



WE CARE. WE DELIVER.

Environmental Management System

Rix's Creek Mine

NOISE MANAGEMENT PLAN

Doc No: Noise Management Plan

Doc Owner: Environment Manager – Rix's Creek Pty Ltd

Approval: Group Environmental Manager – The Bloomfield Group

Signed: Chris Knight. MEM,BSc,(Newcastle) MAIG, JP.

Date: 12/5/2021

Revision	Issue Date	Description	Originator	Reviewed	Approved
1.0	12/01/2015		J Welbourne	John Hindmarsh	
1.1	22/01/2016		John Hindmarsh		Garry Bailey
1.2	10/02/2016		John Hindmarsh		Garry Bailey
1.3	21/03/2017		John Hindmarsh	Tony Welbourne	Garry Bailey
1.4	18/12/2017	Mod 9 update	Chris Quinn	Chris Knight	Garry Bailey
1.5	30/12/2018	Relocate NM06 IPCN Update C-A Application	Chris Quinn	Chris Knight	Version NOT Approved DPE
1.6	01/04/2019	Relocate NM06 Removal of IPC recommendations RCM Met Station	Chris Knight	Chris Knight	Geoff Moore
1.7	24/7/2019	Updated for protocol between mines in accordance with DA 49/94 Sch..2 Condition 11 (v), and PA 08_0108 Sch 3 Condition 10 (e)	Chris Knight	Chris Quinn	Chris Knight
1.8	14/05/2020	Updated for SSD 6300 and DA 49/94 IEA RTR	Kirstin Blaikie	Dianne Munro	Chris Knight
1.9	09/12/2020	Updated in response to request for further information from DPIE	Kirstin Blaikie	Dianne Munro	Chris Knight
2.0	12/5/2021	Update for RCN Mod9	Chris Knight	Chris Quinn	Chris Knight

Table of Contents

	Page
1 Introduction.....	5
1.1 Background	5
1.1.1 RCN	5
1.1.2 RCS	6
1.2 Local Setting.....	6
1.3 Document Structure	6
2 Statutory Requirements.....	11
2.1 Land Ownership.....	11
2.2 Noise Management Plan Conditions.....	13
2.2.1 RCN	13
2.2.2 RCS	15
2.3 Noise Criteria.....	17
2.4 Environmental Impact Statement Commitments	17
2.5 Environmental Protection Licence	17
2.6 Plan Objectives and Performance Indicators	18
3 Stakeholder Consultation	19
3.1 Department of Planning, Industry and Environment.....	19
3.2 Environment Protection Authority	19
4 Site Noise Emissions	20
4.1.1 Mobile Plant.....	20
4.1.2 Fixed Plant	22
4.1.3 Traffic Noise	22
4.1.4 Construction Noise- Cut and Cover Tunnel	23
5 Internal Monitoring	24
5.1 Internal Attended Monitoring	24
5.1.1 Procedure.....	24
5.1.2 Frequency	29
5.1.3 Locations.....	29
5.1.4 Data Collection	32
5.1.5 Compliance Criteria	32
5.2 Unattended Monitoring.....	33
5.2.1 Introduction.....	33
5.2.2 Locations.....	33
5.2.3 Equipment and Measurement Methodology	33
5.2.4 Data Storage and Display	33
5.2.5 Noise Alarm.....	34
6 Compliance Attended Monitoring.....	35
6.1 Introduction.....	35
6.2 Frequency.....	35
6.3 Locations	35

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	2 of 95

6.4	Methods.....	37
6.5	Meteorological Monitoring	39
6.6	Data Collection	39
6.7	Result Acceptance	40
6.8	Cumulative Noise Protocol	41
7	Noise Management Measures.....	43
7.1	Proactive Measures	43
7.1.1	Noise Mitigation Measures	43
7.1.2	Predictive Noise Model	45
7.1.3	Daily Operational Planning.....	45
7.1.4	Sound Power Control	45
7.1.5	Review Data for Trends	48
7.2	Reactive Measures	48
8	Complaints Handling	49
9	Landholder Notifications, Mitigation and Acquisition	51
9.1	Landholder and Tenants Notifications	51
9.2	Future Tenancy Agreements.....	51
9.3	Notifications of Exceedances or Incidents	51
9.4	Independent Review	51
9.5	Acquisition upon Request.....	52
9.6	Mitigation Upon Request.....	52
10	Reporting and Review.....	53
10.1	Compliance Reporting.....	53
10.2	Monthly Reporting.....	54
10.3	Annual Review.....	54
10.4	Management Plan Review	54
11	Roles and Responsibilities	55
12	References	58
13	Glossary	59

List of Tables

Table 1	PA 08_0102 Management Plan Conditions	13
Table 2	SSD 6300 Management Plan Conditions.....	15
Table 3	Plan Objectives and Performance Indicators	18
Table 4	RCM Noise Generating Permanent Infrastructure.....	22
Table 5	Trigger Action Response Plan.....	25
Table 6	Internal and Compliance Attended Monitoring Locations	29
Table 7	Compliance Criteria for Internal and Compliance Attended Monitoring.....	32
Table 8	Summary of Noise Mitigation Measures	43

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	3 of 95

Table 9	Proactive Measures	47
Table 10	Roles and Responsibilities	55

List of Figures

Figure 1	Locality	8
Figure 2	Conceptually Approved Rix's Creek North	9
Figure 3	Conceptually Approved Rix's Creek South	10
Figure 4	Land Ownership.....	12
Figure 5	Noise Monitoring Locations.....	29
Figure 6	Compliance Attended Monitoring Exceedance Procedure.....	40
Figure 7	Community Complaint Response	48

List of Appendices

Appendix A	Development Consent Conditions
Appendix B	Land Ownership and Receivers' Rights
Appendix C	Environmental Commitments
Appendix D	Regulatory Consultation and Post Approvals

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	4 of 95

1 Introduction

Rix's Creek Mine (RCM) is an open cut coal mine owned and operated by The Bloomfield Group (Bloomfield). RCM comprises the original Rix's Creek Mine, now known as Rix's Creek South (RCS) and the former Integra Open Cut Project Mine now known as Rix's Creek North (RCN).

RCM is located approximately 5 to 10 km north-west of Singleton both east and west of the New England Highway (NEH).

This Noise Management Plan has been prepared, reviewed and internally approved by the following suitably qualified and experience persons;

- Kirstin Blaikie Hansen Bailey, *MSc (Wildlife Ecology), BSc (Zoology)*.
- Dianne Munro, Hansen Bailey, *MEnvLaw BSc*.
- Chris Knight, The Bloomfield Group, *MEM, BSc. (Newcastle)*.

People responsible for the compilation review and internal approval of this document have a combined experience of environmental science, environmental law and management of over 60 years.

This document has also been reviewed by Jeremy Welbourne, specialist consultant of Global Acoustics.

This Noise Management Plan (NMP) forms part of a series of Environmental Management Plans for RCM and is the primary tool that will be utilised to manage noise emissions from the operation and ensure compliance.

1.1 Background

Approved operations within RCM are shown on **Figure 1** and **Figure 2** and include:

- For RCS: North Pit, Pit 2 and Pit 3 (also known as West Pit), tailings dams, rail loadout infrastructure (approved but not constructed) and CHPP; and,
- For RCN: North Open Cut, South Pit, the Extended South Pit (Western Extension), tailings dams, CHPP and the rail loadout infrastructure.

The NMP encompasses management of noise emissions from open cut operations, coal handling, preparation and processing and rail loading across the entire site. Whilst this NMP is dynamic and changes will be made as warranted over time, the formal life of this NMP is three years, beginning on the date of formal acceptance of the plan by the Department of Planning, Industry and Environment (DPIE). The document will be reviewed and amended as outlined in **Section 10.4**.

1.1.1 RCN

Operations at RCN commenced in 1991 as the Camberwell Coal Project. The original North and South pits have been completed and backfilled, with the areas being mostly rehabilitated. Mining in the Falbrook Pit was approved in 2008 under Development Approval (DA) 06_0073, and extension of the Camberwell Pit was approved in 2010 under Project Approval (PA) 08_0102, which consolidated all previous approvals.

PA 08_0102, granted on 26 November 2010 and modified on nine occasions, allows mining operations to 31 December 2035 for the following:

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	5 of 95

- Falbrook Pit (previously known as North Open Cut) and associated overburden emplacement areas (OEA);
- Camberwell Pit (previously known as South Pit) and associated OEAs;
- Tailings dams;
- RCN Coal Handling and Processing Plant (CHPP) and stockpiles;
- Rail loop and rail loadout facilities; and
- Associated maintenance and administration buildings.

RCN Falbrook pit is subject to special management conditions including restricted operating hours. This pit will remain in care and maintenance mode for the foreseeable future, and is therefore omitted from this NMP. Subsequent revisions of this NMP will include management controls for the Falbrook pit if operations are proposed within the three year period following the NMP revision.

1.1.2 RCS

Operations at RCS commenced in 1990. Mining has been completed in the original Pit 1 and Pit 2 areas on the east side of the New England Highway (NEH), which have been mostly backfilled and rehabilitated. Bloomfield received approval for SSD 6300 on 12 October 2019 which allows expansion of the West Pit north away from Singleton.

Bloomfield commenced operations under SSD 6300 on 24 February 2020.

RCS is approved under SSD 6300 until 12 October 2040 for the following operations:

- West Pit (previously known as Pit 3) and associated OEAs;
- Tailings dams;
- RCS CHPP;
- Train loading facility located on the RCN rail loop and clean coal stockpiles; and
- Associated maintenance and administration buildings.

1.2 Local Setting

RCM is located in the Hunter Valley region of New South Wales (NSW), northwest of Singleton and southeast of Camberwell. The area surrounding RCM typically comprises various open cut and underground coal mining operations, agricultural operations, industrial and commercial activities and a mix of rural residences and urban residential areas.

