



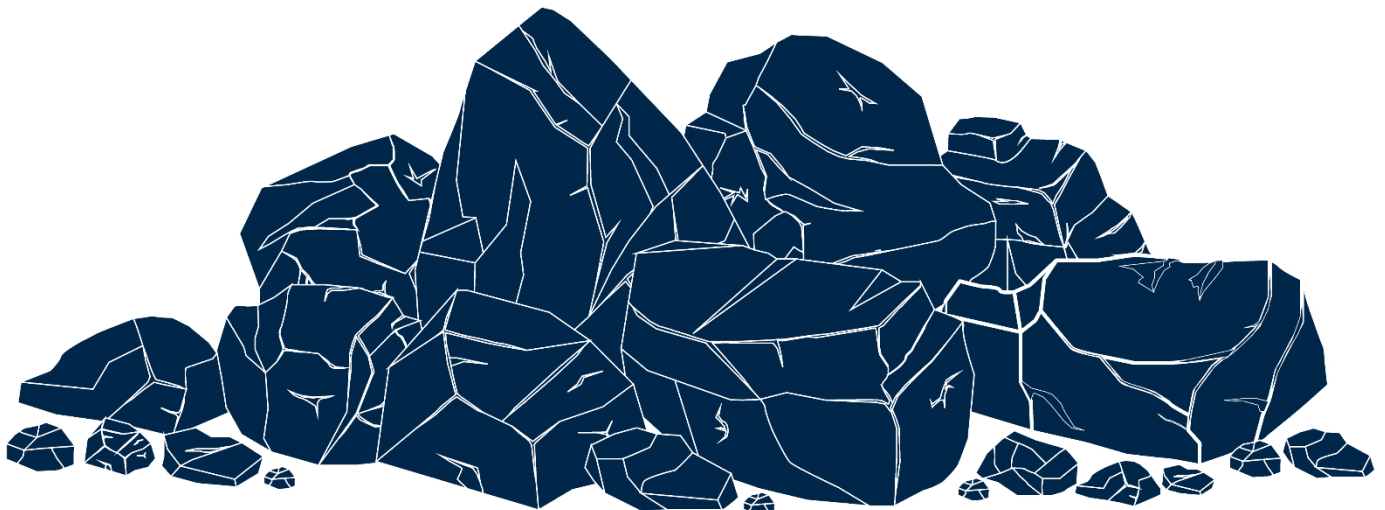
Karuah East Quarry
ABN: 80 141 505 035
Karuah East Quarry Pty Limited
Blue Rock Close, Karuah NSW 2324

W: www.hunterquarries.com.au
E: admin@hunterquarries.com.au
T: 02 4050 0304
P: PO Box 23, Thornton NSW 2322

Karuah East Quarry

Blast Management Plan

April 2024



Revision History

| Version | Date Reviewed | Author | Status | Amendment Details |
|---------|---------------|--------|------------------------|--|
| 1A | October 2015 | SLR | Approved | Original Blast Management Plan developed to satisfy Schedule 3, Condition 12 of the Project Approval. |
| 2A | May 2019 | SLR | Approved | Comprehensive review following approval of MOD1 and MOD2 to the Project Approval; and findings of the 2017 Independent Environmental Audit. |
| 3A | March 2024 | IEMA | Draft for Consultation | Comprehensive review following approval of MOD8, 9 and 10 to the Project Approval; and the findings of the 2023 Independent Environmental Audit. Update for new Hunter Quarries' document template. |
| 3B | April 2024 | IEMA | Approved | Updated following consultation with the NSW EPA (PAE-68156958) and MidCoast Council (PAE-68157708). |

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|---------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 2 of 43 |

Contents

Revision History 2

Contents 3

Terms, Definitions and Abbreviations 5

1.0 Introduction..... 6

1.1 Overview 6

1.2 Project Site 6

1.3 Summary of Project Approval (MP09_0175) 7

1.4 Modifications to Project Approval (MP09_0175) 10

1.5 Purpose 10

1.6 Authorship..... 10

1.7 Agency Consultation for this Management Plan 10

2.0 Regulatory Requirements 12

2.1 Requirements of the Project Approval (MP09_0175) 12

2.2 Requirements of the Environment Protection Licence (EPL 20611)..... 16

3.0 Blasting Mitigation and Management Measures 17

3.1 Operating Conditions 17

3.2 Design and Operational Controls 17

3.3 Community Notifications 18

3.4 Continuous Improvement & Best Practice Management 18

3.5 Training 18

4.0 Blasting Limits..... 22

4.1 Baseline Data..... 22

4.2 Blast Sensitive Receivers 22

4.3 Operational Blasting Criteria 23

5.0 Blast Monitoring Program..... 24

5.1 Overview and General Requirements 24

5.2 Blast Monitoring Locations and Frequency 24

5.3 Blast Record Keeping & Performance Monitoring..... 24

5.4 Meteorological Monitoring..... 24

6.0 Blast Fume Management 26

6.1 Background 26

6.2 Blast Fume Mitigation and Management Measures..... 26

6.3 Blast Fume Identification and Record Keeping 26

6.4 Blast Fume Identification and Record Keeping 28

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|---------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 3 of 43 |

6.5 Blast Fume Identification and Record Keeping 28

7.0 Monitoring and Reporting 30

7.1 Public Reporting 30

7.2 Periodic Management Plan Reviews 30

7.3 Complaints Handling and Incident Response 30

7.4 Independent Review 31

7.5 Notification of Landowners 32

8.0 Community Consultation and Improvement 33

8.1 Community Consultative Committee 33

8.2 Performance Monitoring 33

8.3 Continual Improvement 33

9.0 Roles and Responsibilities 34

10.0 References 35

Appendix A: Agency Consultation (MidCoast Council and EPA) 36

Appendix B: Correspondence with NSW Planning 41

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|---------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 4 of 43 |

Terms, Definitions and Abbreviations

| Abbreviation / Term | Meaning |
|---------------------|--|
| CCC | Community Consultative Committee |
| DA | Development Application |
| EA | Environmental Assessment |
| EIS | Environmental Impact Statement |
| EMS | Environmental Management Strategy |
| EPA | NSW Environmental Protection Authority |
| KEQ | Karuah East Quarry |
| KEQPL | Karuah East Quarry Pty Limited |
| km | Kilometre |
| NSW Planning | NSW Department of Planning, Housing and Infrastructure |
| PPV | Peak Particle Velocity measured in mm/s used to record the size of ground vibrations |
| POEO Act | <i>Protection of the Environment Operations Act 1997</i> |
| RFS | NSW Rural Fire Service |
| tpa | tonnes per annum |

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|---------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 5 of 43 |

1.0 Introduction

Integrated Environmental Management Australia (IEMA) have been engaged by Karuah East Quarry Pty Limited (KEQPL) to prepare this Blast Management Plan to satisfy the requirements outlined in Schedule 3, Condition 12 of the Project Approval (MP09_0175).

1.1 Overview

KEQPL operate the Karuah East Quarry (KEQ), located approximately 5 km northeast of the township of Karuah, in the Mid Coast Local Government Area. KEQ supplies hard rock quarry products to the construction industry, with markets in the Lower and Upper Hunter, Mid Coast, New England and Greater Sydney Regions.

Project Approval (MP09_0175) was granted for the KEQ on 17 June 2014 by the Independent Planning Commission (IPC) (formerly the NSW Planning Assessment Commission) on behalf of the Minister for Planning and Public Spaces (formerly Minister for Planning). Federal Approval (EPBC 2014/7282) was granted for KEQ under the Environment Protection and Biodiversity Conservation Act (EPBC Act 1999) on 20 March 2015.

The KEQ has approval to extract, process, stockpile and transport up to 1.5 million tonnes of andesite material annually until 2034.

1.2 Project Site

The KEQ is located off the Pacific Highway (via Blue Rock Close) and is situated on the following lands:

- Lot 12 and 13 DP 1024564 (the KEQ site); and
- Lot 14 and part Lot 13 DP 1024564 and Lot 5 DP 838128 (biodiversity offset area).

The KEQ is well separated from any substantial residential areas and is located adjacent to the existing Karuah Hard Rock Quarry (KHRQ), approved in June 2005 under DA 265-10-2004. The KHRQ is operated by Hunter Quarries Pty Ltd (a company affiliated with KEQ Pty Ltd) however the Karuah East Quarry and the Karuah Hard Rock Quarry are standalone quarry operations.

Figure 1 illustrates the site locality and regional context.

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|---------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 6 of 43 |

1.3 Summary of Project Approval (MP09_0175)

The key features of the Project Approval include the following key elements:

- The extraction (excluding overburden), processing, stockpiling, and transport of quarry products is limited to 1.5 million tonnes in any calendar year;
- Quarrying operation is permitted on the site until 31 December 2034;
- Establishment and use of quarry plant and associated infrastructure;
- Vegetation removal;
- A total permitted disturbance area of 40.18 ha on Lots 12 and 13 DP 1024564;
- Roadworks to secure access to the site including upgrade and extension of Blue Rock Close, realignment of the Andersite Road and Blue Rock Close intersection and adjust road markings at Branch Lane and Andersite Road intersection;
- Establishment of a biodiversity offset area;
- Conditions apply to manage / mitigate potential impacts associated with a range of environmental conditions including noise, blasting, air quality, soil and water, transport, biodiversity, heritage, emergency and hazards management and waste; and
- Progressive rehabilitation of the subject site.

