

# Noise Management Plan

for the

## Possum Brush Quarry

### DA 283/97



*Prepared in conjunction with:*

**R.W. CORKERY & CO. PTY. LIMITED**

*and*

Spectrum Acoustics Pty Ltd

October 2023

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1.00	25/07/16	Charlie Kennett General Manager	Stacey Tyack QSE Manager	All	Plan approved for submission to DPE
1.01	04/10/16	Charlie Kennett General Manager	Stacey Tyack QSE Manager	All	Plan amended to address DPE comments received 12/09/16
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3.02	14/05/19	Charlie Kennett General Manager	Stacey Tyack QSE Manager	Section 13 Section 15	Amended to better reflect the conditions of consent as per DPE email dated 13/05/19.
4.00	10/12/19	Charlie Kennett General Manager	Stacey Tyack QSE Manager	All  Table 1 Section 6.3	Removed all or parts of Sections 1, 2, 5, 7, 8, 12-17, to EMS (generic to all MP's). Altered order of contents. General editing. Updated internal references Amended noise monitoring frequency. Added new data
4.01	01/09/20	Charlie Kennett General Manager	Stacey Tyack QSE Manager	Acronyms Table 1 Figure 3 Section 6.3 Section 7	Updated Updated internal references. Updated aerial inserted Amended number of points Additional reference to EMS and notification of affected landholders as per Department request 03/06/20
5.00	01/11/21	Charlie Kennett General Manager	Stacey Tyack QSE Manager	All Section 6.3 Table 10	General Editing Additional noise data added.
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6.00	23/09/22	Charlie Kennett General Manager	Stacey Tyack QSE Manager	All  Table 1 Table 10	General editing Updated reference to DPE Updated internal references Added 2021 Noise Data

7.00	12/10/23	Charlie Kennett General Manager	Stacey Tyack QSE Manager	Page 2 Table 10	Updated RWC contact details Added 2022 Noise data
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## **LIST OF ACRONYMS**

AHD	Australian Height Datum
AS	Australian Standard
CCC	Community Consultation Committee
DA	Development Application
DPE	Department of Planning and Environment
Department	Department of Planning and Environment
EA	Environmental Assessment
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	Environment Protection Authority
EPL	Environment Protection Licence
ERM	Environmental Resource Management Pty Ltd
GTCC	Greater Taree City Council (MidCoast Council as of 1 July 2016)
INP	Industrial Noise Policy
MCC	MidCoast Council
PBM	Pacific Blue Metal Pty Ltd
RPM	Runge Pincock Minarco Ltd
Secretary	Secretary of the Department, or nominee

## 1. INTRODUCTION

This *Noise Management Plan* (the Plan) has been prepared by Pacific Blue Metal Pty Ltd (PBM) in conjunction with R.W. Corkery & Co. Pty Limited and Spectrum Acoustics Pty Ltd for the Possum Brush Quarry (the Quarry). The Quarry is located approximately 2km west of the Pacific Highway at Possum Brush, 4km northwest of Failford and 5km northeast of Nahiabac (**Figure 1**).