The majority of land to the north-west of RCM is owned by Mount Owen and Ashton mines. A number of private residences are located surrounding RCM. The highest density of private residences is located to the south-east and an industrial precinct is located to the south of RCM. The private residences are more sparsely located in areas to the west, north and northeast.

1.3 Document Structure

The NMP is structured as follows:

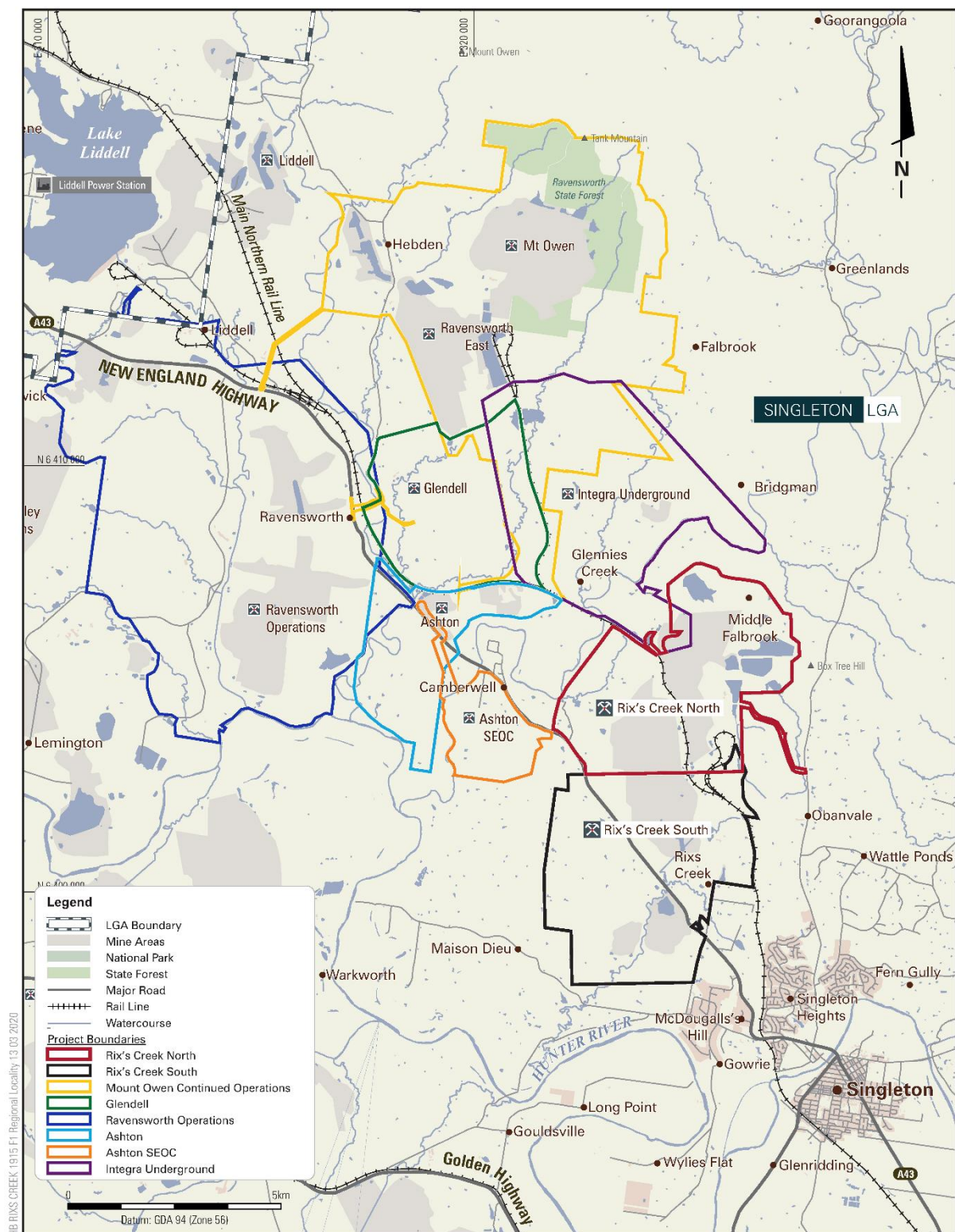
Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	6 of 95

Section 2:	Outlines the statutory requirements applicable to the NMP including relevant noise criteria;
Section 3:	Discusses the stakeholder consultation undertaken during the development of this NMP;
Section 4	Outlines activities with a potential to generate noise at RCM's operations;
Section 5:	Outlines the internal noise monitoring program components;
Section 6:	Outlines the compliance monitoring program components;
Section 7:	Describes the management measures to be implemented to minimise noise emissions;
Section 8:	Describes the management and reporting of complaints;
Section 9:	Outlines the process for notification to landholders;
Section 10:	Provides details for the review and improvement of the environmental performance process;
Section 11:	Provides a summary of responsibilities relevant to this NMP;
Section 12:	Provides the references cited in the NMP; and
Section 13	Provides a glossary of terms used in the NMP.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	7 of 95