Quarry Operations

Approved quarrying activities undertaken on the site generally include:

- drilling and blasting of rock material within the quarry pit;
- collection and transportation of blasted material to the crushing & processing area using mobile equipment;
- crushing, processing and screening of quarried material is undertaken using fixed and mobile equipment;
- stockpiling of processed material; and
- stockpiled material is loaded onto trucks and exits the site to market via the weighbridge.

Existing and Approved Site Improvements

Existing and approved site improvements include:

- quarry pit (extraction area);
- crushing plant and processing infrastructure;
- wash plant and workshops;
- stockpiling areas;
- internal haulage roads;
- weighbridge office;
- weighbridge (two weighbridges approved);
- stormwater management infrastructure including three (3) dams;
- parking areas for light and heavy vehicles;
- administration office;
- amenity facilities;
- other minor structures; and
- fencing and access gates.

Figure 2 illustrates the approved project disturbance boundary and site layout.

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|---------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 7 of 43 |



I:\01_Clients\GIS\SHOP_Hunter_Quarries\HOP2_Karuah_East\HOP2_001_Karuah_East.MP_OI.aprx

LEGEND
 Site Boundary
 Lot Boundary

0 70 140 210 280
 m
 Scale: 1:10,000

GDA 1994 MGA Zone 56
 28/02/2024

Karuah East Quarry

406000

406500

407000

407500

408000






6390000

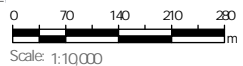
6389500

6389000

I:\01_Clients\GIS\HOP_Hunter_Quarries\HOP2_Karuah_East\HOP2_004_Karuah_East.MP_OI.aprx

LEGEND

-  Site Boundary
-  Approved Disturbance Boundary
-  Lot Boundary



GDA 1994 MGA Zone 56
28/02/2024

Karuah East Quarry

**Blast Management Plan
FIGURE 2 - Locality Plan**

1.4 Modifications to Project Approval (MP09_0175)

The Project Approval has been modified five times as summarised by **Table 1**.

Table 1 Summary of Modifications to the Project Approval.

| MOD | Approval Date | Summary |
|-----------------|---------------|--|
| 1 | 27/04/2018 | MOD 1 approved a nominal expansion to the approved area of disturbance by 2,500 m ² to allow for improved vehicle manoeuvring in proximity of the crushing plant and processing area. |
| 2 | 19/12/2018 | MOD 2 approved a 1.133 Ha increase to the site disturbance area to allow for improved environmental management and improved operational safety (for quarry vehicles). |
| 3 – 7 withdrawn | | |
| 8 | 22/12/2020 | MOD 8 approved revised operational acoustic criteria in line with the <i>NSW Noise Policy for Industry 2017</i> . MOD 8 also formalised a number of industry best practice acoustic mitigation measures that have been installed at the quarry. No change to disturbance footprint occurred. |
| 9 | 02/12/2021 | MOD 9 extended the approved operating hours of the KEQ. No change to disturbance footprint occurred. |
| 10 | 18/05/2023 | MOD 10 provides approval to increase the disturbance area of the KEQ by 7.17 Ha (bringing the total disturbance area of the KEQ to 40.18 Ha). The purpose of MOD 10 was to increase the approved disturbance area to establish additional stockpiling areas, facilitate improved surface water management, construct a new administrative building and expand the vehicle manoeuvring and parking at site. |

1.5 Purpose

This document has been prepared to provide the KEQPL with a consistent approach to the management of air quality and sets out the minimum standards and processes to achieve this intended level of management. The Blast Management Plan (BMP) applies only to the KEQ site described in **Section 1.2** and illustrated in **Figure 2**.

1.6 Authorship

In accordance with Schedule 3, Condition 12(a) of the Project Approval, this BMP has been prepared by Chris Jones and Simon Kirgis of IEMA on behalf of KEQPL, who have been endorsed by the Planning Secretary as suitably qualified and experienced persons (refer **Appendix B**).

1.7 Agency Consultation for this Management Plan

This BMP has been prepared in accordance with the requirements of the project approval, including the requirement for consultation with the NSW Environment Protection Authority (EPA) and MidCoast Council (formerly Great Lakes Council).

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 10 of 43 |

NSW Environment Protection Authority

Consultation with the EPA was originally completed in October 2015 provided in **Appendix A**, with the EPA advising:

The Environment Protection Authority (EPA) encourages the development of such [management] plans to ensure proponents have determined how they will meet their statutory obligations and designated environmental objectives. However, the EPA does not review these documents as our role is to set environmental objectives for environmental management not to be directly involved in the development of strategies to achieve those objectives.

Further consultation was again undertaken in March 2024 (PAE-68156958) and a similar response was received (**Appendix A**).

MidCoast Council

Consultation with MidCoast Council (Council) regarding this BMP was completed on 15 September 2015, however, no response or comments were received.

Further consultation was undertaken in March 2024 (PAE-68157708) and similarly, no response was received (**Appendix A**).

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 11 of 43 |

2.0 Regulatory Requirements

2.1 Requirements of the Project Approval (MP09_0175)

The requirements of the Project Approval are summarised by **Table 2**.

Table 2 Summary of Relevant Conditions of the Project Approval.

| No | Requirements | Section | | | | | | | | | | | | |
|--|--|--|--------------------------------------|---|-----------------------|--|-------------|--------------------|----|--|-----|---|---|--------------------|
| Schedule 3 – Environmental Performance Conditions | | | | | | | | | | | | | | |
| Condition 8 | <p><u>Blasting Criteria</u> <i>The Applicant must ensure that blasting on the site does not cause exceedances of the criteria in Table 5.</i></p> <p><i>Table 5: Blasting criteria</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Location</th> <th style="text-align: center;">Airblast overpressure (dB(Lin Peak))</th> <th style="text-align: center;">Ground vibration (mm/s)</th> <th style="text-align: center;">Allowable exceedances</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Residence on privately-owned land</td> <td style="text-align: center;">120</td> <td style="text-align: center;">10</td> <td style="text-align: center;">0%</td> </tr> <tr> <td></td> <td style="text-align: center;">115</td> <td style="text-align: center;">5</td> <td style="text-align: center;">5% of the total number of blasts over a period of 12 months</td> </tr> </tbody> </table> <p><i>However, the blasting criteria in Table 5 do not apply if the Applicant has a written agreement with the relevant landowner or infrastructure provider/owner, and the Applicant has advised the Department in writing of the terms of this agreement.</i></p> | Location | Airblast overpressure (dB(Lin Peak)) | Ground vibration (mm/s) | Allowable exceedances | Residence on privately-owned land | 120 | 10 | 0% | | 115 | 5 | 5% of the total number of blasts over a period of 12 months | Section 4.3 |
| | Location | Airblast overpressure (dB(Lin Peak)) | Ground vibration (mm/s) | Allowable exceedances | | | | | | | | | | |
| | Residence on privately-owned land | 120 | 10 | 0% | | | | | | | | | | |
| | | 115 | 5 | 5% of the total number of blasts over a period of 12 months | | | | | | | | | | |
| Condition 9 | <p><u>Blasting Hours</u> <i>The Applicant must ensure that blasting on site is only carried out during the hours in Table 6.</i></p> <p><i>Table 6: Blasting hours</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Day</th> <th style="text-align: center;">Blasting hours</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Monday – Friday</td> <td style="text-align: center;">9.00 am to 4.00 pm</td> </tr> <tr> <td style="text-align: center;">Saturdays, Sundays and Public Holidays</td> <td style="text-align: center;">No blasting</td> </tr> </tbody> </table> | Day | Blasting hours | Monday – Friday | 9.00 am to 4.00 pm | Saturdays, Sundays and Public Holidays | No blasting | Section 3.1 | | | | | | |
| | Day | Blasting hours | | | | | | | | | | | | |
| | Monday – Friday | 9.00 am to 4.00 pm | | | | | | | | | | | | |
| | Saturdays, Sundays and Public Holidays | No blasting | | | | | | | | | | | | |
| Condition 10 | <p><u>Blasting Frequency</u> <i>The Applicant must not carry out more than 2 blasts a week on the site, unless an additional blast is required following a blast misfire.</i></p> <p><i>Note: A blast may involve a number of explosions within a short period, typically less than two minutes.</i></p> | Section 3.1 | | | | | | | | | | | | |
| | Condition 11 | <p><u>Blast Operating Conditions</u> <i>The Applicant must:</i></p> <p>a) <i>implement best blast management practice to:</i></p> <ul style="list-style-type: none"> • <i>protect the safety of people and livestock in the surrounding area;</i> • <i>protect public or private infrastructure/property in the surrounding area from any damage; and</i> • <i>minimise the dust and fume emissions of any blast;</i> | Section 3.2 and 6.2 | | | | | | | | | | | |
| | | <p>b) <i>schedule blasts to avoid the blasting schedule of any nearby quarrying operation;</i></p> | Section 3.1 | | | | | | | | | | | |

