4	A maximum of 1,000,000 tonnes per year of sand products will be extracted from Lot 218 and a maximum of 1,000,000 tonnes per year will be extracted from Lot 220. Annual sand production information will be provided to the Department and DRE.	C	Viewed 2021, 2022 and 2023 Annual Reviews (ARs). Product transport volumes from both Lots were within approved volumes.  2024 production to the end of April was: <ul style="list-style-type: none"> <li>279,895 tonnes from Lot 218; and</li> <li>1,856 tonnes from Lot 220.</li> </ul>
1.1.5	The interim landform during extraction on Lot 218 and Lot 220 will be no lower than 0.7 metres above the maximum predicted groundwater level as shown on Figure 2.1 of EA (MOD 1). The final landform will be at least 1 metre above the maximum predicted groundwater level as shown on Figure 4.9 of the EA. The height of the final landform will be verified by topographic survey.	C	See Schedule 2, Condition 7 in <b>Table C1</b> . Mackas Sand have implemented controls to ensure project operations are not undertaken with 0.7 metres of the maximum predicted groundwater levels on Lot 218 and Lot 220.
<b>1.2 ECOLOGY</b>			
1.2.1	A Vegetation Clearance Management Plan will be developed prior to any vegetation clearing occurring for the proposal. This plan will be implemented for all vegetation clearing required as part of the proposal.		

Ref	Commitment	Status	Evidence
1.2.2	A comprehensive Biodiversity Monitoring Program will be developed prior to any vegetation clearing being undertaken for the proposal.	C	Biodiversity monitoring required prior to initial vegetation clearing deemed compliant by previous IEA. See Schedule 3, Condition 24 in <b>Table C1</b> for a description of annual rehabilitation inspections completed during the audit period.
1.2.3	Clearing operations will be timed so that potential impacts on breeding species, particularly the squirrel glider and threatened micro-bats are avoided. Where possible, clearing will be avoided in winter months when micro-bats and the eastern pygmy possum are in a state of torpor and squirrel gliders begin to breed.	C	Section 3.7 of the LMP (see Schedule 3, Conditions 24 – 27 of <b>Table C1</b> ) describes the requirements for pre-clearance surveys, including the avoidance of winter months, where possible.
1.2.4	A Feral Animal Control Management Plan will be developed and implemented prior to any clearing activities being undertaken for the proposal.	C	Section 3.7 of the LMP (see Schedule 3, Conditions 24 – 27 of <b>Table C1</b> ) notes there are no feral pests on site. However the LMP also notes that advice will be sought on the appropriate controls for feral animals if they are identified in future.
1.2.5	A Weed Management Plan will be developed and implemented prior to any clearing activities being undertaken for the proposal.	C	Section 3.7 of the LMP (see Schedule 3, Conditions 24 – 27 of <b>Table C1</b> ) describes weed management controls to be implemented for the Project.
1.2.6	A comprehensive Rehabilitation and Decommissioning Plan will be prepared to ensure rehabilitation objectives are achieved to a reasonable extent. The Plan will include: <ul style="list-style-type: none"> <li>the rehabilitation program;</li> </ul>	C	Sections 3 – 5 of the LM (see Schedule 3, Conditions 24 – 27 of <b>Table C1</b> ) describes the rehabilitation program for site and the associated management measures to be implemented by Mackas Sand. Summaries of rehabilitation performance are provided in audit period ARs.
	<ul style="list-style-type: none"> <li>native vegetation and fauna habitat management including provision of artificial hollows and</li> </ul>	C	See SoC 1.2.6 above.
	<ul style="list-style-type: none"> <li>nest boxes and fauna translocation procedures;</li> </ul>	C	See SoC 1.2.6 above.
	<ul style="list-style-type: none"> <li>feral animal control;</li> </ul>	C	See SoC 1.2.6 above.
	<ul style="list-style-type: none"> <li>fire management;</li> </ul>	C	See SoC 1.2.6 above.
	<ul style="list-style-type: none"> <li>weed management;</li> </ul>	C	See SoC 1.2.6 above.
	<ul style="list-style-type: none"> <li>minimisation of edge effects;</li> </ul>	C	See SoC 1.2.6 above.