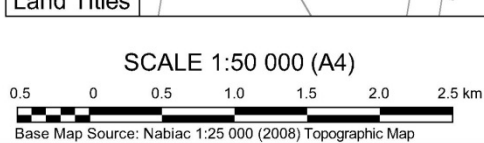
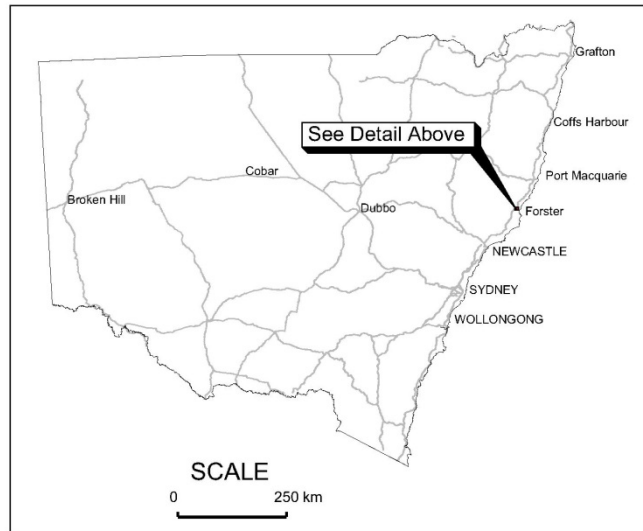
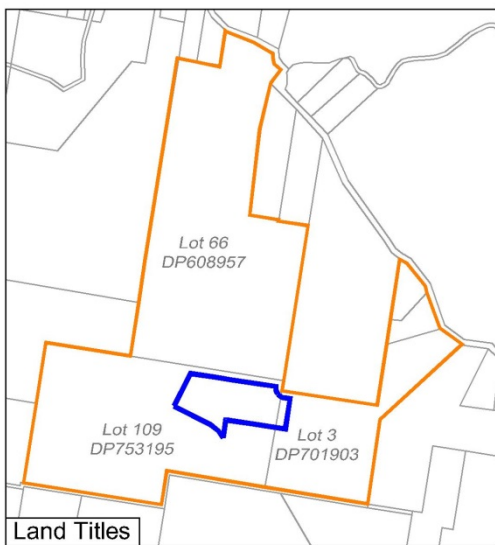
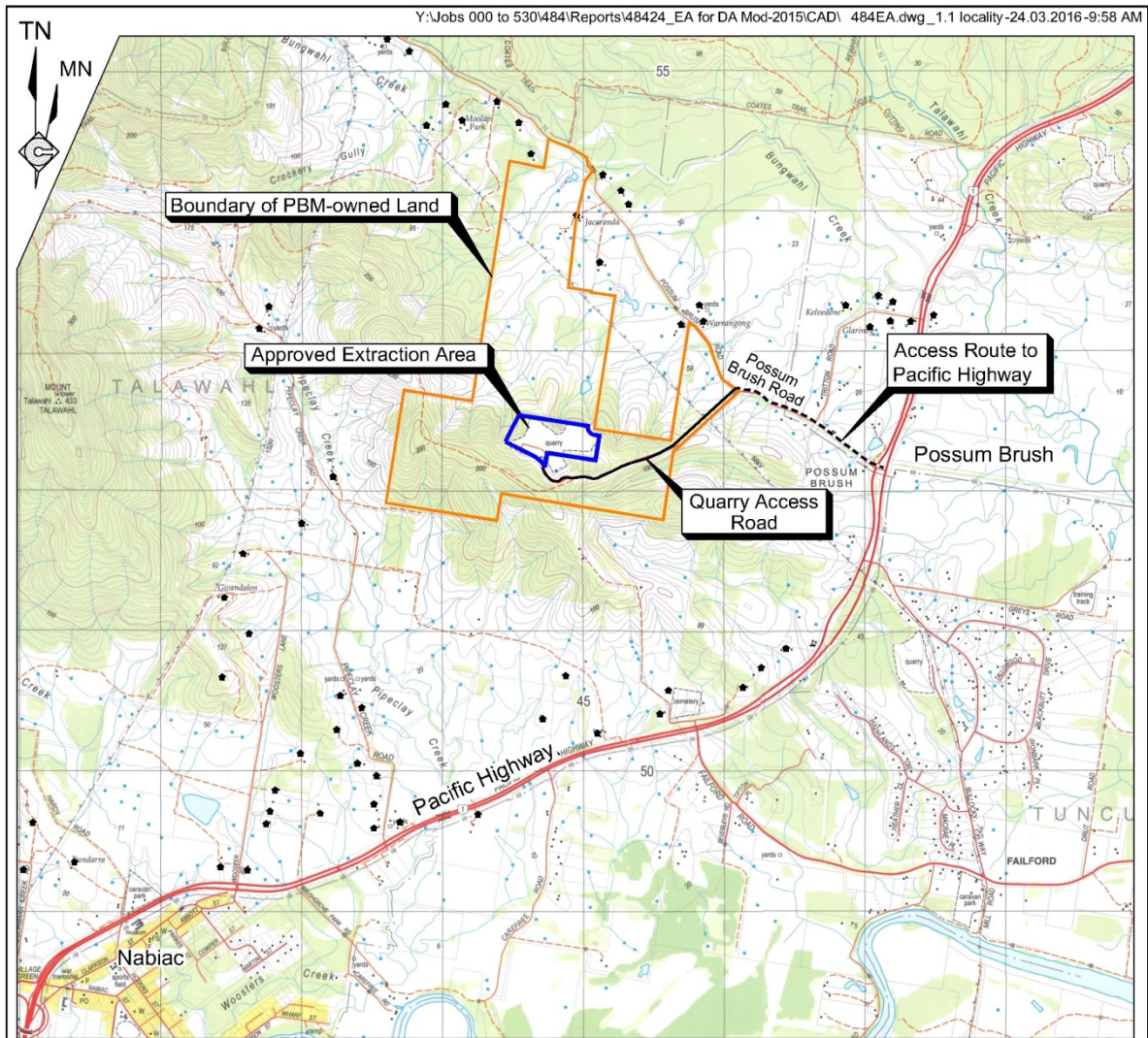
This Plan has been prepared in satisfaction of *DA Conditions 3(3)* and *5(2)* of Development Consent (DA) 283/97<sup>1</sup>. The Plan is one of six (6) supporting documents for the Environmental Management Strategy. These six (6) supporting documents being:

- Air Quality Management Plan
- Blast Management Plan
- Landscape and Rehabilitation Management Plan
- Noise Management Plan
- Transport Management Plan
- Water Management Plan

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<sup>1</sup> All conditions in Development Consent DA 283/97 are referred to as *DA Condition ...*





- REFERENCE
- Boundary of PBM-owned Land
  - Approved Extraction Area Boundary
  - Residence

Figure 1  
LOCALITY PLAN

## 2. LEGAL AND OTHER REQUIREMENTS

### 2.1 DEVELOPMENT CONSENT

DA 283/97 was formally modified as Mod 4 by the Executive Director, Resource Assessments and Compliance as a delegate of the Minister of Planning on 1 April 2016 pursuant to Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act). Relevant noise-related conditions in DA 283/97 are reproduced in **Table 1** together with a reference to the section(s) of the Plan where each condition is addressed.