Noise Management Plan

Rix's Creek Mine



RIXS CREEK COAL MINE

FIGURE 1

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	8 of 95

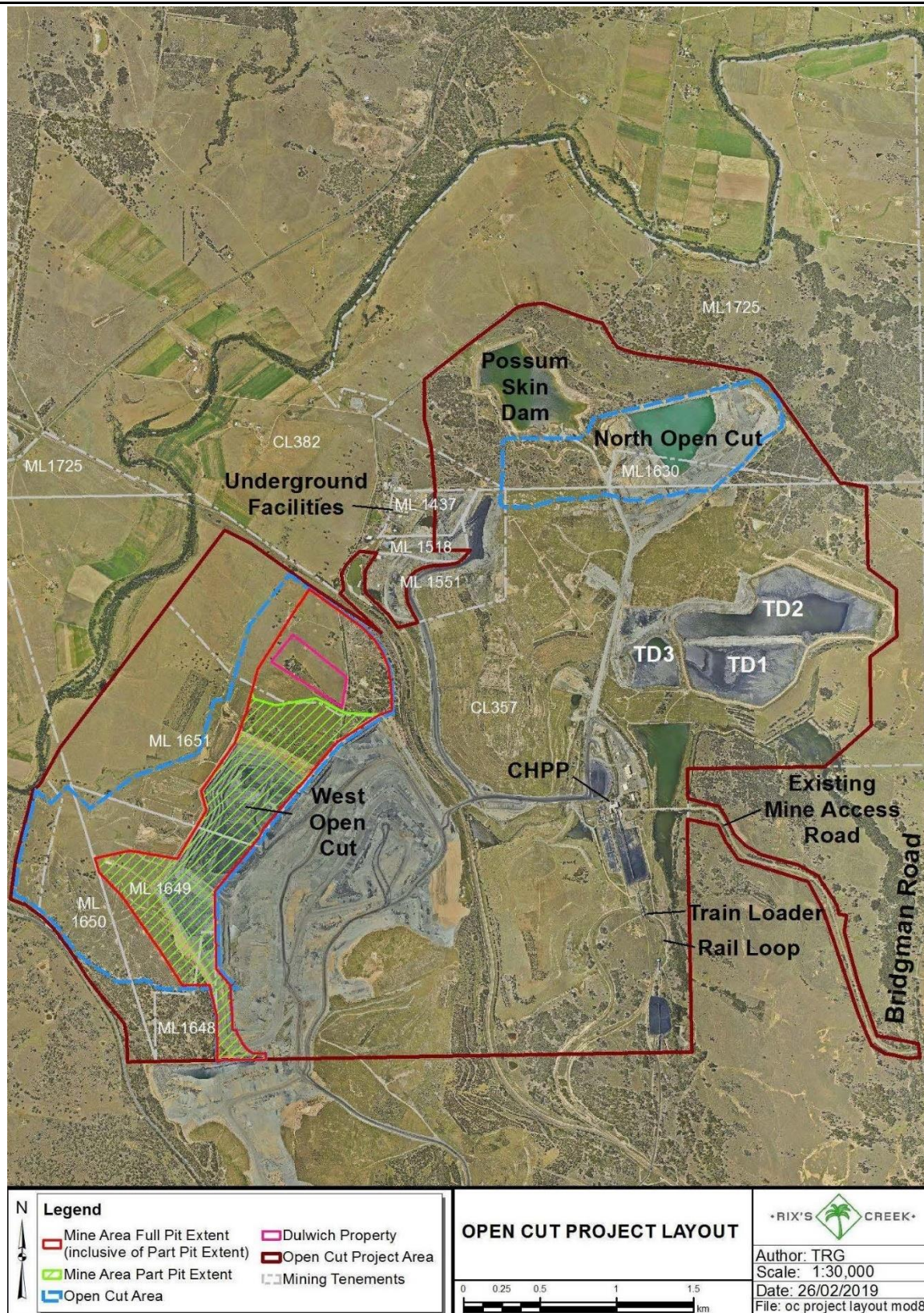


Figure 1
Conceptually Approved Rix's Creek North

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	9 of 95

Noise Management Plan

Rix's Creek Mine

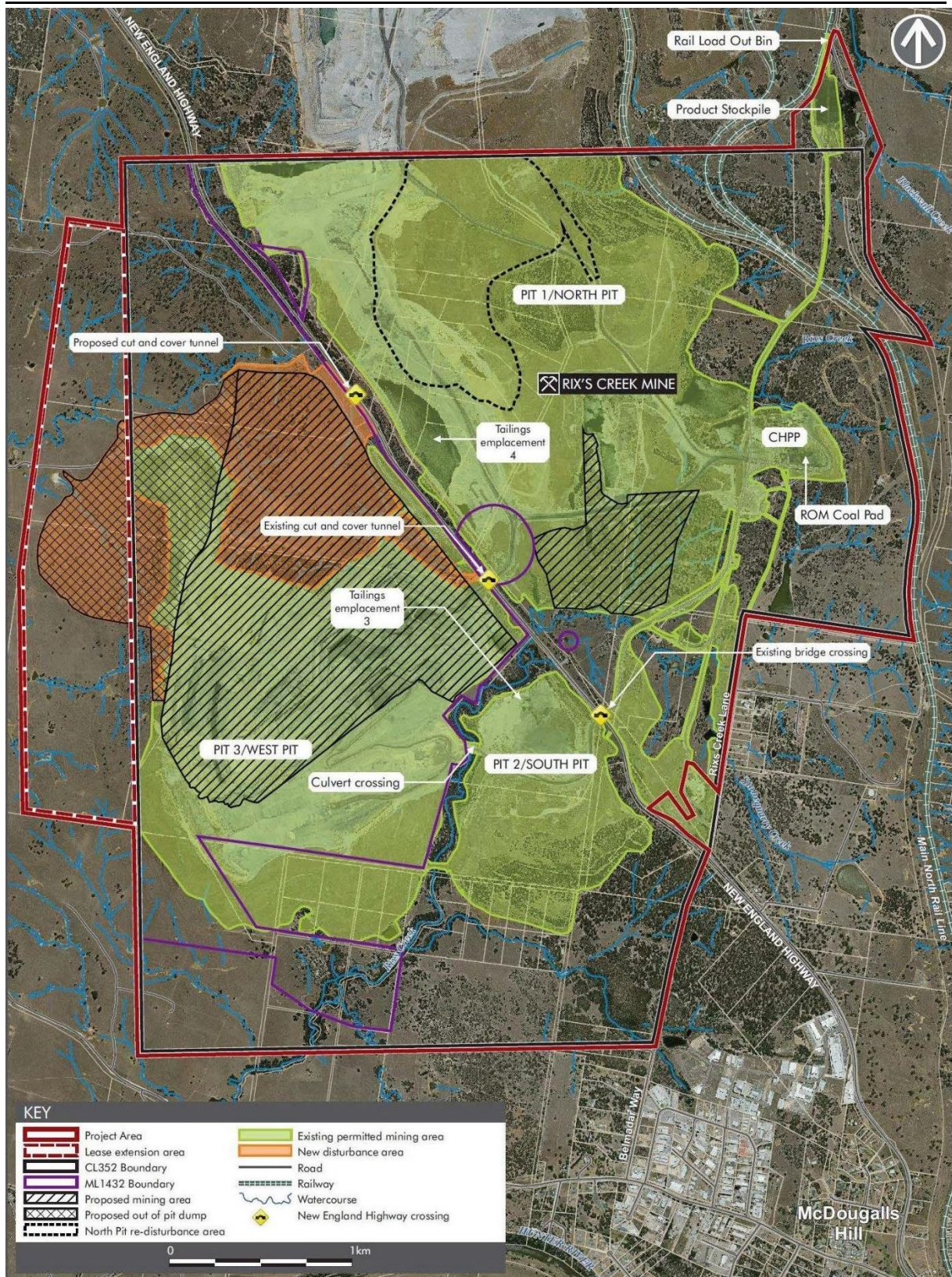


Figure 2
Conceptually Approved Rix's Creek South

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300		
				Page No:	10 of 95

2 Statutory Requirements

SSD 6300 and PA 08_0102 (as modified) contain conditions that specifically relate to the management of noise from the development, including the preparation and implementation of the NMP (**Section 2.2**), the noise criteria and the requirements for private land owner acquisition and mitigation (**Appendix A**). Other relevant conditions are also provided in **Appendix A**.

2.1 Land Ownership

Figure 4 shows the land ownership within and around RCM. The majority of the land within the Project Boundaries for RCS and RCN is owned by Bloomfield under the trading names Rix's Creek Pty Ltd, Four Mile Pty Ltd and Big Ben Holdings Pty Ltd. The exception to this includes:

RCN

- Parcels of Crown land and roads;
- A privately-owned property referred to as "Dulwich"; and
- Glencore owned land in the north associated with the Integra Underground operation.

RCS

- Parcels of Crown land and roads;
- Approximately five privately-owned parcels in the south of the Project Boundary; and
- A privately-owned parcel of land in the north west corner of the Project Boundary.

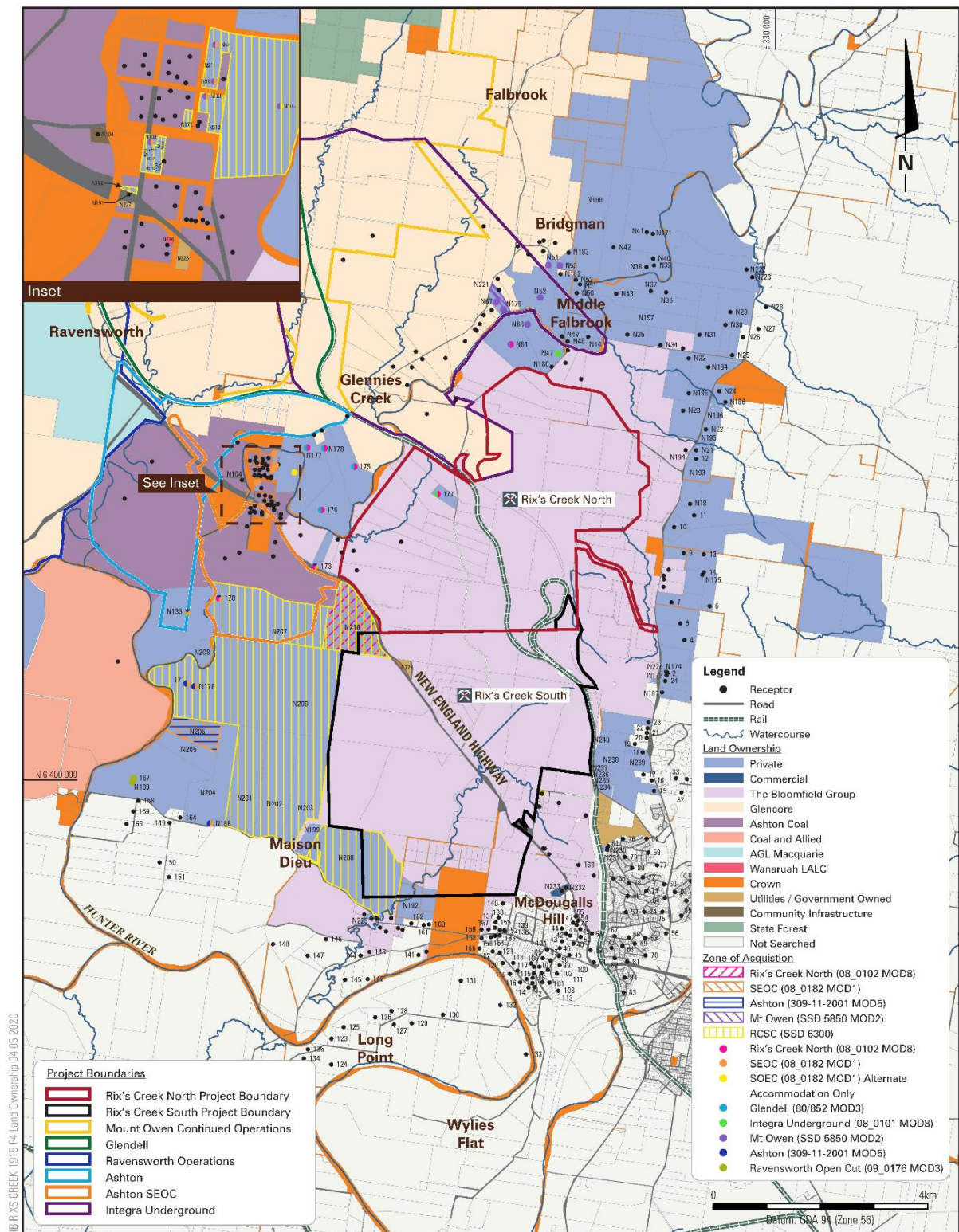
Privately-owned land is located immediately west, east and north of the RCN Project Boundary and west, east and south of the RCS Project Boundary. Glencore owned land is located immediately north of RCN associated with the Integra Underground. Yancoal (Ashton Mine) also owns land to the west of RCN.

Appendix B identifies the private properties with rights to acquisition or mitigation upon request as described in Schedule 3, Conditions 1, 6 and 12 of PA 08_0102 as at 3 April 2019 and in Condition D1 of SSD 6300 as at 21 October 2019.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	11 of 95

Noise Management Plan

Rix's Creek Mine



RIXS CREEK COAL MINE

FIGURE 4

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	12 of 95

2.2 Noise Management Plan Conditions

2.2.1 RCN

The operations at RCN are subject to the conditions contained in the Project Approval PA 08_0102 dated February 2021.

Schedule 5 Condition 3 of PA 08_0102 allows existing approved management plans to remain in place until an updated version is approved.

The specific requirements for the NMP and where each condition is addressed within the plan are provided in **Table 1** as follows.