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 12 of 43 |

| No | Requirements | Section |
|--------------------|--|----------------------------|
| Condition 11 cont. | c) <i>operate a suitable system to enable the public to get up-to-date information on the proposed blasting schedule on the site, and</i> | Section 3.3 |
| | d) <i>not undertake blasting within 500 metres of:</i> (i) <i>any public road without the approval of the relevant road authority; or</i> (ii) <i>any land outside the site not owned by the Applicant, unless:</i> <ul style="list-style-type: none"> • <i>the Applicant has a written agreement with the relevant landowner to allow blasting to be carried out closer to the land, and the Applicant has advised the Department in writing of the terms of this agreement, or</i> • <i>the Applicant has:</i> <ul style="list-style-type: none"> - <i>demonstrated to the satisfaction of the Planning Secretary that the blasting can be carried out closer to the land without compromising the safety of the people or livestock on the land, or damaging the buildings and/or structures on the land; and</i> - <i>updated the Blast Management Plan to include the specific measures that would be implemented while blasting is being carried out within 500 metres of the land,</i> <i>to the satisfaction of the Planning Secretary.</i> | Section 3.1 |
| Condition 12 | <u>Blast Management Plan</u> <i>The Applicant must prepare a Blast Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:</i> | Whole of document |
| | a) <i>be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;</i> | Section 1.6 |
| | b) <i>be prepared in consultation with Council and the EPA, and submitted to the Planning Secretary for approval prior to the commencement of construction activities;</i> | Section 1.7 |
| | c) <i>describe the measures that would be implemented to ensure:</i> <ul style="list-style-type: none"> • <i>best management practice is being employed; and</i> • <i>compliance with the relevant conditions of this consent;</i> | Section 3.2 and 6.2 |
| | d) <i>include a road closure protocol if blasting occurs within 500 metres of a public road;</i> | Section 3.1 |
| | e) <i>include a specific blast fume management protocol, to demonstrate how emissions will be minimised including risk management strategies if blast fumes are generated; and</i> <ul style="list-style-type: none"> • <i>is capable of evaluating the performance of the development;</i> • <i>includes a protocol for determining any exceedances of the relevant conditions of consent;</i> • <i>effectively supports the air quality management system; and</i> • <i>evaluates and reports on the adequacy of the air quality management system.</i> | Section 6.0 |
| | f) <i>including a monitoring program for evaluating the performance of the development including:</i> <ul style="list-style-type: none"> • <i>compliance with the applicable criteria; and</i> • <i>minimising fume emissions from the site.</i> <i>The Applicant must implement the plan as approved by the Planning Secretary.</i> | Section 5.3 and 6.3 |
| Condition 17 | <u>Meteorological Monitoring</u> <i>For the life of the development, the Applicant must ensure that there is a suitable meteorological station operating 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.</i> | Section 5.4 |

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 13 of 43 |

| No | Requirements | Section |
|--|--|----------------------------|
| Schedule 4 – Additional Procedures | | |
| Condition 1 | <p><u>Notification of Landowners</u> As soon as practicable and no longer than 7 days after obtaining monitoring results showing an:</p> <p>a) exceedance of any noise, blasting and air quality criteria in Schedule 3, the Applicant must provide the details of the exceedance to any affected landowners and/or tenants; and</p> <p>b) an exceedance of the relevant air quality criteria in Schedule 3, the Applicant must send a copy of the NSW Health fact sheet entitled “Mine Dust and You” (as may be updated from time to time) to the affected landowners and/or existing tenants of the land.</p> | Section 7.5 |
| Condition 2 | <p><u>Independent Review</u> If a landowner considers the development to be exceeding any noise, blasting or air quality criterion in Schedule 3 of this consent, they may ask the Planning Secretary in writing for an independent review of the impacts of the development on their land.</p> | Section 7.4 |
| Condition 3 | <p>If the Planning Secretary is not satisfied that an independent review is warranted, the Planning Secretary will notify the landowner in writing of that decision, and the reasons for that decision, within 21 days of the request for a review.</p> | Section 7.4 |
| Condition 4 | <p>If the Planning Secretary is satisfied that an independent review is warranted, within 3 months, or as otherwise agreed by the Planning Secretary and the landowner, of the Planning Secretary’s decision, the Applicant must:</p> <p>a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Planning Secretary, to:</p> <ol style="list-style-type: none"> i. consult with the landowner to determine their concerns; ii. conduct monitoring to determine whether the development is complying with the relevant criteria in Schedule 3 of this consent; and iii. if the development is not complying with that criteria, identify measures that could be implemented to ensure compliance with the relevant criteria; <p>b) give the Planning Secretary and landowner a copy of the independent review; and</p> <p>c) comply with any written requests made by the Planning Secretary to implement any findings of the review.</p> | Section 7.4 |
| Schedule 5 – Environmental Management, Reporting and Auditing | | |
| Condition 2 | <p><u>Adaptive management</u> The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in this consent. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation. Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:</p> | Section 5.0 and 6.0 |
| | <p>a) take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur;</p> | Section 3.0 and 6.0 |

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 14 of 43 |

| No | Requirements | Section |
|-------------------|--|-----------------------------|
| Condition 2 | b) <i>consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and</i> | Section 3.0 and 6.0 |
| | c) <i>implement remediation measures as directed by the Planning Secretary.</i> | Section 3.0 and 6.0 |
| Condition 3 | <u>Management Plan Requirements</u> <i>The Applicant must ensure that the Management Plans required under this consent are prepared in accordance with any relevant guidelines, and include:</i> | Whole of document |
| | a) <i>Detailed baseline data;</i> | Section 4.1 |
| | b) <i>A description of:</i> <ul style="list-style-type: none"> ■ <i>The relevant statutory requirements (including any relevant approval, licence or lease conditions);</i> ■ <i>Any relevant commitments or recommendations identified in the documents listed in condition 2(d) of Schedule 2;</i> ■ <i>Any relevant limits or performance measures/criteria; and</i> ■ <i>The specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;</i> | Sections 2.0 and 4.3 |
| | c) <i>A description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;</i> | Section 3.0 and 6.0 |
| Condition 3 cont. | d) <i>A program to monitor and report on the:</i> <ul style="list-style-type: none"> ■ <i>Impacts and environmental performance of the development; and</i> ■ <i>Effectiveness of any management measures (see (c) above);</i> | Section 3.0 and 6.0 |
| | e) <i>A contingency plan to manage any unpredicted impacts and their consequences;</i> | Section 7.4 |
| | f) <i>A program to investigate and implement ways to improve the environmental performance of the project over time;</i> | Section 3.4 |
| | g) <i>A protocol for managing and reporting any:</i> <ul style="list-style-type: none"> ■ <i>Incidents;</i> ■ <i>Complaints;</i> ■ <i>Non-compliances with statutory requirements; and</i> ■ <i>Exceedances of the impact assessment criteria and/or performance criteria; and</i> | Section 7.3 |
| | h) <i>A protocol for periodic review of the plan.</i> | Section 7.2 |

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 15 of 43 |

| No | Requirements | Section |
|---------------------|--|--------------------|
| Condition 5 | <p><i>Within 3 months of:</i></p> <p>a) <i>the submission of an annual review under Condition 4 above;</i></p> <p>b) <i>the submission of an incident report under Condition 7 below;</i></p> <p>c) <i>the submission of an audit report under Condition 9 below; or</i></p> <p>d) <i>any modification to the conditions of this consent, (unless the conditions require otherwise),</i></p> <p><i>the Applicant must review the strategies, plans, and programs required under this consent, to the satisfaction of the Planning 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 Planning Secretary.</i></p> <p><i>Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the development.</i></p> | Section 7.2 |
| Condition 11 | <p><i>The Applicant must:</i></p> <p>a) <i>make the following information publicly available on its website:</i></p> <ul style="list-style-type: none"> ■ <i>the documents referred to in condition 2(d) of Schedule 2 of this consent;</i> ■ <i>any statutory approvals for the development;</i> ■ <i>approved strategies, plans and/ programs;</i> ■ <i>a summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent;</i> ■ <i>a complaints register, updated quarterly;</i> ■ <i>minutes of CCC meetings;</i> ■ <i>annual reviews;</i> ■ <i>any independent environmental audit, and the Applicant’s response to the recommendations in any audit; and</i> ■ <i>any other matter required by the Planning Secretary; and</i> <p>b) <i>keep this information up-to-date, to the satisfaction of the Planning Secretary.</i></p> | Section 7.1 |

2.2 Requirements of the Environment Protection Licence (EPL 20611)

The EPA regulates the operations conducted at the KEQ site through an Environment Protection Licence (EPL 20611) issued under the Protection of the Environment Operations Act 1997 (POEO Act).

There are several conditions relating to blast management in the EPL that have been addressed in this BMP. Specific EPL conditions are summarised in **Table 3** together with the relevant sections of the BMP indicating where the requirements have been addressed.

Table 3 Requirements of the Environment Protection Licence (EPL 20611).

| Condition | Summary of Condition | Section |
|-----------|---|---------------------|
| P1.4 | Blast monitoring point | Section 5.2 |
| L5 | Blasting limit conditions | Section 4.3 |
| O7 | Blast management operating conditions | Section 3.0 and 6.0 |
| M7 | Blast monitoring and recording requirements | Section 5.3 |
| R4.2 | Blasting reporting | Section 7.1 |

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 16 of 43 |

3.0 Blasting Mitigation and Management Measures

3.1 Operating Conditions

Blasting Hours and Frequency

In accordance with Schedule 3, Condition 9 and 10 of the Project Approval, KEQPL will only complete a maximum of two blasts per week at the KEQ site, unless additional urgent blasts are required due to misfire, during the hours of 9.00 am to 4.00 pm, Monday to Friday, excluding public holidays. Should any further blasts be required, approval will be sought from NSW Planning and the EPA.

Coordination of Blasting Activities within Neighbouring Quarries

KEQPL will coordinate blasts at the adjacent Karuah Hard Rock Quarry (KHRQ) (DA 265-10-2004) to ensure blasting activities at the two quarries do not occur at the same time, in accordance with Schedule 3, Condition 11(b) of the Project Approval and Condition L5.2 of the EPL.