**Table 1 Development Consent Requirements Relating to Noise**

Schedule (Cond. No.)	Condition Requirement	Plan Section																							
3(1)	<p>The Applicant shall ensure that the noise generated by the development does not exceed the criteria in Table 2 at any residence on privately-owned land.</p> <p><b>Table 2: Noise criteria dB(A)</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Receiver</th> <th>Day/Evening</th> <th colspan="2">Night</th> </tr> <tr> <th>L<sub>Aeq</sub>(15 min)</th> <th>L<sub>Aeq</sub>(15 min)</th> <th>L<sub>A1</sub>(max)</th> </tr> </thead> <tbody> <tr> <td>R1 – 5 St Peters Close</td> <td>39</td> <td>39</td> <td>45</td> </tr> <tr> <td>R2 – 175 Possum Brush Road</td> <td>38</td> <td>38</td> <td>45</td> </tr> <tr> <td>R3 – 55 Possum Brush Road</td> <td>37</td> <td>37</td> <td>45</td> </tr> <tr> <td>All other residences</td> <td>35</td> <td>35</td> <td>45</td> </tr> </tbody> </table> <p><i>Note: Receiver locations are shown in Appendix 2.</i></p> <p>Noise generated by the development is to be measured in accordance with the relevant requirements of the <i>NSW Industrial Noise Policy</i> (as may be updated from time-to-time). Appendix 3 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.</p> <p>However, these criteria do not apply if the Applicant has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.</p>	Receiver	Day/Evening	Night		L <sub>Aeq</sub> (15 min)	L <sub>Aeq</sub> (15 min)	L <sub>A1</sub> (max)	R1 – 5 St Peters Close	39	39	45	R2 – 175 Possum Brush Road	38	38	45	R3 – 55 Possum Brush Road	37	37	45	All other residences	35	35	45	5
Receiver	Day/Evening		Night																						
	L <sub>Aeq</sub> (15 min)	L <sub>Aeq</sub> (15 min)	L <sub>A1</sub> (max)																						
R1 – 5 St Peters Close	39	39	45																						
R2 – 175 Possum Brush Road	38	38	45																						
R3 – 55 Possum Brush Road	37	37	45																						
All other residences	35	35	45																						
3(2)	<p>The Applicant shall:</p> <p>a) implement best practice management to minimise the operational and road transportation noise of the development;</p> <p>b) minimise the noise impacts of the development during meteorological conditions when the noise criteria in this consent do not apply (see Appendix 3);</p> <p>c) carry out regular monitoring to determine whether the development is complying with the relevant conditions of this consent; and</p> <p>d) regularly assess noise monitoring data and modify and/or stop operations on site to ensure compliance with the relevant conditions of this consent, to the satisfaction of the Secretary.</p>	<p>5</p> <p>5.5</p> <p>6</p> <p>7</p>																							

**Table 1 (Cont'd)**  
**Development Consent Requirements Relating to Noise**

Schedule (Cond. No.)	Condition Requirement	Plan Section
3(3)	<p>The Applicant shall prepare a Noise Management Plan for the development to the satisfaction of the Secretary. In addition to the standard requirements for management plans (see condition 2 of Schedule 5) this plan must:</p> <p>a) be submitted to the Secretary for approval within three months of the date of approval of Modification 4, unless otherwise agreed by the Secretary;</p> <p>b) describe the measures that would be implemented to ensure:</p> <ul style="list-style-type: none"> <li>– compliance with the noise criteria in this consent;</li> <li>– best practice management is being employed; and</li> <li>– the noise impacts of the development are minimised during meteorological conditions under which the noise criteria in this consent do not apply (see Appendix 3);</li> </ul> <p>c) describe the proposed noise management system; and</p> <p>d) include a monitoring program that will be put in place to measure noise from the development against the noise criteria in Table 2, and which evaluates and reports on the effectiveness of the noise management system on site; and</p> <p>The Applicant shall implement the management plan as approved from time to time by the Secretary.</p>	<p>This document</p> <p>7</p> <p>3</p> <p>5.5</p> <p>5</p> <p>6</p> <p>n/a</p>
4(1)	<p>As soon as practicable after obtaining monitoring results showing an:</p> <p>a) exceedance of any relevant criteria in schedule 3, the Applicant shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each of affected landowner until the project is again complying with the relevant criteria.</p>	7, 9, 10
5(2)	<p>The Applicant shall ensure that the Management Plans required under this approval are prepared in accordance with any relevant guidelines, and include:</p> <p>a) detailed baseline data;</p> <p>b) a description of:</p> <ul style="list-style-type: none"> <li>– the relevant statutory requirements (including any relevant approval, licence or lease conditions);</li> <li>– any relevant limits or performance measures/criteria; and</li> <li>– the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;</li> </ul> <p>c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;</p> <p>d) a program to monitor and report on the:</p> <ul style="list-style-type: none"> <li>– impacts and environmental performance of the project; and</li> <li>– effectiveness of any management measures (see (c) above);</li> </ul> <p>e) a contingency plan to manage any unpredicted impacts and their consequences;</p> <p>f) a program to investigate and implement ways to improve the environmental performance of the project over time;</p>	<p>4</p> <p>2</p> <p>2</p> <p>3</p> <p>5</p> <p>6 &amp; 7</p> <p>8</p> <p>7</p>

**Table 1 (Cont'd)**  
**Development Consent Requirements Relating to Noise**

Schedule (Cond. No.)	Condition Requirement	Plan Section
5(2) (Cont'd)	g) a protocol for managing and reporting any: <ul style="list-style-type: none"> <li>– incidents;</li> <li>– complaints;</li> <li>– non-compliances with statutory requirements; and</li> <li>– exceedances of the impact assessment criteria and/or</li> <li>– performance criteria; and</li> </ul>	8, 9, 10
	h) a protocol for periodic review of the plan. Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.	12
5(7)	The Applicant shall notify, at the earliest opportunity, the Secretary and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the project, the Applicant shall notify the Secretary and any other relevant agencies as soon as practicable after the Applicant becomes aware of the incident. Within 7 days of the date of the incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	10
5(8)	The Applicant shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval.	11

## 2.2 ENVIRONMENT PROTECTION LICENCE

PBM currently hold Environment Protection Licence (EPL) 3393 for the operation of the Quarry.