Table 1
PA 08_0102 Management Plan Conditions

Ref	Condition	Section
Schedule 3, Condition 9	The Applicant must:	
	(a) implement best practice noise management, including all reasonable and feasible noise mitigation measures, to minimise the operational, low frequency, and rail noise generated by the project at all times, including during temperature inversions;	7.1.1
	(b) operate a comprehensive noise management system that uses a combination of predicted meteorological forecasting and real-time noise monitoring data to guide the day-to-day planning of mining operations and the implementation of both proactive and reactive mitigation measures to ensure compliance with the relevant conditions of this consent;	7
	(c) maintain or improve the effectiveness of noise suppression equipment on plant at all times and ensure defective plant is not used operationally until fully repaired;	4.1.1 7.1.1 7.1.4
	(d) ensure that noise attenuated plant is deployed preferentially in locations relevant to sensitive receivers;	7.1.1
	(e) minimise the noise impacts of the project during meteorological conditions under which data is to be excluded for the purposes of assessing compliance with these conditions (see Appendix 5); and	6.7
	(f) co-ordinate the noise management on site with noise management at nearby mines (including Integra Underground, Ashton, Rix's Creek and the Mount Owen Complex) to minimise cumulative noise impacts,	6.8
	to the satisfaction of the Secretary.	

Document Title:	Noise Management Plan	Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021
Reviewed By:	Dianne Munro	Version No:	2.0
Approved By:	Chris Knight	Issue Date:	12/05/2021
Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	13 of 95

Noise Management Plan Rix's Creek Mine

Ref	Condition	Section
Schedule 3, Condition 10	The Applicant must prepare a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:	Appendix D
	(a) be prepared in consultation with the EPA, and then submitted to the Secretary for approval;	3 Appendix D
	(b) describe the measures that would be implemented to ensure: <ul style="list-style-type: none"> compliance with the noise criteria and operating conditions of this approval; and best management practice is being employed; 	7.1.1
	(c) describe the noise management system in detail;	5, 7
	(d) include a noise monitoring program that: <ul style="list-style-type: none"> uses a combination of real-time and supplementary attended monitoring measures to evaluate the performance of the project; includes a protocol for determining exceedances of the relevant conditions in this consent; evaluates and reports on the effectiveness of the noise management system and the best practice noise management measures; and 	5 6 6 10
	(e) includes a protocol that has been prepared in consultation with the owners of nearby mines (including Integra Underground, Ashton, Rix's Creek and the Mount Owen Complex) to minimise the cumulative noise impacts of the mines.	6.8
	The Applicant must implement the approved management plan as approved from time to time by the Secretary.	

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	14 of 95

2.2.2 RCS

The operations in RCS are subject to the conditions of development consent SSD 6300. The specific requirements for noise management and the NMP are presented in **Table 2**.

Table 2
SSD 6300 Management Plan Conditions

Ref	Condition	Section
Condition B4	The Applicant must:	
	(a) take all reasonable steps to minimise all noise from construction and operational activities, including low frequency noise and other audible characteristics, as well as road noise associated with the development;	Table 8
	(b) implement reasonable and feasible noise attenuation measures on all plant and equipment that will operate in noise sensitive areas;	4.1.1 7.1.1 7.1.4
	(c) monitor and record all major equipment use and make this data readily available at the request of the Department or the EPA;	7.1.3
	(d) operate a comprehensive noise management system that uses a combination of meteorological forecasts, predictive noise modelling and real-time monitoring to guide the day to day planning of mining operations and the implementation of adaptive management both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this consent;	7
	(e) record the daily adaptive management measures implemented on the site, including how operations were modified or stopped to comply with the noise criteria in Table 1, and make these records readily available at the request of the Department or the EPA;	5.1.1
	(f) take all reasonable steps to minimise noise impacts of the development during noise-enhancing meteorological conditions, particularly when the noise criteria in this consent do not apply (see Error! Reference source not found.)[sic]; and	6.7
	(g) carry out regular attended noise monitoring (at least once a month, unless otherwise agreed by the Planning Secretary) to determine whether the development is complying with the relevant conditions of this consent.	6
Condition B5	The Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:	

Document Title:	Noise Management Plan	Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021
Reviewed By:	Dianne Munro	Version No:	2.0
Approved By:	Chris Knight	Issue Date:	12/05/2021
Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	15 of 95

Noise Management Plan Rix's Creek Mine

Ref	Condition	Section
	(a) be prepared by a suitably qualified and experienced person/s;	Title
	(b) be prepared in consultation with the EPA;	3
	(c) be submitted to the Planning Secretary for approval within six months of commencing development under this consent;	3
	(d) describe the measures to be implemented to ensure: <ul style="list-style-type: none"> (i) compliance with the noise criteria and operating conditions of this consent; (ii) best practice management is being employed; and (iii) noise impacts of the development are minimised during noise-enhancing meteorological conditions, particularly when the noise criteria in this consent do not apply (see Error! Reference source not found.)[sic]; 	6 7.1.1 6.7
	(e) seek to minimise road traffic noise generated by employee commuter vehicles on public roads;	4
	(f) describe the noise management system in detail;	5.1, 7
	(g) describe the fleet attenuation program; and	4.1.1
	(h) include a monitoring program that: <ul style="list-style-type: none"> (i) uses a combination of real-time and supplementary attended monitoring to evaluate the performance of the development; (ii) includes a program to calibrate and validate the real-time noise monitoring results with the attended monitoring results over time; (iii) adequately supports the noise management system; (iv) includes a protocol for distinguishing noise emissions of the development and Rix's Creek North; and (v) includes a protocol for identifying any noise-related exceedance, incident or non-compliance and for notifying the Department and relevant stakeholders of any such event. 	5 6 5.2.4 7 6 6, 10.1
Condition B6	The Applicant must implement the Noise Management Plan as approved by the Planning Secretary.	

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	16 of 95

Ref	Condition	Section
Condition C1	Approved construction works must be undertaken during standard construction hours (7am to 6pm, Monday to Friday and 8am to 1pm on Saturdays), unless the Planning Secretary agrees otherwise.	Table 8
Condition C2	The Applicant must ensure that construction noise does not exceed the operational noise criteria in Table 1, except where an alternative temporary limit has been approved by the Planning Secretary for specific works or where the Applicant has an agreement with the owners of the relevant residence/land to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.	Table 8

2.3 Noise Criteria

Noise criteria are stipulated in Schedule 3, Conditions 2 and 4 of PA 08_0102 and Condition B1 of SSD 6300 and are reproduced in **Appendix A**.

Schedule 3 Condition 2 of PA 08_0102 and Condition B3 of SSD 6300 note that the noise criteria in Table 2 of PA 08_0102 and Table 1 of SSD 6300 do not apply if Bloomfield have an agreement with the owner/s of the relevant residence or land to exceed the criteria, and the Applicant has advised the Department in writing of the terms of this agreement.

2.4 Environmental Impact Statement Commitments

The application for RCN was accompanied by the *Integra Open Cut Project Environmental Assessment* (URS, 2009) (RCN EA). This assessment made certain commitments in respect to noise management at RCN. **Appendix C** sets out the relevant commitments and where they are addressed in the NMP.

The *Rix's Creek Mine Continuation of Mining Project Environmental Impact Statement* (AECOM, 2015) (RCS EIS) included noise controls and management strategies, which form the basis of commitments from RCS to effectively manage noise. **Appendix C** sets out the commitments made in the RCS EIS and where they are addressed in the NMP.

2.5 Environmental Protection Licence

The *Protection of the Environment Operations Act 1997* (POEO Act) is the principal piece of legislation governing noise emissions in NSW. The POEO Act requires an Environmental Protection Licence (EPL) be held for mining operations such as the Rix's Creek Mine.

RCM operates under EPL 3391 which will be sought to be modified to reflect modified noise conditions resulting from approval of SSD 6300.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	17 of 95

A copy of EPL 3391 can be found on the Bloomfield public website:

(<https://www.bloomcoll.com.au/sustainability/environmental-management/rixs-creek-assessments/environment-protection-licence>).

2.6 Plan Objectives and Performance Indicators

The primary objectives of the NMP and associated performance indicators are presented in **Table 3**.

Table 3
Plan Objectives and Performance Indicators

Objectives	Performance Indicators
Compliance with legislative requirements.	<ul style="list-style-type: none"> Compliance with the planning approvals. Compliance with EPL noise-related conditions.
Support procedures to manage and monitor noise emissions from RCM.	<ul style="list-style-type: none"> Procedures are endorsed by management. Key personnel understand NMP requirements and that required actions are approved. Actions are undertaken as planned.
Provide management mechanisms to minimise the potential for noise from RCM to cause off-site impacts where possible.	<ul style="list-style-type: none"> Procedures and programs address noise related planning approval and EPL conditions in addition to EA noise commitments. All procedures and programs are adequately described. Site personnel responsibilities are clearly identified.

Document Title:	Noise Management Plan	Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021
Reviewed By:	Dianne Munro	Version No:	2.0
Approved By:	Chris Knight	Issue Date:	12/05/2021
Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	18 of 95

3 Stakeholder Consultation

3.1 Department of Planning, Industry and Environment

Condition B5(c) of SSD 6300 requires Bloomfield to submit the NMP to the Secretary of DPIE (Planning Secretary) for approval within six months of commencing development.

This NMP includes other regulatory correspondence and consultation as described in **Section 3.2**. The final NMP was submitted to DPIE for approval on 15 May 2020. A copy of regulatory correspondence is provided in **Appendix D**.

3.2 Environment Protection Authority

The draft NMP was provided to the Environmental Protection Authority (EPA) on 15 May 2020 for consultation and comment. In its response dated 1 June 2020, EPA noted the following;

"The EPA encourages the development of such plans to ensure that licensees have determined how they will meet their statutory obligations and designated environmental objectives.

Being a regulatory authority, the EPA's role is to set environmental management objectives rather than being directly involved in the development of strategies to achieve those objectives. Accordingly, the EPA has not reviewed this management plan."

No further commentary was provided from NSW EPA. A copy of the response from EPA is contained in **Appendix D** of this document.

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	19 of 95

4 Site Noise Emissions

Site noise emissions can be from mobile or fixed plant. These noise emissions have the potential to adversely affect the acoustic environment and surrounding residences. Significant noise sources include the open cut mining areas, the CHPPs and the workshops.