Ref	Commitment	Status	Evidence
	<ul style="list-style-type: none"> <li>stormwater control;</li> </ul>	C	See SoC 1.2.6 above.
	<ul style="list-style-type: none"> <li>fauna displacement measures including nest boxes and tree hollows;</li> </ul>	C	See SoC 1.2.6 above.
	<ul style="list-style-type: none"> <li>control of public access;</li> </ul>	C	See SoC 1.2.6 above.
	<ul style="list-style-type: none"> <li>monitoring; and</li> </ul>	C	See SoC 1.2.6 above.
	<ul style="list-style-type: none"> <li>funding.</li> </ul>	C	See SoC 1.2.6 above.
1.2.7	The feasibility of establishing native vegetation at the western end of Lot 218 to create a link between adjoining vegetated areas following the completion of sand extraction in this area will be investigated within 5 years of operations and if feasible the Rehabilitation and Decommissioning Plan will be revised to include vegetation of this area.	NT	BJ (pers comms) confirmed that site operations have not been completed at the western extent of the Lot 218 extraction area.
<b>1.3 ABORIGINAL HERITAGE</b>			
1.3.1	<p>An Aboriginal Cultural Heritage Management Plan (ACHMP) will be developed in consultation with the relevant Aboriginal stakeholders and <b>OEH</b> prior to the commencement of any clearing activities.</p> <p>The ACHMP will include:</p> <ul style="list-style-type: none"> <li>a protocol to assess significance of Aboriginal objects;</li> <li>appropriate remedial actions etc. at end of life of operations. These will be drawn from the Rehabilitation and Decommissioning Plan;</li> </ul>	C	See Schedule 3, Condition 29 of <b>Table C1</b> .
	<ul style="list-style-type: none"> <li>identification of an 'in perpetuity' a keeping place with the requirement for 'in perpetuity' being resolved with the Aboriginal community;</li> </ul>	C	See SoC 1.3.1 above.
	<ul style="list-style-type: none"> <li>establishment of a Management Group that includes an invitation to all stakeholders and an archaeologist;</li> </ul>	C	See SoC 1.3.1 above.
	<ul style="list-style-type: none"> <li>a commitment to lodging site cards for any Aboriginal objects identified;</li> </ul>	C	See SoC 1.3.1 above.
	<ul style="list-style-type: none"> <li>a skeletal material protocol. Relevant legislation requires that if Aboriginal skeletal material is found, the proponent will need to obtain an OK in writing from <b>OEH</b> and Police before work resumes;</li> </ul>	C	See SoC 1.3.1 above.
	<ul style="list-style-type: none"> <li>development of an Aboriginal Cultural Education program for use as part of the induction for workers; and</li> </ul>	C	See SoC 1.3.1 above.