This Noise Management Plan has been prepared in a manner that is consistent with the EPL. The specific criteria outlined in EPL 3393 relevant to noise management are detailed below in **Table 2**.

**Table 2 EPL 3393 Noise Concentration Limits**

Location	Frequency	Limit LAeq15 (dBA)	Limit LAmax (dBA)
Receiver Location 1 5 St Peters Cl Possum Brush	Once per year for each day, evening and night period	39	45
Receiver Location 2 175 Possum Brush Rd Possum Brush		38	45
Receiver Location 3 55 Possum Brush Rd Possum Brush		37	45

### 3. OBJECTIVES AND OUTCOMES

Table 3 presents the objectives and key performance outcomes for this Plan and the Quarry.

**Table 3 Objectives and Key Performance Outcomes**

Objectives	Key Performance Outcomes
(a) To ensure compliance with the criteria of DA 283/97, EPL 3393 and reasonable community expectations.	(i) Compliance with all relevant criteria and reasonable community expectations, as determined in consultation with the relevant government agencies.
(b) To implement the noise management and mitigation measures as detailed in Section 10 during all stages of the Project.	(ii) All identified noise management and mitigation measures are implemented to the extent required.
(c) To implement the attended noise monitoring program as detailed in Section 11, to establish compliance or otherwise with relevant criteria during all stages of the Project.	(iii) All identified monitoring is undertaken in accordance with the relevant procedures and at the relevant intervals.
(d) To implement the complaints handling and response protocol as detailed in Section 13	(iv) Complaints (if any) are handled and responded to in an appropriate and timely manner.
(e) To implement continual improvement for investigating, implementing and reporting on reasonable and feasible measures to reduce noise.	(v) An appropriate continual improvement program has been implemented.
(f) To implement the incident reporting program, if required, as detailed in Section 15.	(vi) Incidents (if any) are reported in an appropriate and timely manner.

## 4. BASELINE DATA

### 4.1 EXISTING NOISE SOURCES

The principal noise source in the vicinity of the Quarry is traffic travelling on the Pacific Highway. Other noise sources include traffic on local roads, agricultural equipment, equipment used on rural-residential properties, stock and birds and wind in trees.

### 4.2 BACKGROUND NOISE LEVELS

The quarry currently operates under a set of noise criteria as detailed in Environment Protection Licence (EPL) 3393 and DA 283/97 MOD 4, as shown in **Table 4**.

**Table 4 Noise Limits from EPL 3393 as dB(A)**

Location	Leq (15 min)	Lmax
Receiver 1 – 5 St Peters Close	39	45
Receiver 2 – 175 Possum Brush Road	38	45
Receiver 3 – 55 Possum Brush Road	37	45

These noise criteria have been derived from noise modelling results presented in a noise compliance assessment undertaken by Heggies Pty Ltd in April 2010 (Rpt No. 30-2492R1D1). The receivers listed are the closest to the Quarry and the most potentially affected by noise emissions from its operation.

The Heggies assessment modelled noise levels as a result of the typical operation of the quarry and asphalt plant during the day, evening and night. As part of the assessment, Heggies undertook long term noise logging at each of the locations listed. The results of the noise logging are shown in **Table 5**.

**Table 5 Measured Ambient Noise Levels (Heggies 2010) as dB(A)**

Receiver	Day		Evening		Night	
	L90	Leq	L90	Leq	L90	Leq
1. 5 St Peters Close	35	43	38	44	37	44
2. 175 Possum Brush Road	35	52	41	51	37	55
3. 55 Possum Brush Road	41	51	44	51	41	47

As part of this assessment, current, ambient noise levels were measured at the same three receiver locations as previous. In August and September 2015 ARL type EL 215 noise loggers were deployed at Receiver R1 between 3 and 10 September and at Receivers R2 and R3 between 17 and 24 August, 2015.

The measured ambient noise levels from the loggers are shown in **Table 6**.

**Table 6 Measured Ambient Noise Levels (Spectrum Acoustics 2015) as dB(A)**

Receiver	Day		Evening		Night	
	L90	Leq	L90	Leq	L90	Leq
1. 5 St Peters Close	33	46	33	48	31	48
2. 175 Possum Brush Road	32	52	33	45	29	41
3. 55 Possum Brush Road	38	51	40	47	32	51

### 4.3 SLEEP DISTURBANCE

Based on the measured night time background noise levels, the sleep disturbance criterion for each monitoring location is detailed in **Table 7**.

**Table 7 Sleep Disturbance Criteria as dB(A)**

Receiver	Night L1 (1 min)
1. 5 St Peters Close	46
2. 175 Possum Brush Road	47
3. 55 Possum Brush Road	45

### 4.4 SURROUNDING RESIDENCES

Figure 2 displays the locations of residences surrounding the Quarry Site.