Product coal is transported to the Port of Newcastle. Noise from trains on the loading loop is regulated through the Australian Rail Track Corporation's (ARTC's) EPL 3142. Locomotives using the rail loop must comply with EPL 3142 and RailCorp's EPL 12208 unless they are issued with a Pollution Control Approval under the former *Pollution Control Act 1970*.

4.1.1 Mobile Plant

The *Rix's Creek Mine Mobile Plant Sound Power Specification* (internal, updated from time to time) (Sound Power Specification) provides limits for mobile plant noise emissions. The specification is based on sound power levels used in the relevant noise impact assessments.

The attenuation program detailed in the RCS EIS is summarised as follows

- The mine fleet replacement forecast program will phase-in attenuated plant as follows:
 - Year 3 – half of the fleet; and
 - Year 6 – remainder of the fleet;(Source: **Statement of Commitment 12. SSD 6300**).
- All new haul trucks and watercarts acquired by RCM will be attenuated, whilst the existing fleet will be retained (although phased out over time) in its current state, and operated in the most shielded locations available; (**Source SSD 6300-EIS- Rix's Creek Coal Mine - Continuation of Mining Project Environmental Noise Assessment- Section 2.4- Global Acoustics**).
- New haul trucks and watercarts will be fully attenuated. Existing trucks on site will remain unattenuated until they are replaced;
 - Dozers operating in exposed areas, such as overburden emplacement areas, will be restricted to 1st gear during period of adverse meteorological conditions;
 - The Liebherr R9800 excavator is fitted with a low noise emission muffler/exhaust system, and, hydraulic cooling fan air inlet and air outlet silencers. The existing Hitachi EX5500 excavator and Caterpillar 994 front end loader are un-attenuated. Future excavators and loaders will be attenuated. (**Source: SSD 6300-EIS- Rix's Creek Coal Mine - Continuation of Mining Project Environmental Noise Assessment- Section 4.1.4- Global Acoustics**).

All new equipment phased in during operations will be noise attenuated prior to being utilised on site.

The sound power specifications are very specific in regard to noise emissions and test methods and machine operating configurations for testing. The Sound Power Specification is applied to most new mobile plant, and a sample of site mobile plant is tested on an annual basis to ensure ongoing compliance with the specification. Any items identified as being outside the allowed parameters, or with absent or damaged attenuation, are reported to the maintenance department for rectification. This equipment will be taken out of service immediately until repairs of the sound suppression systems have been completed.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	20 of 95

Sound power level testing will be undertaken of one third of the mobile equipment fleet annually so that all the equipment will be screened on a rolling three-year cycle. The results will be used to determine equipment >3 dB(L) difference from operational specifications whereby it will be scheduled for maintenance of noise attenuation equipment.

Noise controls that will be implemented to minimise noise emissions from mobile plant are listed in **Table 8**.

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	21 of 95

4.1.2 Fixed Plant

Fixed plant at RCM includes the CHPP and rail loading infrastructure. Fixed infrastructure that generates noise is listed in **Table 4**.

Table 4
RCM Noise Generating Permanent Infrastructure

Item	Location
RCS and RCN CHPPs	Open cut mining infrastructure areas
RCS and RCN Breakers	CHPP infrastructure areas near administration buildings
RCS and RCN ROM bins	Open cut mining infrastructure areas
RCS and RCN Rail loadouts	RCN Rail loop and associated infrastructure for RCS and RCN
RCS and RCN Workshops	Open cut mining infrastructure areas

RCS product coal is currently trucked to the RCN rail loop, where coal is stockpiled. Loadout of product coal is via a reclaim system, stockpile dozer, conveyors and coal bin.

Commitments in the RCS EIS regarding the CHPP are listed in **Appendix C** and included in **Table 8**.

4.1.3 Traffic Noise

The access road to Rix's Creek North is fed from an existing 100 km/hr speed rated rural road which provides access to a number of rural communities such as Middle Falbrook, Goorangoola, Carrowbrook, Mount Olive and Lake St Claire and also to the Integra Underground Mine.

The access road to Rix's Creek South is fed from the New England Highway which facilitates travel between the townships of Singleton and Muswellbrook and provides access to

Minimisation of traffic noise along Bridgman Road includes substantial turning lanes to minimise sudden need for braking or acceleration and the reduced speed to 80km/hr along the access road.

Minimisation of traffic noise along Rix's Creek Lane includes increased signage noting consideration of neighbours and enforcement of the 60 km/hr speed limit. The Rix's Creek Continuation of Mining Project Traffic Impact Assessment (AECOM, 2015) noted that impact from the project traffic would have negligible impact.

With the exception of the 2020 Covid-19 pandemic, carpooling is promoted to reduce the number of vehicles travelling to and from site.

Document Title:	Noise Management Plan	Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021
Reviewed By:	Dianne Munro	Version No:	2.0
Approved By:	Chris Knight	Issue Date:	12/05/2021
		Page No:	22 of 95
		Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300

4.1.4 Construction Noise- Cut and Cover Tunnel

In accordance with Condition C2 in SSD 6300 construction noise will be assessed prior to commencement of the cut and cover tunnel. If the assessment determines that noise from the Construction Project may exceed the Project noise limits either Bloomfield will request a temporary increase in limit from the Department, or alternatively seek an agreement with the impacted resident to generate higher noise levels. If an agreement is reached, Bloomfield will advise the Department of this agreement.

It is noted that the nearest receiver is located in excess of 3.1 km from the proposed cut and cover tunnel. Approved construction works will only be undertaken during standard construction hours (7 am to 6 pm, Monday to Friday and 8 am to 1 pm on Saturdays unless approval is sought from the Secretary for construction outside these hours.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	23 of 95

5 Internal Monitoring

Operational noise management at RCM to ensure off-site mining operational noise impacts do not exceed approved noise criteria at surrounding private receivers is based on a number of tools including:

- Predictive noise model forecasting based on weather forecast prediction for RCM. Further detail is included in **Section 7.1.2**;
- Daily operational planning. Further detail is included in **Section 7.1.3**; and
- Daily internal attended noise monitoring utilising suitably trained internal resources (**Section 5.1**).

Noise levels at strategic locations around RCM are measured by internal attended noise management monitoring at regular intervals. Internal attended monitoring fulfils the requirements of the RCM planning approvals' requirements for real-time monitoring.

Internal unattended monitoring is used to supplement the internal attended monitoring to control mine noise in the Camberwell village area. This internal unattended monitoring utilises the current Glencore - Mt Owen Sentinex Unit noise monitor in Camberwell with parameters set to assess noise from the direction of RCN. Internal unattended monitoring is discussed in **Section 5.2**.

5.1 Internal Attended Monitoring

5.1.1 Procedure

Internal attended noise monitoring by suitably trained personnel is performed in response to complaints and daily through the evening and night periods. The monitoring procedure includes:

- Utilising the predictive noise model (see **Section 7.1.2**) to plan off-site noise monitoring locations and time frames for internal attended monitoring during the upcoming shift;
- Undertaking internal attended noise monitoring at noise monitoring locations identified as having potential risk of noise non-compliance;
- Assessing measured RCM only level against noise compliance criteria as per **Section 5.1.5**;
- Determining the appropriate response in accordance with the Trigger Action Response Plan (TARP) outlined in **Table 5**;
- Documenting major operating equipment and any adaptive management measures implemented including how operations were modified or stopped; and
- Documenting monitoring results on the noise monitoring log and any responses enacted in RCM's environmental management system.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	24 of 95

Table 5
Trigger Action Response Plan

Trigger	Action	Response
Noise complaint received by Open Cut Examiner (OCE).	OCE to record complaint on the RCM complaint/incident form and contact noise monitoring personnel to measure noise levels near the complainant's residence.	<ul style="list-style-type: none"> If noise levels are not attributed to RCM and below compliance levels operations to continue as normal. If noise levels exceed compliance levels, the OCE is to amend operations in conjunction with feedback from noise monitoring personnel.
	Noise monitoring personnel to review predictive noise model and meteorological conditions for any potential for RCM to exceed compliance limits.	<ul style="list-style-type: none"> Arrange additional internal attended noise monitoring if required.
Measured Mine only LAeq more than 2 dB below compliance levels.	No further action required. Document results. Move on to next monitoring location.	<ul style="list-style-type: none"> No response required. Internal attended monitoring will continue in accordance with the daily monitoring plan with no modification of operations required.
Measured Mine only LAeq within 2 dB of compliance levels	Noise monitoring personnel to contact OCE and document results.	<ul style="list-style-type: none"> OCE to complete the following: <ul style="list-style-type: none"> Check predictive noise model. If neutral or no enhancement predicted continue to monitor at an interval proportional to the risk.