Ref	Commitment	Status	Evidence
	<ul style="list-style-type: none"> <li>protocols for extraction of sand on Lot 218 from below the 1945 land surface including test pitting procedures as set out in the EA and survey and clearance of unexploded ordnance (UXO) should UXO be identified in the extraction area.</li> </ul>	C	See Schedule 3, Conditions 23 of <b>Table C1</b> .
1.3.2	An Aboriginal Cultural Heritage Management Group will be established prior to commencement of the proposal to managed matters relating to Aboriginal cultural heritage within the study area.	C	See Schedule 3, Condition 29 of <b>Table C1</b> .
1.3.3	The Aboriginal Cultural Heritage Management Group will conduct a monitoring visit to the Lot 218 proposal area on a monthly basis for the first 12 months of operation, with subsequent inspection intervals to be determined as part of the ACHMP.	C	Initial monitoring visits deemed compliant by previous IEA. <b>See Schedule 3, Condition 29 of Table C1 for a recommendation for ongoing consultation with the Worimi LACL.</b>
1.3.4	The Aboriginal Cultural Heritage Management Group will conduct a monitoring visit to the Lot 220 operational area on a biannual basis for 12 months, with subsequent inspection intervals to be determined as part of the ACHMP.	C	See Schedule 3, Condition 29 of <b>Table C1</b> .
1.3.5	A sample of reject material from the screening operations on Lot 220 will be taken each day, where sufficient material is present. The samples will be provided to the Aboriginal Cultural Heritage Management Group on a monthly basis.	C	See Schedule 3, Condition 29 of <b>Table C1</b> . <b>It is recommended that Mackas Sand consult with the Worimi LALC over recommending inspections of screened material recovered during site operations, in accordance with the ACHMP.</b>
<b>1.4 HISTORIC HERITAGE</b>			
1.4.1	Prior to disturbance of any tanks traps at either Lot 218 or Lot 220, the location of the tank traps will be surveyed and a photographic record made in accordance with Heritage Council of NSW requirements for archival recording. The survey data and photographic recording will be forwarded to the Heritage Branch of the Department of Planning.	C	Deemed compliant by previous IEA.
1.4.2	Any disturbed tank traps will be replaced along the original alignment of the Northern Defence Line.	C	Viewed tank traps in place within Lot 220 to be relocated along the original alignment following landform rehabilitation (see <b>Plate 18</b> ).
<b>1.5 TRAFFIC AND ACCESS</b>			
1.5.1	In accordance with the requirements of Section 4.5 of the Port Stephens Section 94 Development Contributions Plan 2007, Mackas Sand will make a road maintenance contribution of 1.20 cents per tonne kilometre for product transported on Port Stephens Council roads.	C	See Schedule 2, Condition 13 of <b>Table C1</b> .

Ref	Commitment	Status	Evidence
1.5.2	Within 6 months of the commencement of haulage of product from Lot 218 along Lavis Lane, the proponent will contribute to the sealing of the 700 metre unsealed section of Lavis Lane.	NT	BJ (pers comms) confirmed that the Lavis Lane access route has not been developed.
1.5.3	Mackas Sand will meet all costs of designing and constructing the proposed new intersection on Nelson Bay Road including any works required to provide safe access from driveways that access Nelson Bay Road within the construction zone for the proposed new intersection.	C	Deemed compliant by previous IEA.
1.5.4	Mackas Sand undertakes to not restrict the public's right of access to the public roads that are located along the alignment of the proposed haul road between Lot 122 and Nelson Bay Road reserve whenever these roads are public roads.	C	No constraints to public road access were noted during the audit site inspections. No regulatory compliant issues or community complaints regarding public access occurred during the audit period.
<b>1.6 NOISE</b>			
1.6.1	An Operational Noise Management Plan will be developed for the proposal and implemented prior to sand extraction commencing. The plan will incorporate a noise monitoring program to monitor noise emissions and determine compliance with the project specific noise goals. The plan will include specific measures to monitor and address potential noise impacts at residential receiver R27 (Hufnagl Residence).	C	See Schedule 3, Condition 10 of <b>Table C1</b> .
1.6.2	No sand extraction will be undertaken within 250 metres of receiver R27 during evening and night periods unless agreement is reached with the landholder.	NT	BJ (pers comms) confirmed no evening / night operations occurred within 250m of R27 in the audit period.
1.6.3	A Traffic Noise Management Plan will be developed and implemented for truck movements on the private haul road from Lot 220. The Plan will focus on but not be limited to truck movements between the hours of 5.00 am and 7.00 pm.	C	See Schedule 3, Condition 10 of <b>Table C1</b> .
<b>1.7 AIR QUALITY</b>			
1.7.1	Dust suppression activities, such as spraying a suitable dust suppressant, will be undertaken on all unsealed access roads used to transport product from Lot 218 and Lot 220 so that at least a 75 percent reduction in dust generation is achieved.	C	The unsealed access roads within Lots 218 and 220 viewed during the site inspection were well maintained, with minimal dust generation (see <b>Platez – Plate 6</b> ). A watercart was available on site during the audit site inspection.
<b>1.8 GROUNDWATER</b>			
1.8.1	A Groundwater Management Plan will be developed prior to any sand extraction activities to the	C	Deemed compliant by previous IEA. See Schedule 3,