Road Closures and Landholder Agreements

The extraction area of the Karuah East Quarry is located beyond 500 m of any public road, as illustrated by **Figure 3**, and therefore no road closures are required to be implemented as required by Schedule 3, Condition 11(d) of the Project Approval.

KEQPL (or affiliated company Hunter Quarries Pty Ltd) has acquired (or maintains control by licence agreement for Lot 11, DP1024564) of all landholdings within 500 m of the KEQ extraction area. Therefore, no agreements are currently required as outlined by Condition 11(d) of the Project Approval.

3.2 Design and Operational Controls

Design Controls

Blasting will only be undertaken by accredited specialist blasting contractors who will implement various blast design controls to assist in achieving best practice blast management to protect the the safety of people and livestock surrounding the quarry; protecting public and private infrastructure; and minimising dust and fume generation of the blasting activities as outlined by Schedule 3, Condition 11(a) of the Project Approval.

For ground vibration the following control measures will be implemented:

- Reducing the maximum instantaneous charge (MIC) by using delays, reduced hole diameter and/or deck loading;
- Changing the burden and spacing by altering the drill pattern and/or delay layout or altering the hole inclination;
- Blasts will not be undertaken at the same time as the existing Karuah Quarry;
- Use the minimum practicable sub drilling which gives satisfactory toe conditions; and
- Investigate alternative rock breaking techniques.

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 17 of 43 |

For air blast overpressure the following control measures will be implemented:

- Reducing the MIC by using delays, reduced hole diameter and/or deck loading;
- Ensure stemming depth and type is adequate;
- Eliminate exposed detonating cord and secondary blasting;
- Restrict blasting events to favourable weather conditions;
- Orient quarry faces away from potentially sensitive receivers;
- Use a hole spacing and burden which will ensure that the explosive force is just sufficient to break the ore to the required size; and
- The proponent will take particular care when the face is already broken and consider deck loading to avoid broken ground or cavities in the face.

Operating Controls

In accordance with Schedule 3, Condition 11(a) specific measures will implemented to maintain public safety, including:

- Establishment of a blast exclusion zone, in accordance with the Drill and Blast Safe Work Procedure developed by the Blast Contractor;
- Sentries will be posted at all points to prevent access to the exclusion zone; and
- Notification of blasting times to registered residences.

3.3 Community Notifications

In accordance with Schedule 3, Condition 11(c) KEQPL has developed a blast notification register for landholders within 2 km of the extraction area, as illustrated by **Figure 4**.

A text notification will be issued the prior to the day of the planned blast and a day-of reminder to all landholders and other external stakeholders of:

- Site of the planned blast;
- Day of the planned blast; and
- Approximate time of the planned blast.

Note, individual landholders within the 2 km notification zone may request to be removed from the blast notification register.

3.4 Continuous Improvement & Best Practice Management

KEQ will maintain awareness of new technologies for mitigation through participation in relevant industry groups. KEQ will implement blasting mitigation measures in line with industry best practice mine blast management where feasible and reasonable and commensurate with the risk of blasting impacts from site.

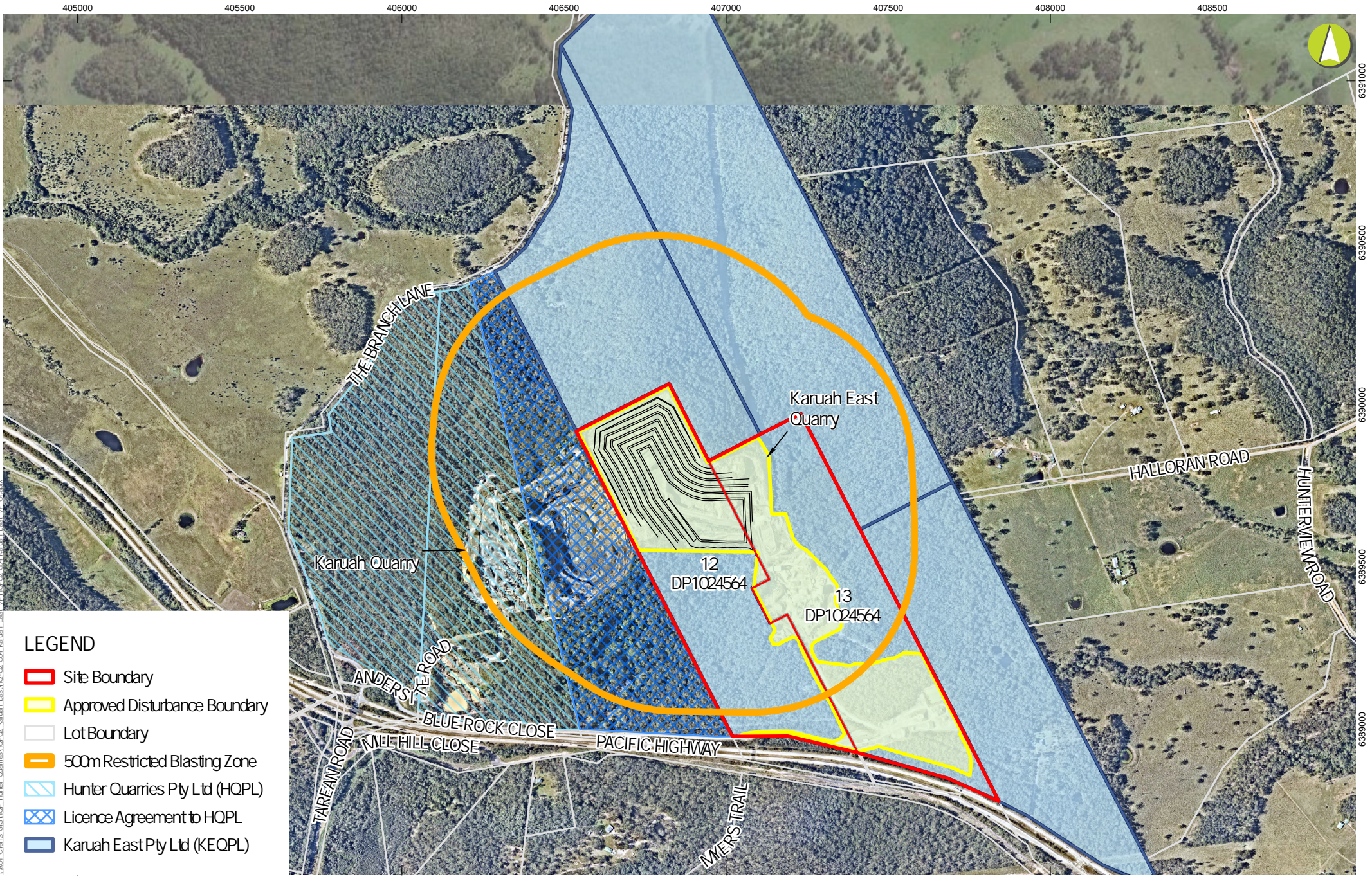
3.5 Training

Training is provided to relevant KEQ employees and contractors in relation to the management of blasting and obligations relevant to the activities they carry out in respect to the development. To ensure the effective implementation of this BMP, relevant supervisors and staff will be provided training to respond adequately to complaints and other blast-related management as required.

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 18 of 43 |

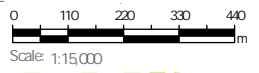
Toolbox talks will be conducted to reinforce the importance of blast management and mitigation on an as needs basis. Training also includes site inductions for all relevant employees and contractors working at KEQ. Training records are maintained as per KEQ internal procedures and management systems.

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 19 of 43 |



LEGEND

- ▭ Site Boundary
- ▭ Approved Disturbance Boundary
- Lot Boundary
- ▭ 500m Restricted Blasting Zone
- ▭ Hunter Quarries Pty Ltd (HQPL)
- ▭ Licence Agreement to HQPL
- ▭ Karuah East Pty Ltd (KEOPL)