Document Title: **Noise Management Plan**

Document Owner: **Chris Knight**

Prepared By: Kirstin Blaikie

Print Date: 12/05/2021

Version No: 2.0

Reviewed By: Dianne Munro

Issue Date: 12/05/2021

Approved By: Chris Knight

Review Frequency:

36 MONTHS or as required under PA 08_0102 or SSD 6300

Page No: 25 of 95

Noise Management Plan

Rix's Creek Mine

Trigger	Action	Response
		<ul style="list-style-type: none"> ○ If enhancement is predicted, commence noise minimisation plans. These can include some or all of the following, depending on the noise characteristics observed: <ul style="list-style-type: none"> • Dozers to be locked into first gear. • Dozers removed from exposed areas. • Rubber tyred dozers to be used in exposed areas. • Haul trucks to be speed limited. • Coal stockpile dozer to work on the western side of the stockpile (sheltered by the coal on the eastern side). Stockpile dozer to be locked in 1st gear when reversing to minimise track-slap. • Tracked equipment such as excavators, drills and dozers will not be 'walked' for long periods. • Noise monitoring personnel to re-monitor at the same location within 75 minutes and review meteorological conditions. If results below trigger level continue current modified operations. • If re-monitoring noise levels have not decreased to below trigger level, implement additional noise reduction measures including alternative shielded dumps and production area, relocating equipment lower in the pit and/or shutting down equipment. Continue internal attended monitoring as required at an interval proportional to the risk.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	26 of 95

Noise Management Plan

Rix's Creek Mine

Trigger	Action	Response
Exceedance of noise compliance levels in Planning Approval	Noise monitoring personnel to contact OCE and document site results.	<ul style="list-style-type: none"> OCE to review operation and modify operations in accordance with amber trigger above. OCE to document changes. Noise monitoring personnel to re-monitor at the same location within 75 minutes and review meteorological conditions. If the enhancement prediction is limited to one general location and time permits continue to monitor at this site to assess the reduction in noise from operational modifications. However, if enhancement is predicted at other areas, conduct monitoring at other sites to ensure compliance. In this circumstance re-monitoring is still required at the first site within 75 minutes. If levels still exceed compliance levels, OCE to review operation and make further changes including shutdown of equipment. If re-monitoring results are below compliance level and no enhancement predicted, then planned re-commencement of production operations can begin. This should include utilising shielded dump locations and should be coordinated in conjunction with internal attended monitoring. If re-monitoring results are below compliance level but enhancement indicated, transfer to alternative dump and/or production unit and plan re-commencement in conjunction with internal attended monitoring. Re-monitor. If re-monitoring results remain above compliance levels, shut-down the next production unit from the daily mine plan noise priority list. Re-monitor. If re-monitoring results still remain above compliance levels repeat previous step.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	27 of 95

Noise Management Plan

Rix's Creek Mine

Trigger	Action	Response
		<ul style="list-style-type: none"> Once compliance is achieved, use the predictive noise model and weather station data to plan the appropriate time frame for staged re-commencement of production operations. This must utilise internal attended monitoring to ensure compliance with approved noise level limits.
	Noise monitoring personnel to review predictive noise model and meteorological conditions for any potential for RCM to further exceed compliance limits.	<ul style="list-style-type: none"> Noise monitoring personnel to re-monitor at site within 75 minutes and review meteorological conditions. Noise monitoring personnel to conduct further monitoring at sites likely to exceed noise levels aligned with predictive noise model and meteorological conditions.
	Results of noise monitoring and changes to operation compiled into internal attended noise summary.	<ul style="list-style-type: none"> Review by oncoming shift personnel including Mine Manager and Environment Manager.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	28 of 95

5.1.2 Frequency

Internal attended monitoring will be performed once at each monitoring location identified in the daily monitoring plan as early as practical in the shift.

If noise levels are below trigger levels outlined in the TARP, the next monitoring survey at the next location will be commenced. If the predictive noise model indicates a change in enhancement conditions may occur during the interim, the next survey will commence as soon as practical after completion of the previous survey.

If noise trigger levels outlined in the TARP are reached, internal attended noise monitoring will re-occur within 75 minutes of the first reading to assess the reduction in noise from the operational changes made within the pit to ensure that noise has been reduced to acceptable levels.

Data will be collected in 5 minute periods if RCM L_{Aeq} is more than 2 dB below the compliance limit. If RCM L_{Aeq} is within 2 dB of, or exceeds the compliance limit, the measurement shall be extended to 15 minute periods.

If RCM is inaudible for more than 2 minutes, the noise monitoring log will be completed, but no measurement is required.

5.1.3 Locations

Internal attended monitoring will generally be performed at the locations indicated in **Table 6** and on **Figure 5**. Private receivers surrounding RCM have been grouped generally according to the locality and local acoustic environment. These groupings are referred to as Noise Assessment Groups (NAG). Monitoring locations, including the receiver reference numbers from the relevant planning approval and the NAG each represents, are listed in **Table 6**.

When the predictive model indicates enhancement at other locations, the monitoring program will be customised to provide targeted monitoring in high risk areas. Internal attended noise monitoring may also be conducted at designated receivers where the predictive noise model predicts no or minimal noise enhancement or at locations where a noise complaint has been received. The internal attended noise monitoring of predicted areas of low or no noise enhancement is to aid in the validation and improvement of the predictive noise model.

Table 6
Internal and Compliance Attended Monitoring Locations

ID	EA Ref. (RCN/RCM) ¹	Owner or Area	NAG ²	Monitoring Type
NM01	132/171	Bowman	6 (RCN) / M (RCS)	EPL and DA Compliance
NM03	63 / NA	Moore	C, D, F, 1, and 12 (RCN) / NA (RCS)	EPL and DA Compliance
NM04	19 / 12	Andrews	11 and A (RCN) / A (RCS)	EPL and DA Compliance

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	29 of 95

Noise Management Plan Rix's Creek Mine

ID	EA Ref. (RCN/RCM) ¹	Owner or Area	NAG ²	Monitoring Type
NM05	11 / 8	Ferraro	10 and 11 (RCN) / A (RCS)	EPL and DA Compliance
NM06	150 / 23	Bridgman Road	9 (RCN) / B and C (RCS)	EPL and DA Compliance
NM07	NA / 61	Gardiner Circuit	8 (RCN) / D and E (RCS)	EPL and DA Compliance
NM08	NA / 152	Belmadar Way	NA / J, G and F (RCS)	EPL and DA Compliance
NM10	NA / 126	Long Point	NA / K and I (RCS)	EPL and DA Compliance
NM11	NA / 160	320 Maison Dieu Road	NA / K (RCS)	EPL and DA Compliance
NM12	NA / 168	Corner of Maison Dieu Road and Shearers Lane	6 (RCN) / L (RCS)	EPL and DA Compliance

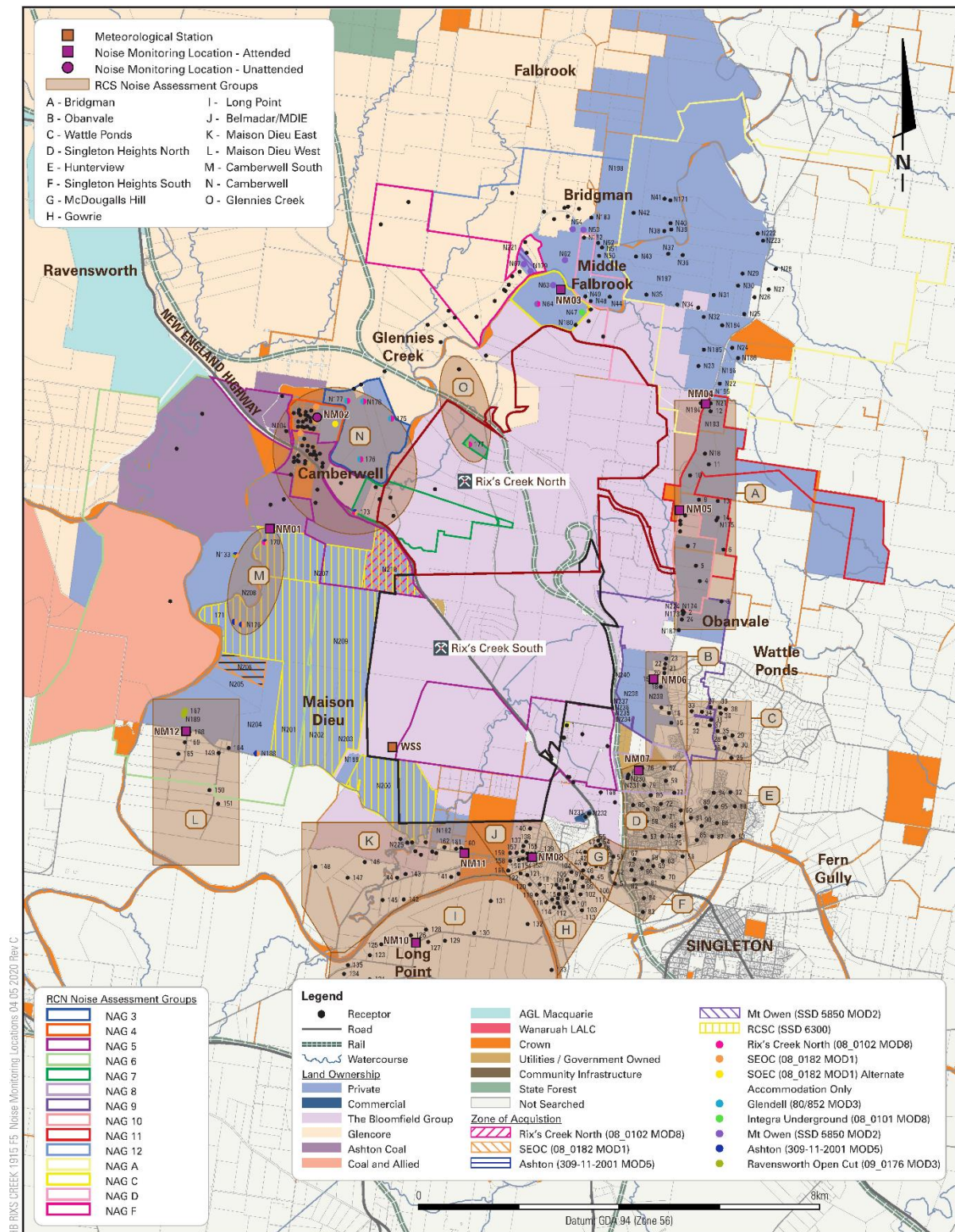
Notes: 1. NA indicates location was not included in the EA for that project; and

2. Indicates the NAG reference the location represents from the relevant EAs.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	30 of 95

Noise Management Plan

Rix's Creek Mine



RIXS CREEK COAL MINE

Noise Monitoring Locations

FIGURE 5

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300		
			Page No:	31 of 95	

5.1.4 Data Collection

For RCM, both L_{Aeq} and $L_{A1,1minute}$ results are recorded (L_{Aeq} is averaged over either 5 minute or 15 minute durations as appropriate). Low pass filtering is used to remove extraneous noise such as insects when applicable. Other extraneous noise may be paused from the data set or excluded by other means. It must be noted that the measurements are taken in a complex acoustic environment and the results will include other noise sources e.g. New England Highway traffic, local traffic and rail noise that will not be filtered out.