Ref	Commitment	Status	Evidence
	satisfaction of the Department in consultation with EPA. The Plan will include a groundwater monitoring program that includes quarterly monitoring of groundwater level and quality (electrical conductivity, pH, turbidity, arsenic, manganese and iron) at groundwater monitoring bores SP 1 to SP 6 as shown on Figure 4.7 of the EA. The results of the monitoring are to be commented on and compiled into an annual report.		Condition 18 of <b>Table C1</b> for the status of the current SWMP.
1.8.2	Any refuelling of equipment used for the proposal will be undertaken by a registered contractor to remove the need for on-site storage of fuels. No maintenance of equipment or storage of chemicals will occur at either site.	C	Mackas Sand reviewed the site refuelling procedure following the previous IEA. The requirement for any on-site refuelling to be undertaken by appropriately qualified personnel in accordance with the Mackas Sand Operational Management Procedure (Umwelt, 2014) is outlined in the Section 1.4 of the SWMP.  No hydrocarbon or oil spill incidents were reported during the audit period.
1.8.3	Prior to sand washing being undertaken on-site access to a suitable water supply will be obtained and evidence of this will be provided to the Department. Prior to sand washing commencing a detailed Water Management Plan for the sand washing operation will be prepared and provided to the Department.	NT	BJ (pers comms) noted that sand washing is not undertaken on site.
<b>1.9 SURFACE WATER</b>			
1.9.1	Table drains and flow dissipation structures will be installed along on-site access roads as required in accordance with the Erosion and Sediment Control Regional Policy (Port Stephens Council 2002) and the Code of Practice for Managing Urban Stormwater – Soils and Construction (Landcom 2004).	C	Deemed compliant in previous IEA.  Drains along Project site access roads were generally performing well, despite heavy rainfall in the days prior to the site inspection (see <b>Plate 1</b> ).
1.9.2	Site Water Management Plans for operations on Lot 218 and Lot 220 will be submitted for approval to the Department in consultation with EPA prior to the commencement of sand extraction activities. The Plan will include details on the storage and handling of chemicals on the sites including refuelling of mobile equipment.	C	Deemed compliant by previous IEA.
1.9.3	Access roads will be constructed so as to not impede flood flows on Tilligerry Creek floodplain. The alternate access road will be sealed between Nelson Bay Road and the southern edge of the Tilligerry Creek crossing to minimise sediment generation and transport adjacent to Tilligerry Creek.	C	Deemed compliant by previous IEA. The alternate access road is fully sealed (see <b>Plate 9</b> ).