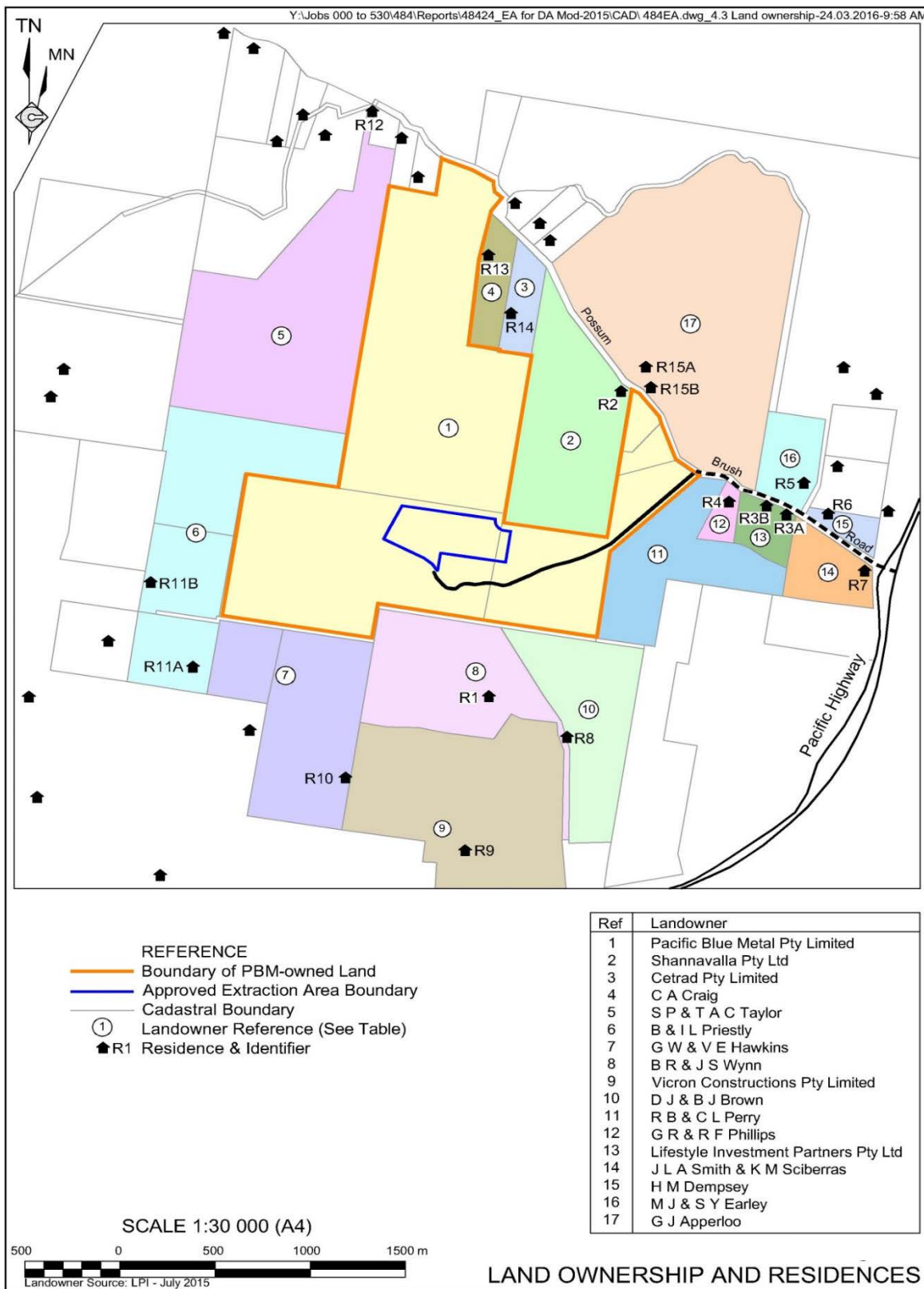


Figure 2 Land Ownership & Residences



## 5. NOISE MITIGATION MEASURES

### 5.1 INTRODUCTION

*DA Condition 3(3)* requires that this Plan describes the noise mitigation measures that will be adopted to ensure compliance with *DA Condition 3(1)* (**Table 2**) and *Condition 3(2)*. This section has been prepared in satisfaction of that requirement. The mitigation measures comprise best practice management techniques for design and operational safeguards, engineering noise controls and procedural noise controls.

### 5.2 DESIGN AND CONSTRUCTION SAFEGUARDS

The following design features and construction safeguards will be implemented.

- The Quarry has been intentionally located in an area that is well shielded both topographically and visually behind the substantial vegetation and at distances of greater than 1km to the residence to the east and northwest and 700m from the closet residence to the south. In addition, there is considerable topographical relief between the extraction areas and the various residences to the south and southeast.
- To ensure minimal impacts on surrounding residents, the plans for the ongoing Stage 2 extraction operations have been developed to utilise the existing landform and vegetation to the north of the Quarry as a screen for extraction operations in Area B.
- The deepening of Area A from the current 90m AHD level to the approximately 45m AHD and Area B from 135m AHD to approximately 45m AHD will occur wholly within the approved extraction area, where all vegetation has been removed. Extraction activities below approximately 115m AHD will be fully screened in all directions by natural topography and the quarry void.

The Quarry Manager/Supervisor will be responsible for the implementation of the design and construction safeguards.

### 5.3 ENGINEERING NOISE CONTROLS

The following engineering noise controls will be implemented.

- The sound power levels and frequency spectra of the main noise sources to be used at the Quarry will be generally comparable with those set out in **Table 8**.
- All equipment at the Quarry will be serviced as per the individual plant service schedule to ensure sound power levels of each item remains at or below that nominated in **Table 8**.
- Attended noise monitoring will provide data as to whether the maintenance program for each item is effective and if not whether excess sound power levels from quarry plant and machinery is affecting our closest neighbours.