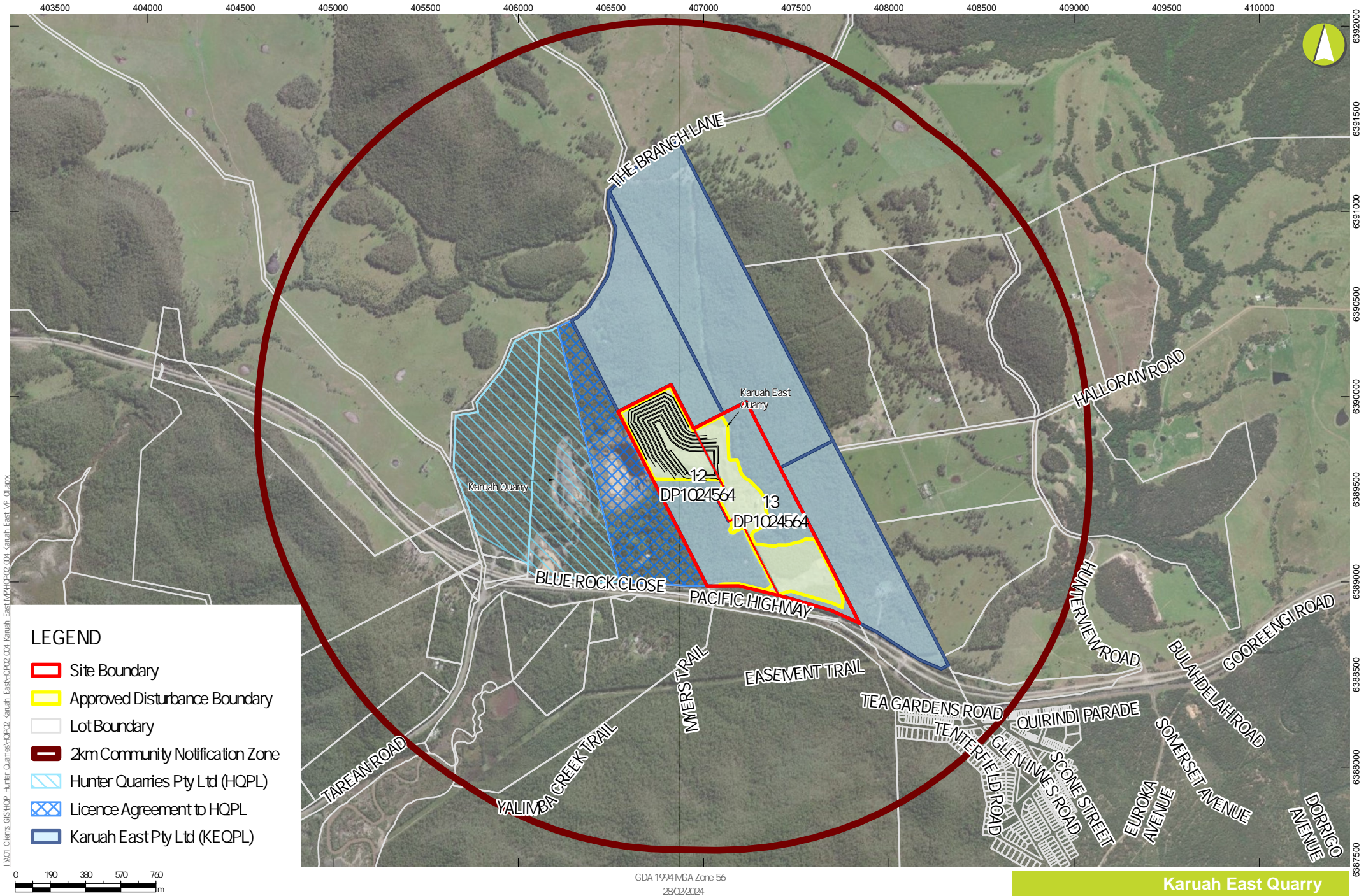
GDA 1994 MGA Zone 56
28/02/2024

Karuah East Quarry

Blast Management Plan

FIGURE 3 - 500m Restricted Blasting Zone

I:\001_Clients\GIS\HQP_Hunter_Quarries\HQP2_Karuah_East\HQP2_004_Karuah_East.MP_OI.aprx



LEGEND

- ▭ Site Boundary
- ▭ Approved Disturbance Boundary
- ▭ Lot Boundary
- 2km Community Notification Zone
- ▭ Hunter Quarries Pty Ltd (HQPL)
- ▭ Licence Agreement to HQPL
- ▭ Karuah East Pty Ltd (KEOPL)



GDA 1994 MGA Zone 56
28/02/2024

Karuah East Quarry

4.0 Blasting Limits

4.1 Baseline Data

Extensive blast monitoring data has been recorded in the during operations at the Karuah East Quarry since operations began in 2017. **Table 4** summarises these monitoring results at the closest sensitive receptor located on Mill Hill Close (EPL Monitoring Point 11).

During this period, no exceedances of either ground vibration or air blast overpressure were recorded.

Figure 4 illustrates the location of this monitoring point.

Table 4 *Blast Monitoring Results – 2017 to 2022.*

| Blast Parameter | Blast Result (EPL Monitoring Point 11) |
|---|---|
| Total Blasts | 110 |
| Blasts exceeding vibration limit, PPV of 5 mm/s | 0 |
| Blasts exceeding overpressure limit of 115 dBL | 0 |
| Average vibration, PPV (mm/s) | 0.73 |
| Maximum vibration, PPV (mm/s) | 1.34 |
| Average Overpressure (dBL) | 107.64 |
| Maximum Overpressure (dBL) | 114.9 |

4.2 Blast Sensitive Receivers

A number of blast sensitive receivers, identified as existing approved dwellings, are located in the area surrounding KEQ. These receivers are summarised in **Table 5** and illustrated in **Figure 5**.

Table 5 *Blast Sensitive Receivers.*

| Receiver ID | Property Location (Lot & DP) | Distance to Nearest Point of Extraction Area (m) |
|-------------|------------------------------|--|
| A | Lot 100 DP785172 | 870 |
| B | Lot 3 DP785172 | 770 |
| C | Lot 2 DP785172 | 1,040 |
| D | Lot 22 DP1024341 | 1,280 |
| E | Lot 250 DP1092111 | 1,530 |
| F | Lot 50 DP1036893 | 1,100 |
| G | Lot 1 DP1032636 | 1,150 |
| H | Lot 10 DP1032636 | 800 |
| I | Lot 11 DP1032636 | 1,250 |
| J | Lot 13 DP1032636 | 2,150 |
| K | Lot 12 DP1032636 | 1,500 |

4.3 Operational Blasting Criteria

Schedule 3, Condition 8 of the Project Approval provides operational blasting limits for all blast-sensitive receivers surrounding the site, as summarised by **Table 6**.

These criteria do not apply if KEQPL has reached an agreement with the relevant landholder and/or asset owner and has formally advised NSW Planning of the terms of the agreement.

Table 6 *Blasting Impact Criteria.*

| Location | Air Blast Overpressure (dBL [Lin Peak]) | Ground Vibration, PPV (mm/s) | Allowable Exceedance |
|---------------------------------------|---|------------------------------|---|
| Any residence on privately-owned land | 120 | 10 | 0% |
| | 115 | 5 | 5% of the total number of blasts over a period of 12 months |

5.0 Blast Monitoring Program

5.1 Overview and General Requirements

The Monitoring Program has been developed with reference to the procedures described in AS 2187.2-2006, “Explosives - Storage, Transport and Use” and with reference to the ANZECC’s “Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration”, September 1990.

The blast emissions will be quantified for all blast events conducted at the project site, inclusive of monitoring for both blast overpressure and ground vibration by a qualified blast contractor.

5.2 Blast Monitoring Locations and Frequency

The monitoring site has been selected in consultation with the EPA and is representative of the nearest privately owned residential dwellings and other sensitive infrastructure located within 2 km of blasting activities. The site (EPL Monitoring Point 11) is located on Mill Hill Close as illustrated by **Figure 5** and will monitor air blast overpressure and ground vibration for all blasts.

5.3 Blast Record Keeping & Performance Monitoring

Results of monitoring will be kept in a legible form for at least four years after each blasting event has been undertaken; and are available to any authorised officer of the EPA upon request. Recorded details include:

- Date and time of blasting event;
- Location where monitoring was conducted;
- Air blast overpressure and ground vibration; and
- Maximum instantaneous charge (MIC).

Compliance of this BMP, Project Approval and EPL will be measured using the below performance indicators:

- compliance with relevant blast criteria at monitoring locations;
- compliance with Australian Standards;
- the frequency and nature of complaints reported to the quarry in relation to blasting events; and
- compliance with this BMP, as indicated by statutory reporting.

5.4 Meteorological Monitoring

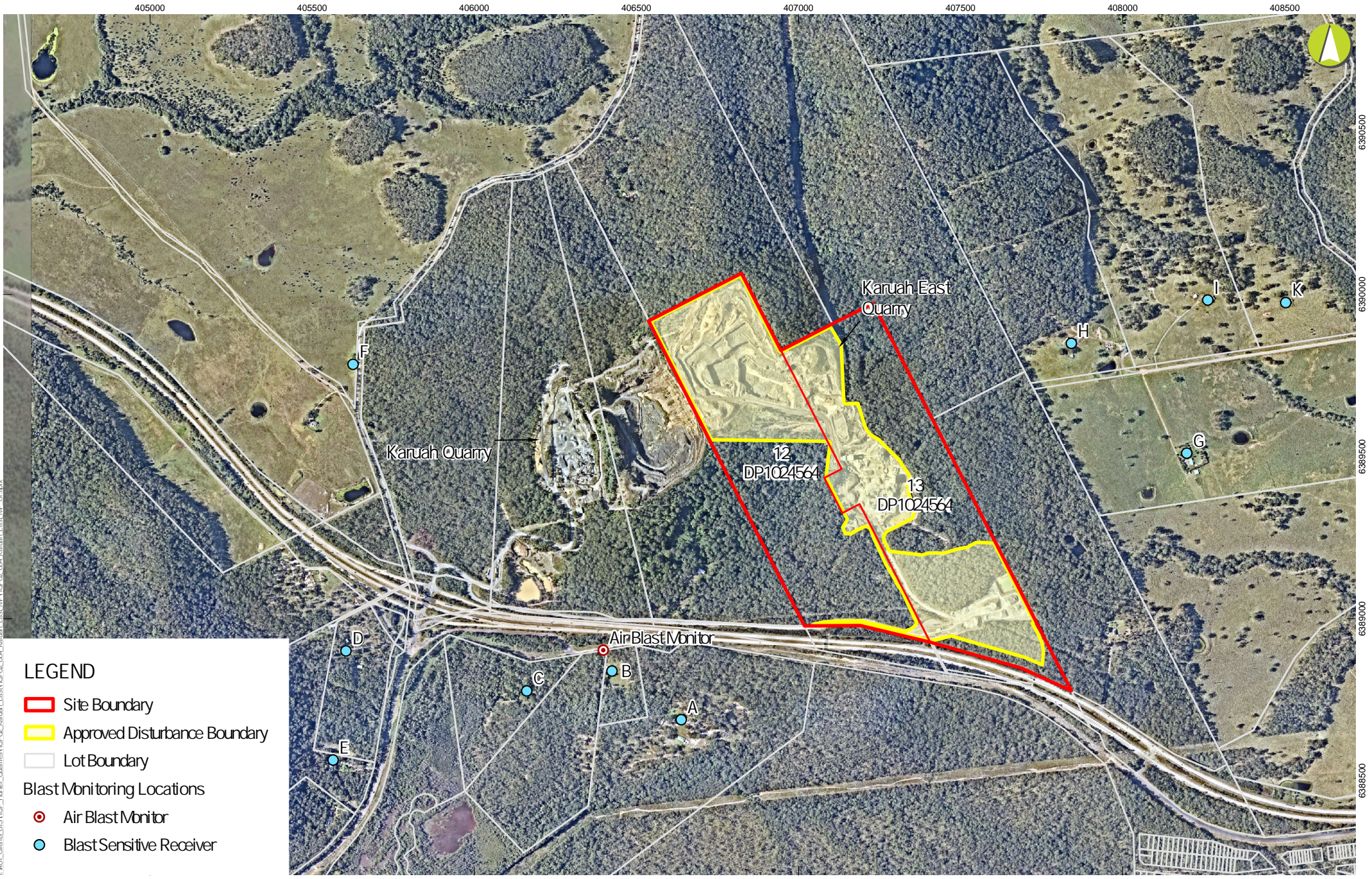
In accordance with Schedule 3, Condition 17 of the Project Approval a meteorological station has been installed and situated in compliance with Approved Methods for Sampling of Air Pollutants in New South Wales guidelines. The weather station is programmed to continuously record the meteorological parameters as summarised by **Table 7**.