Ref	Commitment	Status	Evidence
<b>1.10 PUBLIC SAFETY</b>			
1.10.1	High visibility fencing with appropriate set back from the extraction face and signage will be erected on the seaward side of the Lot 218 operational area.	NC	<b>High-visibility fencing around extraction areas within Lot 218 was not in place at the time of audit.</b> BJ (pers comms) noted that this arrangement was at the request of the landholder, who did not want high visibility fencing. There are also practical issues with maintaining fencing due the scale and rate of sand movement of the transient dunes within the Project area. <b>It is recommended that Mackas Sand seek to formalise these arrangements, in consultation with the landholder.</b>
1.10.2	Any access tracks leading into either Lot 218 or Lot 220 other than those used for product haulage will be blocked from recreational vehicle use with boulders or other suitable methods.	C	JM (pers comms) confirmed that the Lot 220 boundary fenced at boundary. The site access road is the only formed track accessing Lot 218.
1.10.3	Inspections of high visibility fencing and any structures built to control public access to the sites will be undertaken every week. Maintenance or repair of any fences and structures will occur within this timeframe, as required.	NC	<b>See SoC 1.10.1 above.</b>
<b>1.11 VISUAL</b>			
1.11.1	A 30 metre vegetated buffer will be maintained along the northern boundary of Lot 220, except where the proposed access road will be constructed into the site. Buffer areas of 20 metres will be maintained along the other boundaries of the site. In-fill planting will be undertaken in buffer areas as required to ensure a sufficient visual screening is in place around the site.	C	A vegetated buffer remains in place to effectively screen Lot 220 operations (see <b>Plate 13</b> ).
1.11.2	Extensive supplementary planting of suitable screening species will be undertaken in the Lot 220 northern boundary buffer area within 50 metres of the Hufnagl residence.	C	Deemed compliant by previous IEA. No additional or maintenance planting was requested during the audit period.
<b>1.12 GREENHOUSE GASES</b>			
1.12.1	Mackas Sand will seek to achieve continuous improvement in energy efficiency in sand extraction and processing operations.	C	Viewed example of Mackas Sand servicing records, to maintain operational efficiency of Project mobile equipment (see Schedule 2, Condition 12 of <b>Table C1</b> ).

Ref	Commitment	Status	Evidence
<b>1.13 ENVIRONMENTAL MANAGEMENT, MONITORING AND AUDITING</b>			
1.13.1	Mackas Sand will obtain an Environmental Protection Licence for the proposal in accordance with the <i>Protection of the Environment Operations Act 1997</i> .	C	Mackas Sand hold a valid Environmental Protection Licence (12108) for the Project. The compliance status of the licence was not assessed during this IEA.
1.13.2	Three years after the commencement of the proposal, and every four years thereafter, Mackas Sand will commission and pay the full cost of an Independent Environmental Audit of the proposal.	C	This IEA.
1.13.3	Within 7 days of detecting an exceedance of the limits/performance criteria in this approval or an incident causing (or threatening to cause) material harm to the environment, Mackas Sand shall report the exceedance/incident to EPA and any relevant agency. The report will: <ul style="list-style-type: none"> <li>describe the date, time and nature of the exceedance/incident;</li> </ul>	C	See Schedule 5, Conditions 2 -3 in <b>Table C1</b> .
	<ul style="list-style-type: none"> <li>identify the cause (or likely cause) of the exceedance/incident;</li> </ul>		See SoC 13.3 above.
	<ul style="list-style-type: none"> <li>describe what action has been taken to date; and</li> </ul>		See SoC 13.3 above.
	<ul style="list-style-type: none"> <li>describe the proposed measures to address the exceedance/incident.</li> </ul>		See SoC 13.3 above.
1.13.4	Prior to the commencement of any operations, Mackas Sand will implement, publicise and list with a telephone company a contact phone number, which will enable the general public to reach a person who can arrange appropriate response action to the enquiry. Mackas Sand will maintain a register to record details of all enquiries received and actions undertaken in response. Mackas Sand will supply the EPA with a copy of the enquiries register on an annual basis.	C	A copy of the Mackas Sand community complaints register was available on the Project website at the time of audit.

**APPENDIX D**  
**STAKEHOLDER ENGAGEMENT**  
**CORRESPONDENCE**

**From:** [Laura Gothard](#)  
**To:** [Dorian Walsh](#)  
**Subject:** RE: Mackas Sand IEA - DPHI Consultation (MP 08\_0142)  
**Date:** Tuesday, 9 April 2024 2:46:51 PM  
**Attachments:**

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**[WARNING]** This email originated from outside of the organisation.

Hi Dorian,

Thanks for reaching out to me for feedback.