- Reversing alarms (mid frequency band) will be fitted to all quarry-based or hired earthmoving equipment to avoid high frequency noise associated with conventional alarms.

**Table 8 Sound Power Levels and Frequency Spectra of Main Noise Sources (as Leq15 min)**

Item	Frequency (Hz)									
	dB(A)	31.5	63	125	250	500	1k	2k	4k	8k
Cat D9 Dozer	114	95	112	118	109	111	108	108	102	95
Cat 980 FEL	107	110	113	109	106	103	101	98	94	90
85t Excavator	112	106	100	107	103	103	101	99	96	93
Water Cart	99	102	104	96	91	90	94	95	87	81
40t Haul Truck	103	97	100	96	100	100	100	96	91	83
Drill Rig	119	109	101	108	99	104	106	112	115	112
Road Truck	99	88	94	97	97	93	91	86	81	68
Crusher	114	108	125	120	111	111	109	106	102	95
Asphalt Plant	106	101	115	108	105	103	101	98	94	87

## 5.4 PROCEDURAL NOISE CONTROLS

### 5.4.1 Extraction Operations

The following operational noise management controls will be adopted.

- PBM will ensure that the operating hours in *DA Condition 2(11)* and operating conditions identified in *DA Condition 3(3)* are strictly complied with. The Quarry Manager/Supervisor will be responsible for ensuring the operating hours are included in the site induction and that no departures will be tolerated outside of these hours.
- Mobile plant will be fitted with standard mufflers. These will be maintained to manufacturer's specifications.
- Scheduled and effective maintenance of all earthmoving equipment either at the Quarry or off site. Prompt attention will be given to repair of loose or rattling parts and broken equipment. All maintenance work will be carried out by qualified persons.
- All Company personnel and contractors and their employees will be made aware of their obligations and responsibilities with regard to minimising noise emissions. As part of their Site Induction, Contractors will be required to familiarise themselves with methods of controlling noisy equipment.

The Quarry Manager/Supervisor will be responsible for all implementation of procedural noise controls and to ensure the noise level from all Quarry activities are within the required noise criteria during the transportation of products from the Quarry.

## 5.4.2 Traffic

The following traffic noise management measures will be implemented to minimise truck noise on public roads and within the Quarry.

- The Quarry Access Road will continue to be maintained to a high standard to minimise truck body noise.
- Truck movements between 6:30am and 7:00am will continue to be confined to 10 or less with emphasis placed upon PBM-based trucks departing the Quarry before 7:00am.
- Truck drivers will continue to be instructed to reduce use of compression braking wherever possible, to limit changing of gears, and maintain vehicles to an acceptable standard to minimise noise emissions - drivers that do not comply with these directions are not permitted to return to the Quarry.
- Noise complaints will continue to be thoroughly investigated and followed up, where appropriate.
- The driver's Code of Conduct will be reviewed and updated to ensure compliance with the development consent.
- All truck drivers will be instructed to contain their vehicle speed on Possum Brush Road to  $\leq 70$ kph. This requirement is included in the Driver's Code of Conduct.

The Quarry Manager/Supervisor will be responsible for the implementation of procedural noise controls.

## 5.5 NOISE REDUCTION UNDER ADVERSE METEOROLOGICAL CONDITIONS

Both the EPL and DA stipulate that noise criteria apply under all meteorological conditions except the following:

- a) Wind speeds greater than 3 meters/second at 10m above the ground level or
- b) Stability category F temperature inversion conditions and wind speeds greater than 2 meters/second at 10 meters above ground level; or
- c) Stability category G temperature inversions.

Notwithstanding this exemption, PBM still strives to minimise excessive noise from the quarry, should these adverse weather conditions exist. The location and intentional design of the quarry provide significant acoustic protection for our neighbours, however the following additional actions are available to mitigate any off-site, private property noise impacts:

- Review of the location and/or elevation of quarrying activities and, where possible, relocate equipment to alternative locations or lower elevations until more suitable conditions return.
- Amend working hours of noise creating activities.
- Temporary cessation of work within an area or from a particularly noisy piece of equipment.
- Avoid clustering of noise plant and machinery.

## 6. MONITORING

### 6.1 INTRODUCTION

DA Condition 3(3) requires that this Plan include a monitoring program that:

- is capable of evaluating the performance of the Quarry;
- includes a protocol for determining exceedances of the relevant conditions in this approval; and
- evaluates and reports on the effectiveness of the noise management system on site.

This section has been prepared in satisfaction of those requirements.

It is noted that the criteria nominated in DA Condition 3(1) relate to all activities undertaken within the Quarry including extraction, processing, product loading, asphalt manufacture and truck movements until they depart from the Quarry onto Possum Brush Road.

### 6.2 NOISE CRITERIA

Table 9 lists the noise criteria at the three (3) representative residences on privately-owned land around the quarry at which noise monitoring is undertaken.

**Table 9 Development Consent Noise Criteria (dB(A))**

Receiver	Day/Evening	Night	
	L <sub>Aeq</sub> (15 min)	L <sub>Aeq</sub> (15 min)	L <sub>A1</sub> (max)
R1 – 5 St Peters Close	39	39	45
R2 – 175 Possum Brush Road	38	38	45
R3 – 55 Possum Brush Road	37	37	45
All other residences	35	35	45

Source: DA Condition 3(1) – Table 2

### 6.3 NOISE MONITORING DATA

Noise monitoring at three (3) closest neighbours has been undertaken as follows:

- 2011 – 2017 Annually as per EPL
- July 2017 – May 2019 Quarterly as per DA.
- June 2019 onwards – Annually as per EPL and DA\*

\*Permission was granted by the Department on 13 May 2019 to amend noise monitoring from quarterly to annual to align with the EPL.