Table 7 Meteorological Monitoring Parameters.

| Measured parameter | Unit | Sample Interval |
|----------------------|---------|-----------------|
| Mean wind speed | m/s | 15 minutes |
| Mean wind direction | Degrees | 15 minutes |
| Aggregate rainfall | mm | 15 minutes |
| Mean air temperature | C° | 15 minutes |

This data can be accessed via a website to view to the latest hour or to download previously recorded data. Previously recorded data is validated and can be downloaded in intervals of 15 minutes.

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 24 of 43 |



I:\X01_Clients\GIS\HOP_Hunter_Quarries\HOP2_Karuah_East\HOP2_004_Karuah_East\MP_OI.aprx

- LEGEND**
- ▭ Site Boundary
 - ▭ Approved Disturbance Boundary
 - ▭ Lot Boundary
- Blast Monitoring Locations**
- Air Blast Monitor
 - Blast Sensitive Receiver

0 110 220 330 440
m
Scale: 1:15,000

GDA 1994 MGA Zone 56
28/02/2024

Karuah East Quarry

6.0 Blast Fume Management

6.1 Background

The generation of oxides of nitrogen (NO_x) or “blast fume” within the post blast gases is a result of a fuel deficiency in the explosive or detonation reaction causing incomplete combustion in a blast (AEISG, 2011). These gases are toxic and can pose a health risk if persons are exposed to them before the plumes can dissipate due to the sudden localised release in potentially high concentrations.

It is noted that NO_x events may still occur even after prevention and mitigation actions have been put into place due to the inherent variability in the blasting environment. The Australian Explosives Industry and Safety Group Inc. (AEISG) identify that NO_x generating conditions might be a result of the following conditions:

- explosive formulation and quality assurance;
- geological conditions;
- blast design;
- explosive product selection;
- presence of water in drill holes;
- on-bench practices; and
- contamination of explosive in the blast hole.

6.2 Blast Fume Mitigation and Management Measures

Best practice control of blast fume will be achieved by the following:

- blasting will only be undertaken by accredited specialist blasting contractors;
- minimising the potential for delayed firing of shots which have been loaded into wet holes within the constraints of prevailing weather conditions;
- conducting a pre-blast environmental assessment with consideration given to wind speed, direction and shear and the strength of temperature inversions prior to each blast. Blasts will be fired in suitable weather conditions that minimise the potential for blast fume to be blown towards neighbouring residential areas; and
- establishment of blast exclusion zones to protect personnel in accordance with the Safe Work Procedure developed by the Blast Contractor.

6.3 Blast Fume Identification and Record Keeping

Post blast fume will be identified and categorised using the AEISG (2011) Visual NO_x Fume Rating Scale presented in **Figure 6**. Assessing the amount of NO_x gases produced from a blast will depend on the distance the observer is from the blast and the prevailing weather conditions.

Blast site personnel will report any noticeable post blast NO_x fumes to the Quarry Manager and the Environment & Development Manager including the extent and direction of such plumes for reporting and record keeping.

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 26 of 43 |

| Level | Typical Appearance |
|---------------------------------|--------------------|
| Level 0 No NOx gas | |
| Level 1 Slight NOx gas | |
| 1A Localised | |
| 1B Medium | |
| 1C Extensive | |
| Level 2 Minor yellow/orange gas | |
| 2A Localised | |
| 2B Medium | |
| 2C Extensive | |
| Level 3 Orange gas | |
| 3A Localised | |
| 3B Medium | |
| 3C Extensive | |
| Level 4 Orange/red gas | |
| 4A Localised | |
| 4B Medium | |
| 4C Extensive | |
| Level 5 Red/purple gas | |
| 5A Localised | |
| 5B Medium | |
| 5C Extensive | |

Figure 6 Visual NO_x Fume Rating Scale (AEISG, 2011).

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 27 of 43 |

6.4 Blast Fume Identification and Record Keeping

In the event of any identified blast fume having a rating of Level 4 or greater, or in the event of a Level 3 blast leaving the site boundary, the Quarry Manager will be notified immediately.

If the fume is believed to have, or has the potential to impact on sensitive receivers, will contact those receivers immediately and provide instructions on how to manage and mitigate exposure. Typically, the impacted receivers will be the same as those notified prior to blasting as outlined in **Section 3.3**.

Any persons in the path of a blast fume should:

- not enter the fume;
- move away from the path of the fume
- if indoors close all windows and doors and stay inside; and
- if in a car, stay inside with windows and doors closed and use recirculated air conditioning.

In accordance with the AEISG Code of Practice, if any person has been exposed to Nox gases, medical treatment will be sought as soon as it is safe to do so in accordance with the KEQ Emergency Response Procedures.

If a blast fume emergency occurs, the incident will be managed in accordance with the Pollution Incident Response Management Plan (PIRMP) and the relevant authorities notified as required. If requested, a formal incident report will be prepared. This report will include blast parameters including type and quantity of explosive, number of blast holes, meteorological conditions, and any other relevant information in the identification of the cause of the blast fume.

6.5 Blast Fume Identification and Record Keeping

Any reported blast fume event will be investigated to minimise the potential for the ongoing generation of NO_x fumes and to mitigate any potential impacts of such an event. The investigation will be completed in accordance with the AEISG (2011) Fault Tree provided by **Figure 7** and will involve the explosive manufacturer and/or supplier as required. The results of any investigation will be considered by future blast design processes to mitigate future impacts.