Attention is paid to the cumulative mining noise level as required by Schedule 3 Condition 4 of PA 08_0102. If the total cumulative mining noise level exceeds the cumulative noise criterion and RCN is not the primary cause of measured levels, contributing mines will be notified. If RCN is the primary contributor, reactive response procedures outlined in **Section 7.2** will be implemented.

The internal attended monitoring results and associated operational changes are reviewed on a quarterly basis to determine the effectiveness of the changes. Mitigation measures are refined where required based on the outcomes of this review.

5.1.5 Compliance Criteria

Table 7 sets out noise compliance criteria for internal and compliance attended monitoring locations.

$L_{Aeq,15minute}$ criteria are applicable for the day (07:00 to 18:00), evening (18:00 to 22:00) and night (22:00 to 07:00) periods. $L_{A1,1minute}$ criteria are applicable for the night period only.

Criteria for other locations, used for complaint investigation or assessment of other areas of predicted noise enhancement will be sourced from the relevant planning approval.

Table 7
Compliance Criteria for Internal and Compliance Attended Monitoring

NMP ID	Consent Ref. (RCN/RCS)	Rix's Creek North		Rix's Creek South	
		$L_{Aeq,15minute}$ dB	$L_{A1,1minute}$ dB	$L_{Aeq,15minute}$ dB	$L_{A1,1minute}$ dB
NM01	132 / 171	38	48	40	47
NM03	63 / NA	40	45	40 ¹	45 ¹
NM04	19 / 12	37	49	42	47
NM05	11 / 8	41	47	42	47
NM06	150 / 23	36	48	42	47
NM07	NA / 61	35 ¹	45 ¹	40	47
NM08	NA / 152	35 ¹	45 ¹	40	47
NM10	NA / 126	35 ¹	45 ¹	40	47

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	32 of 95

NMP ID	Consent Ref. (RCN/RCS)	Rix's Creek North		Rix's Creek South	
		L _{Aeq,15minute} dB	L _{A1,1minute} dB	L _{Aeq,15minute} dB	L _{A1,1minute} dB
NM11	NA / 160	35 ¹	45 ¹	40	47
NM12	NA / 168	35 ¹	45 ¹	40	47

Notes: 1. Criterion set as for "All other privately owned residences".

5.2 Unattended Monitoring

5.2.1 Introduction

Continuous unattended noise monitoring is required as a management tool. Results from the real time monitoring system will not be used to determine compliance but as a guide to achieve compliance. Compliance is achieved when RCN generated noise does not exceed planning approval compliance limits. Any modifications to the site operations as a result of real time noise monitoring will be documented as per **Section 5.1.1**.

5.2.2 Locations

One real-time monitor is used to monitor and manage noise emissions in the Camberwell Village (location NM02 on **Figure 5**).

5.2.3 Equipment and Measurement Methodology

Mining noise can be estimated from low pass L_{A90} levels using a suitable low pass cut-off frequency.

Directional monitoring will be undertaken using equipment capable of (as a minimum if suitable equipment is available and practicable):

- Simultaneous measurement and reporting of low pass noise from all directions;
- An angular resolution suitable to determine levels from RCM and, separately, other mines or noise sources located in different directions; and
- Streaming audio.

The complex acoustic environment of the area means these results will be influenced by other noise sources e.g. New England Highway, traffic and rail noise.

5.2.4 Data Storage and Display

Any unattended data will be collected and stored on site for a minimum period of four years to allow data trend analysis as required.

The following data parameters, as returned from each unattended monitoring site, will be trended in real time and display available to operational personnel as a management tool:

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	33 of 95

- Omnidirectional low pass L_{A90} ;
- RCN directional low pass L_{Aeq} ;
- The relevant impact criterion; and
- The relevant cumulative criterion.

In addition, the following information from the Automatic Weather Station (AWS) is displayed:

- Wind speed;
- Wind direction; and
- Stability class determined as per Appendix E of the INP;.

A highlight will appear on the data trend display for any period where a noise parameter value exceeds the relevant criterion.

Condition B5(h)(ii) requires real time noise monitoring results to be calibrated and validated using the attended noise monitoring results. When responding to noise complaints and/or undertaking incident investigations relevant to noise, where available, real time results are compared with attended noise monitoring results. These results, along with other relevant parameters, will be used to refine the real time noise trigger levels as required. This will allow the continued use of the real time noise monitors as a prompt for further attended monitoring where there is a risk of non-compliance with the noise monitoring.

5.2.5 Noise Alarm

A noise alarm will be triggered when the:

- Average wind speed is less than 5 metres per second; and
- Time is between 20:00 and 07:00 hours; and
- RCN direction low pass L_{Aeq} is within 2 dB of (or exceeds) the relevant impact criterion, or, the omni-directional low pass L_{Aeq} is within 2 dB of (or exceeds) the relevant cumulative criterion across three (3) consecutive five (5) minute periods.

An alarm is sent via email to all environmental personnel at Rix's Creek including noise management personnel. When received the noise management personnel will inform the Open Cut Examiner of the alarm. Action will be taken in accordance with the Trigger Action Response Plan (TARP) in Table 5.

Noise management personnel will attend the monitoring site to determine the source and level of noise and continue to action as necessary in accordance with the TARP.

If an alarm is triggered, attended noise monitoring will be conducted as described in **Section 5.1**. Implementation of management and control measures (as described in **Section 7.1.1**) will be the responsibility of the Open Cut Examiner (OCE) and would, where possible, involve relocation or shutdown of equipment suspected of being responsible for elevated offsite noise levels.

As required under Condition B4(e), any adaptive management measures will be recorded.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	34 of 95

6 Compliance Attended Monitoring

6.1 Introduction

Attended monitoring is required to assess compliance with the regulatory limits outlined in **Appendix A** and **Table 7** as specified in Appendix 5 Condition 1 of PA 08_0102 and Appendix 4 Condition 3 of SSD 6300. Note: As described PA 08_0102 it does not address the 25% of privately owned land aspect of Schedule 3, Condition 3 of PA 08_0102. As recommended in the 2011 Independent Environmental Audit, the requirement to assess affectation of 25% of privately owned land should be removed as a requirement (for all criteria); it is not practical to determine and has no relevance to resident amenity. Compliance attended monitoring is the preferred methodology for determining compliance with prescribed limits as it allows an accurate determination of the contribution by RCM to measured noise levels.

Compliance attended monitoring at all private receiver locations will be at night only commencing from 9pm, with results compared to all criteria (day, evening and night). Atmospheric conditions and noise propagation are usually the same on the evening/night and night/day time boundaries. Receivers near to, or exposed to, the New England Highway have a completely different noise environment in the day due to traffic such that mining noise is unlikely to be a problem.

6.2 Frequency

Compliance attended monitoring is undertaken one night per calendar month.

6.3 Locations

Compliance cannot be determined at each individual residence so compliance monitoring is targeted to locations where operational noise is likely to be in the zone of meteorological enhancement as indicated by the predictive noise model discussed in **Section 7.1.2**. These monitoring locations are selected from those listed in **Table 6** by the following procedure:

1. The acoustic consultant undertaking the monitoring will access the predictive model website for the site for the upcoming night shift. The model results will indicate graphically the predicted zone of meteorological enhancement;
2. A monitoring plan will be developed by the acoustic consultant for the upcoming night period. Locations include:
 - a. If a clear zone of meteorological enhancement is indicated, one location in the opposite direction to the zone of predicted enhancement, and, all locations located within the predicted zone of enhancement; or
 - b. If relatively neutral conditions are predicted with no clear zone of meteorological enhancement, the eight locations nearest RCM will be monitored. NM01 and NM10 will be excluded, as non-compliance at those locations in the absence of meteorological enhancement is unlikely due to distance from RCM.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	35 of 95

3. As required under condition M9.1(a) a minimum of six locations will be monitored per night should fatigue management rules and re-measures not allow all eight locations to be measured.

Once monitoring commences, the acoustic consultant applies best judgment to either proceed with the original monitoring plan, or a modified plan if monitoring results justify a change.

The procedure for monitoring when a clear zone of meteorological enhancement is predicted is:

1. The first monitoring location will be the potentially most affected location in the opposite direction to the zone of predicted enhancement to confirm noise emission in that direction is well below compliance criteria;
2. If RCM L_{Aeq} is more than 2 dB below the relevant criterion at the first location ($L_{Aeq} < \text{criterion} - 2 \text{ dB}$), the consultant will proceed with the original plan and move to the locations within the predicted zone of enhancement;
3. If RCM L_{Aeq} is within 2 dB of the relevant criterion ($L_{Aeq} \geq \text{criterion} - 2 \text{ dB}$), the consultant will monitor at the next most potentially affected location in the same general direction from RCM. This procedure will be repeated until RCM L_{Aeq} is more than 2 dB below the relevant criterion. Result acceptance procedures in **Section 6.7** will be applied;
4. The consultant will then proceed with the original plan; and
5. If fatigue management rules result in insufficient time to monitor all locations, the consultant will apply best judgement to determine which locations will provide the best indication of compliance with the time available.

The procedure for monitoring when no clear zone of meteorological enhancement is predicted is:

1. The first monitoring location will be the potentially most affected location based on forecast and prevailing meteorological conditions;
2. If compliance is demonstrated, the consultant will proceed with the original plan;
3. If non-compliance is measured at any location, result acceptance procedures in **Section 6.7** will be applied. Any locations in the same general direction from RCM that were omitted in the original plan will be included; and
4. If fatigue management rules result in insufficient time to monitor all locations, the consultant will apply best judgement to determine which locations will provide the best indication of compliance with the time available.