In regards to the 2024 IEA of Mackas Sand Quarry (MP08\_0142), in addition to assessing the environmental performance and compliance of the project, could you please consider the following in further detail:

- Monitoring and compliance of groundwater requirements levels and extraction depths (Groundwater Management Plan)
- Lot 220 – Rehabilitation progress and monitoring, incl record keeping
- Management, record keeping and monitoring of BOS areas and Biodiversity Monitoring Program
- Compliance and implementation of Landscape management Plan inclusive of short term or medium term rehabilitation strategies in it.
- A review of the adequacy of all management plans and provide recommendation of measures or actions to improve the environmental performance of the project
- Boundary indicators of project (IE. survey peg?, GIS?) and compliance with them
- Website requirements implemented?
- In addition to the parties you have mentioned, could you also consult with the Worimi Local Aboriginal Land Council in relation to any impacts/encroachment to their land at Lot 229/1097995, directly to the west of Lot 218.

Feel free to contact me if you have any questions.

Kind Regards,

**Laura Gothard**  
**Senior Compliance Officer**

**Development Assessment | Department of Planning, Housing and Infrastructure**

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DOC24/299538-1

James Bailey & Associates Pty Ltd  
Attention: Dorian Walsh  
6/127-129 John Street  
SINGLETON NSW 2330

By email: [dwalsh](mailto:dwalsh@jba.com.au)  
[tedwards](mailto:tedwards@jba.com.au)

8 May 2024

Dear Mr Walsh

### **Mackas Sand Project – Independent Environmental Audit**

I refer to your letter dated 17 April 2024 regarding input into the Independent Environmental Audit of the Mackas Sand Project.

The NSW Environment Protection Authority (EPA) encourages independent audit towards proponents improving their environmental performance. We do not provide input as our role is to set environmental objectives for environmental/conservation management and manage outcomes.

I refer you to the EPA's public register <http://www.epa.nsw.gov.au/prpoeo/index.htm> where you can search for regulatory activity undertaken by the EPA for Environment Protection Licence 13218 for the Mackas Sand Project.

If you require any further information regarding this matter please me on (02) 4908 6808.

Yours sincerely

**ANTHONY VAN DER HORST**  
Operations Officer

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**From:** [Beth Evans](#)  
**To:** [Dorian Walsh](#)  
**Subject:** Mackas Sand Project Audit  
**Date:** Thursday, 2 May 2024 12:59:06 PM  
**Attachments:** [image001.png](#)  
[image010.png](#)

**[WARNING]** This email originated from outside of the organisation.

Good Afternoon Dorian,

Thanks for contacting Council on this matter.

There is no specific concerns that have been received in relation to the Mackas Sand Project that would inform the scope of the audit. Although, Council is mindful of potential encroachments and extraction outside of their approved areas due to the surrounding vegetation buffers. There is known sensitive biodiversity in these areas and nearby power easement.

Kind Regards,



**Beth Evans**  
Compliance Team Leader

p 02 4988 0355 | m 0436 448 656  
w [portstephens.nsw.gov.au](http://portstephens.nsw.gov.au)



Community Satisfaction Survey now open – have your say

[Start survey ▶](#)

**We acknowledge the Worimi people as the original Custodians and inhabitants of Port Stephens.**

We acknowledge and pay respects to Worimi elders past and present. May we walk the road to tomorrow with mutual respect and admiration as we care for the beautiful land and waterways together.

Artwork by Adam Manning.



**From:** [mmacdonald-hill](#)  
**To:** [Dorian Walsh](#)  
**Cc:** [Travis Edwards](#)  
**Subject:** RE: Mackas Sand Project Independent Environmental Audit Consultation  
**Date:** Monday, 29 April 2024 8:42:51 AM  
**Attachments:** [image001.png](#)

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**[WARNING]** This email originated from outside of the organisation.

Hi Dorian,

Confirming I canvassed the CCC members for any issues or concerns and as expected, there are none.  
Thanks for the opportunity to comment.  
Would you please pass on my regards to James and Fiona too.  
Thanks,

*Margaret MacDonald-Hill*  
0448 414 888

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**From:** mmacdonald-hill  
**Sent:** Wednesday, 17 April 2024 4:30 PM  
**To:** 'Dorian Walsh'  
**Cc:** 'Travis Edwards'  
**Subject:** RE: Mackas Sand Project Independent Environmental Audit Consultation

Hi Dorian,  
As you are already aware, the CCC was suspended with DPHI's approval in 2023 because there weren't any issues. Nevertheless I will request any comments from the members within the scope and period of the audit and come back to you well within the required time.