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 28 of 43 |

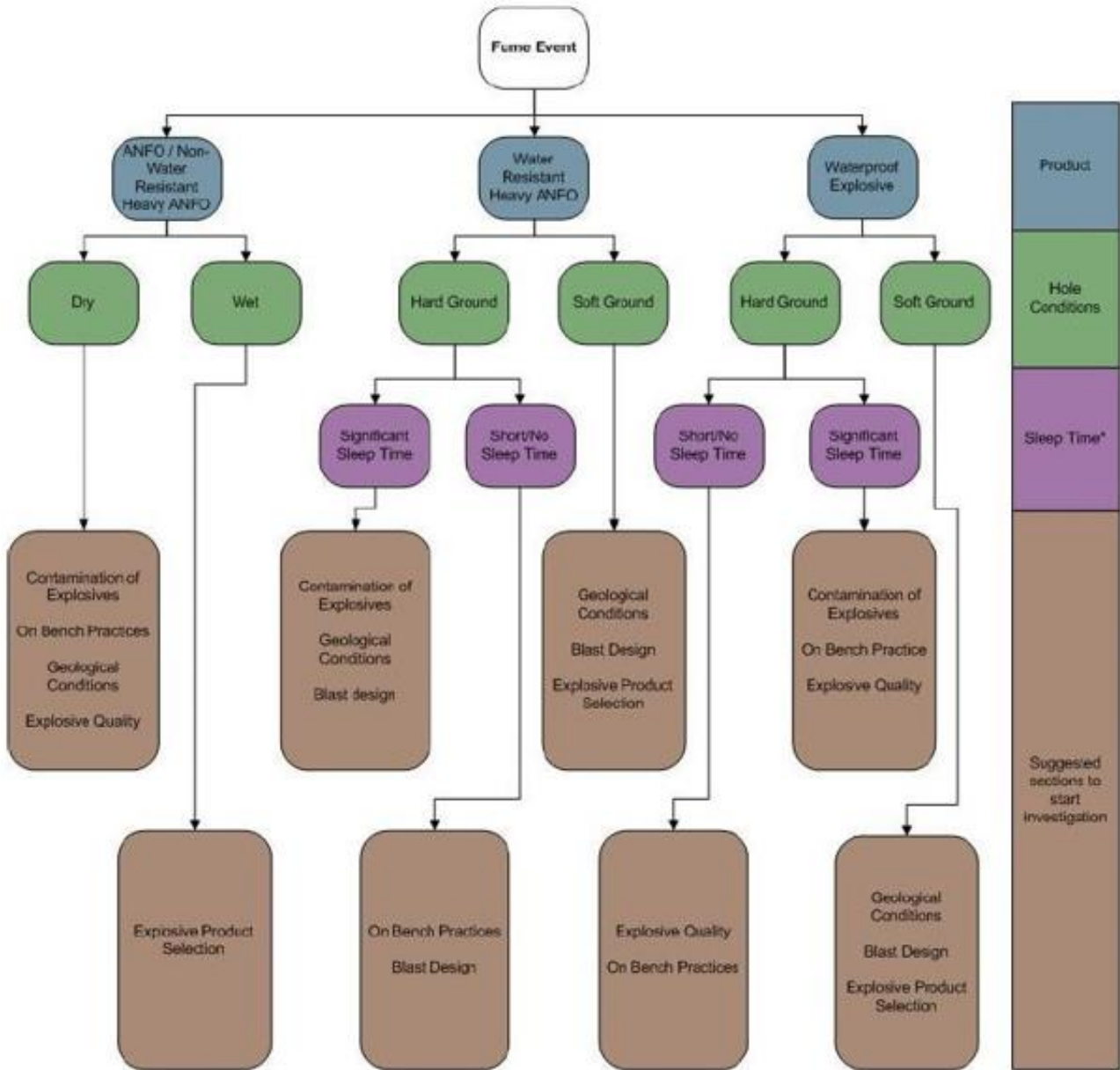


Figure 7 Blast Fume Event Analysis Fault Tree (AEISG, 2011).

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 29 of 43 |

7.0 Monitoring and Reporting

7.1 Public Reporting

Schedule 5, Condition 11 of the Project Approval requires all significant documents to be published to the Hunter Quarries website, including this Management Plan.

Schedule 5, Condition 8 of the Project Approval requires all monitoring results and other environmental performance data to be made publicly available on the Hunter Quarries website (www.hunterquarries.com.au/reporting/). This information is currently produced on a monthly basis through monthly Environmental Monitoring Reports (EMR's).

Schedule 5, Condition 4 of the Project Approval outlines the requirement for annual reporting through the Annual Review reporting process.

Condition R4.1 of the EPL requires any exceedance of the licence blasting limits to be reported to the regional office of the EPA as soon as practicable after the exceedance is identified.

Condition R4.2 of the EPL requires an annual blast monitoring report to be included in the Annual Return submitted to the EPA within 60x days of the EPL's anniversary date via the EPA eConnect portal.

7.2 Periodic Management Plan Reviews

The BMP will be reviewed and revised / updated in accordance with Schedule 5, Condition 5 of the Project Approval within 3-months of any of the following:

- The submission of an annual review;
- The submission of an incident report;
- The submission of an audit report; and
- Any Modification to the Project Approval.

A review of the BMP will also take place if monitoring records indicate that it is warranted or in the event of any significant change to operations at KEQ.

The KEQ management team will discuss and review the status of all management plans on an annual basis, but unless required all site environmental management plans will be reviewed and updated every three years.

Other government agencies will be consulted as part of EIS Modifications.

7.3 Complaints Handling and Incident Response

Complaints Handling

All complaints received regarding blasting from the Project will be acknowledged within 24 hours by appropriate personnel and investigated as soon as reasonably practicable. The complainant will be kept updated at key milestones of the investigation and will be notified of the outcome once available.

KEQ will operate a telephone complaints line for the purposes receiving complaints from members of the public in relation to activities conducted at the premises as outlined in the KEQ Environmental Management Strategy (EMS).

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 30 of 43 |

KEQ will keep a record of any complaints made to the quarry in relation to the Project site for at least four years after the complaint was made. Additionally, the record will be available to any authorised officer of the EPA who wishes to view them.

Records will include:

- date and time of complaint;
- method by which the complaint was made;
- personal details of the complainant (if provided);
- nature of the complaint;
- weather conditions corresponding to the time of the complaint;
- action taken by the quarry and any follow up actions; and
- if no action was taken, the reason why no action was taken.

For further details on complaint management refer to the KEQ EMS. Additionally, Condition M5 of the EPL outlines the process for recording pollution complaints.

Non-Compliance and Incident Response

Schedule 5, Condition 7 of the Project Approval requires:

The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing via the Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident.

Schedule 5, Condition 7A of the Project Approval requires:

Within seven days of becoming aware of a non-compliance, The Applicant must notify the Department of the non-compliance. The notification must be in writing via the Major Projects Website and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

It should be noted that an exceedance of the blasting limits is typically classified as a non-compliance rather than an incident.

Where a significant pollution incident occurs which causes an impact or material harm, reference will be made to the KEQ Pollution Incident Response Management Plan (PIRMP).

7.4 Independent Review

In accordance with Schedule 4, Condition 2 of the Project Approval, if a landowner considers that KEQ is exceeding any relevant blasting limits they may ask the Planning Secretary in writing for an independent review of the impacts on their residence or land.

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 31 of 43 |

If the Planning Secretary is not satisfied that an independent review is warranted, the Planning Secretary will notify the landowner in writing of that decision, and the reasons for it, within 21 days of the request for a review.

If the Planning Secretary is satisfied that an independent review is warranted, within 3 months of the Planning Secretary's decision, or other timeframe agreed by the Planning Secretary, Karuah East must:

- commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Planning Secretary, to:
 - consult with the landowner to determine their concerns;
 - conduct monitoring to determine whether the development is complying with the relevant air quality limits; and
 - if the development is not complying with the relevant air quality limits, identify measures that could be implemented to ensure compliance with the relevant air quality limits; and
- give the Planning Secretary and landowner a copy of the independent review; and
- comply with any written requests made by the Planning Secretary to implement any findings of the review.

7.5 Notification of Landowners

In accordance with Schedule 4, Condition 1 of the Project Approval, as soon as practicable and no longer than 7 days after obtaining monitoring results showing an exceedance of any blasting criteria in Schedule 3, the Applicant must provide the details of the exceedance to any affected landowners and/or tenants.

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 32 of 43 |

8.0 Community Consultation and Improvement

8.1 Community Consultative Committee

In accordance with Schedule 5, Condition 6 of the Project Approval, KEQ has established and operates a Community Consultative Committee (CCC). The CCC is operated in general accordance with the Community Consultative Committee Guideline, State Significant Projects, June 2023 (NSW Planning).

The CCC is an advisory committee to facilitate communication, consultation and information sharing between the KEQ and the local community. Further details of the CCC are provided in the EMS and on KEQ's website (www.hunterquarries.com.au).

8.2 Performance Monitoring

Compliance of this BMP with the Project Approval, EPL 20611 and any other relevant agency requirements will be measured according to the following performance indicators:

- Compliance with relevant blasting criteria at monitoring locations.
- Compliance with Australian Standards as required.
- The frequency and nature of complaints reported to the quarry in relation to air quality emissions.
- Contractor and employee awareness of the company's Environmental Policy and this BMP.
- Compliance with this BMP, as indicated by statutory reporting.

8.3 Continual Improvement

Through the effective application of best practice principles to on-site activities including, where cost-effective and practicable, the adoption of best practice technologies and blasting control measures, the KEQ will continue to improve environmental performance with progress to be monitored against the performance indicators outlined in **Section 8.2**.

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 33 of 43 |

9.0 Roles and Responsibilities

It is the responsibility of Quarry Manager for the implementation of the BMP. **Table 8** outlines the responsible positions and accountable tasks.

Table 8 Roles & Responsibilities.

| Position | Responsibility |
|--|---|
| Quarry Manager | <ul style="list-style-type: none"> ■ Provide sufficient resources for the effective implementation of this BMP; ■ Maintain procedures to ensure potential impacts are identified; ■ Ensure personnel undertake the relevant air quality management training; ■ Ensure that personnel and contractors carry out work in accordance with this BMP; and ■ Provide input regarding the effectiveness of blast and fume mitigation measures. |
| Environment & Development Manager (or suitable delegate) | <ul style="list-style-type: none"> ■ Identify potential blast impacts and implement actions to mitigate the identified risks; ■ Coordinate and conduct training to ensure all relevant personnel are aware of blast management practices and mitigation measures; ■ Coordinate incident investigation processes including associated reporting requirements in accordance with regulatory requirements and incident reporting procedures; ■ Coordinate the implementation of corrective actions and evaluate their effectiveness; ■ Ensure all internal and external reporting requirements are met; ■ Maintain monitoring equipment in accordance with the requirements of the Project Approval and this plan; ■ Complete monthly monitoring reports and make these reports available on the Hunter Quarries website as per the requirements of the Project Approval and EPL; ■ Investigate and document findings from blast complaints; ■ Provide input regarding the effectiveness of blast and fume mitigation measures; and ■ Complete reporting requirements for the Annual Review associated with this plan. |
| Blast Contractors | <ul style="list-style-type: none"> ■ Coordinate, advise and assist with the implementation of blasting monitoring in accordance with the BMP. |

10.0 References

- Environmental Assessment Report – Proposed Karuah East Quarry (AD Johnson 2013); Preferred Project Report - Proposed Karuah East Quarry (ADW Johnson 2013);
- Section 75W Application (MOD1) to amend Part 3A Project Approval 09_0175 Minor Increase to Approved Disturbance Area (ADW Johnson 2017);
- Section 75W Application (MOD2) to amend Part 3A Project Approval 09_0175 Minor Increase to Approved Disturbance Area (ADW Johnson 2018b);
- Karuah East Quarry S4.55 (1A) Modification Report (MOD8) Proposed Modification to Operational Noise Criteria and Implementation of Improved Acoustic Mitigation Measures PA 09_0175. Prepared by ADW Johnson Pty Ltd June 2019
- Karuah East Quarry Modification 9 (MP09_0175-MOD-9) Proposed Extended Hours of Operation. Prepared by ADW Johnson Pty Ltd August 2021
- Submissions Report, Karuah East Quarry. Modifications 10. Proposed increase to Approved Disturbance Area (ADW Johnson 2022)
- ANZECC. Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration, 1990;
- AS 2187.2-2006, Explosives - Storage, Transport and Use;
- Code of Good Practice: Prevention and Management of Blast Generated NOx Gases in Surface Blasting prepared by Australian Explosives Industry and Safety Group Inc. (AEISG) dated June 2011; and
- Blast Management Plan, Site: Hunter Quarries – KQ and KEQ Quarry, Precision Drill and Blast, dated May 2023.