A summary of the noise monitoring data from 2017-2022 is provided in **Table 10**.

Noise monitoring locations are detailed in Section 6.4.2.

**Table 10: Noise Monitoring Data 2017- 2022**

<b>Date</b>	<b>Period</b>	<b>R1 Limit: 39 LA<sub>eq</sub> 15min dB(A)</b>	<b>R2 Limit: 38 LA<sub>eq</sub> 15min dB(A)</b>	<b>R3 Limit: 37 LA<sub>eq</sub> 15min dB(A)</b>
17 Jul 2017	Day	<20	<20	Inaudible
	Evening	Inaudible	<20	Inaudible
	Night	Inaudible	<20	Inaudible
25 Sept 2017	Day	23	<20	Inaudible
	Evening	27	28	Inaudible
	Night	29	28	<20
28 Mar 2018	Day	28	<20	<25
	Evening	Inaudible	Inaudible	Inaudible
	Night	Inaudible	25	<25
28 Jun 2018	Day	29	<20	<25
	Evening	Inaudible	31	Inaudible
	Night	Inaudible	<25	<25
15 Aug 2018	Day	32	<20	<20
	Evening	38	n/a*	n/a*
	Night	38	33	<20
02 Apr 2019	Day	28	<25	36
	Evening	<25	Inaudible	Inaudible
	Night	Inaudible	<25	<25
24 Sep 2019	Day	<20	<20	<20
	Evening	<20	30	<20
	Night	<20	<20	<20
13 Jul 2020	Day	<20	<20	27
	Evening	26	25	<20
	Night	<20	<20	<20
17 Dec 2021	Day	33	<20	<20
	Evening	n/a	n/a	n/a
	Night	n/a	n/a	n/a
28 Sep 2022	Day	Inaudible	22	<20
	Evening	<20	<20	<20
	Night	Inaudible	<20	<20

\*No activity on site prior to 9.35pm – only one resident able to be monitored for evening noise levels.

## **6.4 ATTENDED MONITORING**

### **6.4.1 Purpose**

The purpose of the attended noise monitoring will be to determine compliance with the criteria identified in *DA Condition 3(1)* (**Table 2**).

### 6.4.2 Noise Monitoring Locations

Figure 3 displays the locations of the three noise monitoring locations.