*Margaret MacDonald-Hill*  
0448 414 888

**APPENDIX E**  
**IEA SITE VISIT AGENDA**

**MACKAS SAND PTY LTD  
MACKAS SAND PROJECT**

**INDEPENDENT ENVIRONMENTAL AUDIT**

**AGENDA FOR SITE VISIT**

*2 May 2024*

Name	Initials	Title	Company
<b>ATTENDEES:</b>			
Robert Mackenzie	RM	Quarry Manager	Mackas Sand
Bret Jenkins	BJ	Manager, HSE	Mackas Sand
Travis Edwards	TE	Auditor	James Bailey & Associates
Dorian Walsh	DW	Auditor	James Bailey & Associates

Time	Description	Location
<b>AGENDA:</b>		
8:00 – 8:30 am	<p><b><u>Opening Meeting</u></b></p> <ul style="list-style-type: none"> <li>• Scope and purpose of the audit (DW)</li> <li>• Audit process and timing (DW)</li> <li>• Confidentiality Arrangements (DW)</li> <li>• Overview of operations during the audit period (RM, BJ)</li> </ul>	Meeting Room
8:30 – 11:45 am	<p><b><u>Compliance Review</u></b></p> <ul style="list-style-type: none"> <li>• Review of development consent conditions</li> <li>• Discussion of environmental management commitments from: <ul style="list-style-type: none"> <li>– EIS; and</li> <li>– Site environmental management plans, strategies and programs</li> </ul> </li> <li>• Review of development against EIS</li> <li>• Complaints / Incident response</li> <li>• Regulatory consultation</li> <li>• Mining Authorities</li> </ul>	Meeting Room
11:45 am – 12:00 pm	Lunch	Meeting Room
12:00 pm – 2:00 pm	<p><b><u>Site Inspection</u></b></p> <ul style="list-style-type: none"> <li>• Review of operational areas and environmental controls</li> </ul>	Field
2:00 pm – 3:00 pm	<b><u>Compliance Review</u></b> (continued)	Meeting Room
3:00 pm – 3:30 pm	<b><u>Closeout Meeting</u></b>	Meeting Room

**APPENDIX F**  
**SITE INSPECTION PLATES**



Plate 1 Project signage at entry to Lot 218 access road



Plate 2 Signage at the entrance to Lot 218 extraction area



Plate 3 Lot 218 GPS base station



Plate 4 Lot 218 screening plant and conveyor



Plate 5 Lot 218 screening plant and conveyor



Plate 6 Lot 218 product stockpiles



Plate 7 Lot 218 vegetation being established on the non-active face of the mining corridor



Plate 8 Lot 218 stabilisation debris applied to the non-active face of the mining corridor



**Plate 9 Lot 218 Weighbridge**



**Plate 10 Lot 218 truck washdown area**



**Plate 11** Equipment refuelling vehicle



**Plate 12** Fuel storage tank adjacent to Lot 218 access road



Plate 13 Project signage upon entry to Lot 220



Plate 14 Lot 220 weighbridge



**Plate 15 Lot 220 revegetation**

A variety of tree species are being established with natural regeneration from surrounding bushland.



**Plate 16 Lot 220 revegetation**



**Plate 17** Lot 220 topsoil stockpile



**Plate 18** Lot 220 tank traps



**Plate 19 Lot 220 habitat logs used in rehabilitation**



**Plate 20 Lot 220 habitat logs used in rehabilitation**

Vegetation establishing on the boundary slopes of Lot 220 is beginning to stabilise the features.



**Plate 21 Lot 220 bee hives facilitating local pollination**



**Plate 22 Lot 220 stag trees**