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 35 of 43 |

Appendix A: Agency Consultation (MidCoast Council and EPA)

From: Karen Marler [mailto:Karen.Marler@epa.nsw.gov.au]
Sent: Wednesday, 14 October 2015 12:53 PM
To: Blake Almond
Cc: Peter Jamieson; Jocelyn Karsten; EPA RSD Hunter Region Mailbox; Christopher Jones
Subject: RE: Karuah East Quarry Project - Management Plans [EPA]

Hi Blake, the EPA does not approve management plans. In response to requests regarding consultation on management plans we provide the following standard response..

The Environment Protection Authority (EPA) encourages the development of such plans to ensure that proponents have determined how they will meet their statutory obligations and designated environmental objectives. However, the EPA does not review these documents as our role is to set environmental objectives for environmental management, not to be directly involved in the development of strategies to achieve those objectives.

Regards

K

Karen Marler

Head Regional Operations Unit - Hunter | **NSW Environment Protection Authority** |

☎: (02) 49086803 | Mobile ☎: 0409 606 368 | 📠: (02) 49086810 | ✉: karen.marler@epa.nsw.gov.au

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 36 of 43 |

Scott Ellerton

From: Emma Coombs <Emma.Coombs@epa.nsw.gov.au>
Sent: Friday, 29 March 2024 5:23 PM
To: Scott Ellerton
Subject: Karuah East Quarry Project - Air Quality Management Plan version 4 and Blast Management Plan version 3
Attachments: OPS - OUT - Karuah East Quarry Project - Air Quality Management Plan version 4 - EPL 20611 - 29.03.2023.pdf; OPS - OUT - Karuah East Quarry Project - Blast Management Plan version 3 - EPL 20611 - 29.03.2023.pdf

Good Afternoon Scott,

Please see correspondence attached.

Kind Regards,

Emma

Emma Coombs

A/Unit Head - Operations
Regional Operations North
NSW Environment Protection Authority
D 02 4908 6831 | 0419683146



www.epa.nsw.gov.au @NSW_EPA

The EPA acknowledges the traditional custodians of the land and waters where we work. As part of the world's oldest surviving culture, we pay our respect to Aboriginal elders past, present and emerging.

Report pollution and environmental incidents 131 555 or +61 2 9995 5555

This email is intended for the addressee(s) named and may contain confidential and/or privileged information.

If you are not the intended recipient, please notify the sender and then delete it immediately.

Any views expressed in this email are those of the individual sender except where the sender expressly and with authority states them to be the views of the Environment Protection Authority.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL



DOC24/172592-3

29 March 2024

KARUAH EAST QUARRY PTY LIMITED
PO Box 23
KARUAH, NSW, 2324
Via email: se@hunterquarries.com.au

Attention: Scott Ellerton

Dear Scott,

Karuah East Quarry Pty Limited Blast Management Plan Review

The Environment Protection Authority (EPA) refers to the *Karuah East Quarry Pty Limited Blast Management Plan, dated May 2019* (the Plan). The Plan was provided to the EPA on 27 February 2024 for review and is a requirement of the Project Approval (PA 09_0175) granted on 17 June 2014 for the Karuah East Quarry Project (the Project).

The Environment Protection Authority (EPA) thanks you for providing the Plan for our records.

The EPA encourages the development of such plans to ensure that proponents have determined how they will meet their statutory obligations and designated environmental objectives. However, the EPA does not review, approve or endorse these documents as our role is to set environmental objectives for environmental/ conservation management, not to be directly involved in the development of strategies to achieve those objectives.

Please note that it is a requirement for activities at the premises to remain consistent with relevant approvals, Environment Protection Licence No. 20611 and the *Protection of the Environment Operations Act 1997*.

If you have any questions regarding this matter, please contact me on (02) 49086831 or via email: info@epa.nsw.gov.au, marked to my attention.

Yours sincerely

Emma Coombs
A/Unit Head Operations
Environment Protection Authority

Phone 131 555
Phone +61 2 9995 5555
(from outside NSW)

TTY 133 677
ABN 43 692 285 758

Locked Bag 5022
Parramatta
NSW 2124 Australia

4 Parramatta Square
12 Darcy St, Parramatta
NSW 2150 Australia

info@epa.nsw.gov.au
www.epa.nsw.gov.au

Major Projects | Planning Portal

majorprojects.planningportal.nsw.gov.au/prweb/iAC/app/MP_/nFOIhaSDMGVjT1Huzqzv*/ISTANDARD

Major Projects External Portal

SE Scott Ellerton

1:00 PM
12/04/2024

Karuah East Quarry Project Lodge

Post-Approval (MP09_0175-PA-37)

Initiate Post-Approval | Proponent Details | Post-Approval Details | Create Consultation | Evidence of Consultation | Attachments

Evidence of Consultation

Attach Evidence

Below is a list of any consultation you have initiated through the portal. Once the public authority responds, it will be automatically attached as evidence. Once each of the public authorities has responded, click "Continue". Please attach any other evidence of consultation not captured by the portal by attaching it below.

Public Authority Response Summary

| Public Authority | Status | Due Date | Response |
|--|----------------|-------------------------|----------------------|
| ENVIRONMENT PROTECTION AUTHORITY (PAE-68156958) | Pending Advice | Saturday, 16 March 2024 | No response received |
| MidCoast Council (PAE-68157708) | Pending Advice | Saturday, 16 March 2024 | No response received |

Attachments

Details | **Resources**

Current Stage

- Initiate**
- Lodge**
- Check**
- Assessment**
- Determination**
- Close**

Related Projects

Back

Save

Continue

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 39 of 43 |

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 40 of 43 |

Appendix B: Correspondence with NSW Planning

-

| Document Number | Version Number | Version Date | Revision Date | Document Owner | Page |
|-----------------|----------------|--------------|---------------|----------------|----------|
| ENV-MP-KEQ005 | Version 3B | 12/04/2024 | 12/04/2027 | E&D Manager | 41 of 43 |

Scott Ellerton
Environment and Development Manager
Karuah East Quarry Pty Limited
PO Box 23
Karuah, NSW, 2324

23/06/2023

Subject: Appointment of suitably qualified persons to update environmental management plans

Dear Mr Ellerton


I refer to your request dated 16 June 2023 for the Planning Secretary's endorsement of Chris Jones and Simon Kirgis of Integrated Environmental Management Australia (IEMA) as suitably qualified persons to update the following management plans in accordance with Project Approval MP 09_0175 for the Karuah East Quarry:

- Landscape and Rehabilitation Management Plan (condition 32 of Schedule 3);
- Water Management Plan (condition 21 of Schedule 3);
- Air Quality and Greenhouse Gas Management Plan (condition 16 of Schedule 3);
- Blast Management Plan (condition 12 of Schedule 3); and
- Noise Management Plan (condition 7 of Schedule 3).

The Department has reviewed the nominations and information you have provided and is satisfied that Chris Jones and Simon Kirgis are suitably qualified and experienced. Accordingly, I can advise that the Planning Secretary endorses the appointment of these nominees.

If you wish to discuss the matter further, please contact James McDonough on (02) 9585 6313.

Yours sincerely



Jessie Evans
Director, Resource Assessments
Resource Assessments

As nominee of the Planning Secretary

Scott Ellerton
Environment and Development Manager
Karuah East Quarry Pty Limited
PO Box 23
Karuah, NSW, 2324
29/04/2024

Subject: Blast Management Plan

Dear Mr Ellerton

I refer to the Blast Management Plan submitted in accordance with condition 12, Schedule 3 of the conditions of consent for the Karuah East Quarry Project (MP09_0175).

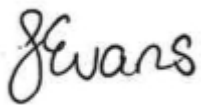
The Department has carefully reviewed the document and is satisfied that it meets the requirements of the relevant conditions of consent.

Accordingly, as nominee of the Planning Secretary, I approve the Blast Management Plan (version 3B, dated April 2024).

You are reminded that if there are any inconsistencies between the Plan and the conditions of consent, the conditions prevail. Please ensure you make the document publicly available on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Kristina Robinson on 02 9860 1543.

Yours sincerely

A handwritten signature in black ink that reads "Jessie Evans".

Jessie Evans
Director, Resource Assessments
Resource Assessments

As nominee of the Planning Secretary