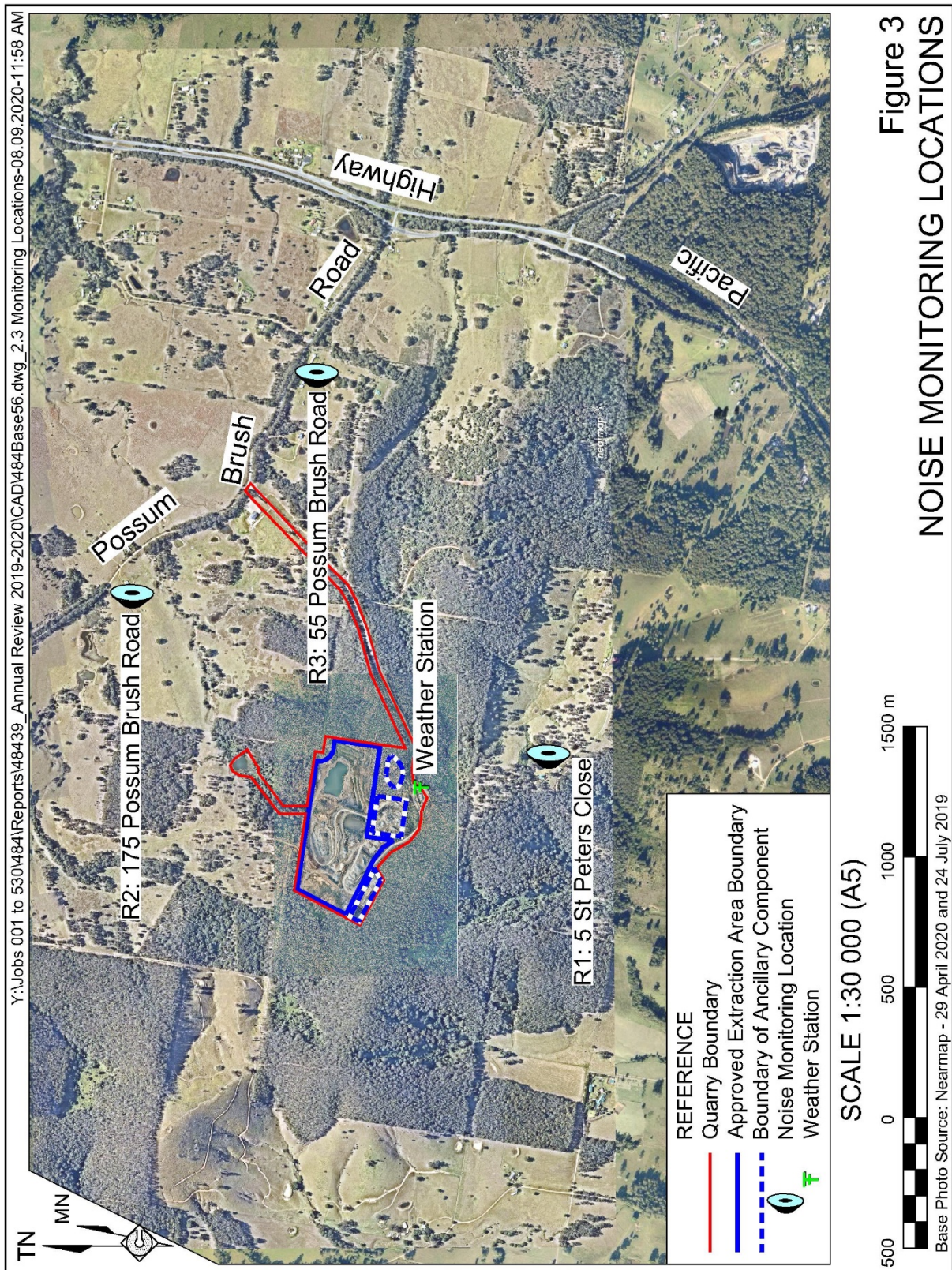


Figure 3 Noise Monitoring Locations

### 6.4.3 Methodology

To determine compliance with *DA Condition 3(1)* and *3(2)*, attended noise monitoring will be undertaken in accordance with the following:

- at each one of the locations listed in *DA Condition 3(1)*;
- occur at a time corresponding to usual or busy quarry activities;
- occur during each day, evening and night period as defined by the *NSW Industrial Noise Policy*; and
- undertaken on an annual basis, consistent with the EPL.

The maximum ( $L_{Amax}$ ), and the energy equivalent ( $L_{Aeq}$ ) intrusive noise level from operations within the Quarry Site over a 15 minute measurement period will be recorded. Information that will be recorded during monitoring and about each location will include:

- the name of the person undertaking the monitoring;
- location(s) of the monitoring;
- recording intervals (date and times);
- meteorological conditions, i.e. temperature, humidity, cloud cover, and wind speed and direction drawn from the site weather station;
- statistical noise level descriptors together with notes identifying the principal noise sources;
- instrument make and model;
- details of analytical software utilised, and
- a brief description of activities occurring within the Quarry during the monitoring period.

PBM will record the type and number of mobile equipment and their locations operating during the period of noise monitoring using a standard record form.

## 6.5 SUPPLEMENTARY NOISE SURVEYS

In the event of a substantiated noise-related complaint, PBM will undertake or commission a supplementary attended noise survey. See Section 9 for further details.



## 7. EVALUATION OF COMPLIANCE

PBM will evaluate compliance in accordance with the procedures detailed in Section 7 of the Environmental Management Strategy. This scheduled monitoring and reporting program will allow for continual assessment and improvement of the environmental performance of the project. In addition, a noise monitoring report will be prepared and provided to PBM by the independent noise monitoring consultants. This report will include an assessment of the monitoring results against the criteria identified in *DA Condition 3(1)*. All monitoring reports will be reviewed by the Compliance Manager and a copy included within each Annual Review.

In the event that attended noise monitoring identifies an exceedance of the noise criteria identified in *DA Condition 3(1)*, PBM will initiate appropriate corrective and preventative actions as per Section 8 of the Environmental Management Strategy and prepare an investigation report including the identified corrective and/or preventative actions required.

The investigation will be provided to the Department and EPA within seven (7) days of the receipt of the subject noise monitoring report. A copy of the report will be included in the subsequent Annual Review.

All affected landholders will be notified of the exceedance in writing. Affected landholders will be provided a copy of the non-complying monitoring results, as well as copies of future noise monitoring results until quarry operations are within the prescribed noise limits. In the event that a noise complaint is received, the event will be evaluated in accordance with the procedures identified in Section 9 of the Environmental Management Strategy.

## 8. CORRECTIVE AND PREVENTATIVE ACTIONS

In the event that attended noise monitoring identifies an exceedance of the noise criteria identified in *DA Condition 3(1)*, the exceedance will be reviewed to determine the likely cause(s) as per Section 8 of the Environmental Management Strategy - Corrective and Preventative Actions.

## 9. COMPLAINTS HANDLING AND RESPONSE

The Environmental Management Strategy includes a detailed complaints management procedure (Section 9). This sub section records the procedures that would be implemented following receipt of a noise complaint.

Following receipt of any noise-related complaint, PBM will implement the following procedure.

1. The complaint will be reviewed by the Compliance Manager or his/her delegate in conjunction with quarry personnel to determine the nature, date and time of the offending noise source(s).
2. Should the offending noise(s) be determined to be attributable to the quarry a supplementary attended noise survey will be undertaken during the next period when operations are comparable to those during the period relating to the complaint. The resulting attended noise monitoring report will be provided to the Secretary and the complainant on receipt.

3. Should the supplementary attended noise monitoring indicate an exceedance of the criteria identified in *DA Condition 3(1)*, the Compliance Manager will implement corrective and preventive actions as detailed in Section 8 and notify the Secretary and EPA in accordance with the procedures identified in Section 10 Incident Reporting. In addition, the Compliance Manager will continue to consult with the complainant, as required, in relation to the complaint.

All complaints would be recorded using a proforma document.

## **10. INCIDENT REPORTING**

As per Environmental Management Strategy Section 10.

## **11. PUBLICATION OF MONITORING INFORMATION**

As per Environmental Management Strategy Section 11.

## **12. PLAN REVIEW**

As per Environmental Management Strategy Section 12.