The consultant shall maintain a fatigue management policy, which will be provided to Bloomfield and/or regulators on request.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300		Page No:
					36 of 95

6.4 Methods

Compliance attended monitoring is conducted in accordance with the 'Industrial Noise Policy' (EPA, 2000) (INP) and *Australian Standard AS 1055 'Acoustics, Description and Measurement of Environmental Noise'*. The duration of each measurement is to be in 15 minute intervals.

As indicated in L3.4 and M9.1 of EPL 3391:

"L3.4 The noise limits set out in condition L3.1 apply under all meteorological conditions except for the following:

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

L3.5 For the purposes of condition L3.4:

- a) Data recorded by a meteorological station installed on the premises at EPA Identification Point 11 must be used to determine meteorological conditions; and*
- b) Temperature inversion conditions (stability category) are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy*

M9.1 To assess compliance with condition L3.1, attended noise monitoring must be undertaken in accordance with conditions L3.2 to L3.7 and:

- a) at a minimum of 6 locations from those listed condition P1.4 shown to be experiencing noise enhancing meteorological conditions;*
- b) occur every calendar month in a reporting period; and*
- c) occur during one night-time period as defined in the Noise Policy Industry 2017 [sic] for a minimum of 30 minutes at each location from a) during the night."*

Appendix 5 of PA 08_0102 allows data to be excluded under the following conditions:

- "a) during periods of rain or hail;*
- b) average wind speed at microphone height exceeds 5 m/s;*
- c) wind speeds greater than 3 m/s measures at 10m above ground level; and*
- d) temperature inversion conditions greater than 3°C/100m"*

As discussed in **Section 10.1**, a Vertical Temperature Gradient (VTG) of 3°C/100m is considered to be stability class F. This assumption allows for consistency with the EPL and SSD 6300.

Appendix 4 of SSD 6300 allows data to be excluded under the following conditions:

"(a) where 3°C/100 metres (m) lapse rates have been assessed, then:

- (i) wind speeds greater than 3 metres/second (m/s) measured at 10m above ground level;*
- (ii) temperature inversion conditions between 1.5°C and 3°C/100m and wind speeds greater than 2m/s measured at 10m above ground level; or*

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	37 of 95

- (iii) *temperature inversion conditions greater than 3°C/100m.*
- (b) *where Pasquill Stability Classes have been assessed, then:*
- (i) *wind speeds greater than 3m/s at 10m above ground level;*
 - (ii) *stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or*
 - (iii) *stability category G temperature inversion conditions.”*

Bloomfield would apply Appendix 4 Condition (b) to monitoring data consistent with the information collected by the AWS and the requirements of the EPL.

In most cases, monitoring near the residence is impractical due to barking dogs or issues with obtaining access. In all cases, measurements are to be undertaken at a suitable and representative location.

Some measurement results may be inconclusive and reported as “Inaudible” (IA) or “Not Measurable” (NM). When site noise is noted as IA then there was no site noise at the monitoring location. However, if site noise is noted as NM, this means some noise was audible but could not be quantified. This means that noise from the site was either very low, or being masked by other noise that was relatively loud. In the former case (very low site levels) it is not considered necessary to attempt to accurately quantify site NM noise as it would be significantly less than any criterion and most unlikely to cause annoyance (and in many cases, to be even noticed).

If site noise were NM due to masking then suitable methods must be employed as per the *Noise Policy for Industry* (EPA, 2017) (NPfI) (e.g. measure closer and back calculate) to determine a value for assessment of compliance.

As indicated in Schedule 3 Condition 2 of PA 08_0102 and in Condition B2 of SSD 6300, noise generated by RCM must be:

“...measured in accordance with the relevant requirements of the INP. Appendix 5 sets out the requirements for evaluating compliance with these criteria.” (PA 08_0102); and

“...measured in accordance with the relevant requirement and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy (EPA, 2000). [Appendix 4] sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.” (SSD 6300).

The procedures and exemptions will include the assessment of modifying factors in accordance with Fact Sheet C of the NPfI, where applicable. Years of monitoring have indicated that noise levels from mining operations, particularly those levels measured at significant distances from the source are relatively continuous. Given this, noise levels at the monitoring locations are unlikely to be intermittent or impulsive. However, tonality and low frequency are to be assessed by analysis of the measured L_{Aeq} and/or L_{eq} spectrum.

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	38 of 95

6.5 Meteorological Monitoring

In accordance with EPL 3391, PA 08_0102 and SSD 6300, one on-site Automatic Weather Station (AWS) is currently located at RCM which complies with the *Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales (DEC, 2007)* and the INP. This AWS provides representative weather data for RCM including wind speed and direction, sigma theta, solar radiation, lapse rate, humidity, rainfall and temperature. Weather data is used to determine the validity of noise monitoring results in accordance with the rules outlined in Section 6.4. Wind speed and rain data will be used for this purpose. Atmospheric stability class will be estimated using measured sigma theta and wind speed data in accordance with Section D1.4 of the NPfI. Where PA 08_0102 refers to temperature inversion conditions greater than 3°C/100m, this will be interpreted as stability class greater than F (i.e. stability class G).

For the purpose of determining valid meteorological conditions for which noise criteria apply the AWS as noted in the EPL will be used for assessment of RCM noise criteria applicability.

6.6 Data Collection

Data shall be collected in 15-minute periods and the RCM only $L_{Aeq,15minute}$ and $L_{AF,max}$ results recorded. $L_{A1,1minute}$ and $L_{AF,max}$ are effectively equivalent as they relate to assessment of maximum noise emission levels (both are referenced in EPL 3391, PA 08_0102 and SDD 6300). Low pass filtering will be used to remove extraneous noise such as insects when applicable. Other extraneous noise may be paused from the data set or excluded by other means. Statistical data must be one-third octave. Assessment of impact is to include consideration of mining activity and atmospheric conditions during each measurement. Wind speed and/or estimated temperature inversion conditions may result in regulatory criteria not being applicable in accordance with the rules outlined in Section 6.4.

The RCM only L_{eq} spectrum will be collected simultaneously. A low frequency noise penalty of either 2 dB or 5 dB is added to the RCM only L_{Aeq} result, as applicable, in accordance with the procedure outlined in Table C1 of the NPfI.

The following information is recorded during compliance attended noise monitoring:

- Time and date;
- Location;
- Name of person carrying out the monitoring;
- Serial number of equipment used;
- Noted sources and noise levels, direction and frequency from source of interest;
- Duration of monitoring;
- Measured noise levels (including one-third octave spectra) including L_{Aeq} , L_{Amax} , L_{Amin} , L_{A1} , L_{A10} , L_{A50} and L_{A90} , and
- Weather conditions including temperature, relative humidity, wind speed average, wind speed maximum, wind direction and estimated cloud cover.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	39 of 95

6.7 Result Acceptance

A 15-minute measurement shall be taken during the evening or night time period after 9pm at locations identified in Table 6 and 7 and assessed against the applicable criterion in **Section 5.1.5**. (Table 7). Any modifying factor penalties that may be applicable should be applied prior to assessment against the criterion.

If the RCN or RCS only L_{Aeq} result is below the relevant criterion, then the consultant will record it, note the site has passed and move on to the next monitoring location.

If the RCN or RCS only L_{Aeq} result exceeds the relevant criterion and is taken in valid meteorological conditions, then the following steps will be followed:

1. Consultant will record the reading, advise the OCE of the criterion exceedance and proceed to Step 2. Bloomfield will implement remedial action in accordance with the TARP described in Table 5.
2. Within 75 minutes after the first measurement (and no earlier than 10pm) a second 15-minute measurement will be made. If this second result exceeds the criterion then proceed to Step 3, otherwise proceed to Step 4.
3. If the result is attributable to RCM and taken in valid meteorological conditions then proceed to Step 5.
4. The consultant will record the result, note the site has passed, notify Bloomfield to schedule an additional monitoring test to be undertaken at the location within 1 week, and move on to the next monitoring location.
5. The consultant will record the result, note the site has failed and is deemed a '*noise affected night*' at that location and notify the OCE. An additional monitoring test should be scheduled to be undertaken at the same location within 1 week, and move on to the next monitoring location.

If the RCN or RCS only L_{Aeq} result exceeds the relevant criterion, is attributable to RCM, and taken in invalid meteorological conditions, the consultant will record it, advise Bloomfield a measurement has exceeded the criterion, and move on to the next monitoring location.

The noise limits set out in Table 6 apply under all meteorological conditions except as noted in Section 6.4 Methods.

The flow chart in **Figure 6**, Error! Reference source not found.details the compliance attended monitoring exceedance procedure.

Reporting of non-compliances with consent criteria, identified as a '*noise affected night*', will be completed as outlined in **Section 10.1**.

SSD 6300 Condition B5(h)(iv) requires RCS to develop a protocol to distinguish between noise emissions from RCS and RCN. During compliance attended monitoring, the consultant will quantify the contribution from each site where practical to do so. This can include the use of compass angles, proportional acoustic energy allocations and professional judgement. Where either RCN or RCS lies predominantly behind the other, it is not possible to apportion contributions to either site; however, in those cases it is likely almost all acoustic energy will be received from the nearer site, and all received energy can be attributed to that site. The exception would be if the nearer mine is not operating, or is not operating at full capacity, in which case professional judgement is required.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	40 of 95

6.8 Cumulative Noise Protocol

If compliance attended noise monitoring indicates an exceedance of the cumulative noise criteria required under Schedule 3, Condition 4 of PA 08_0102 and listed in **Appendix A**:

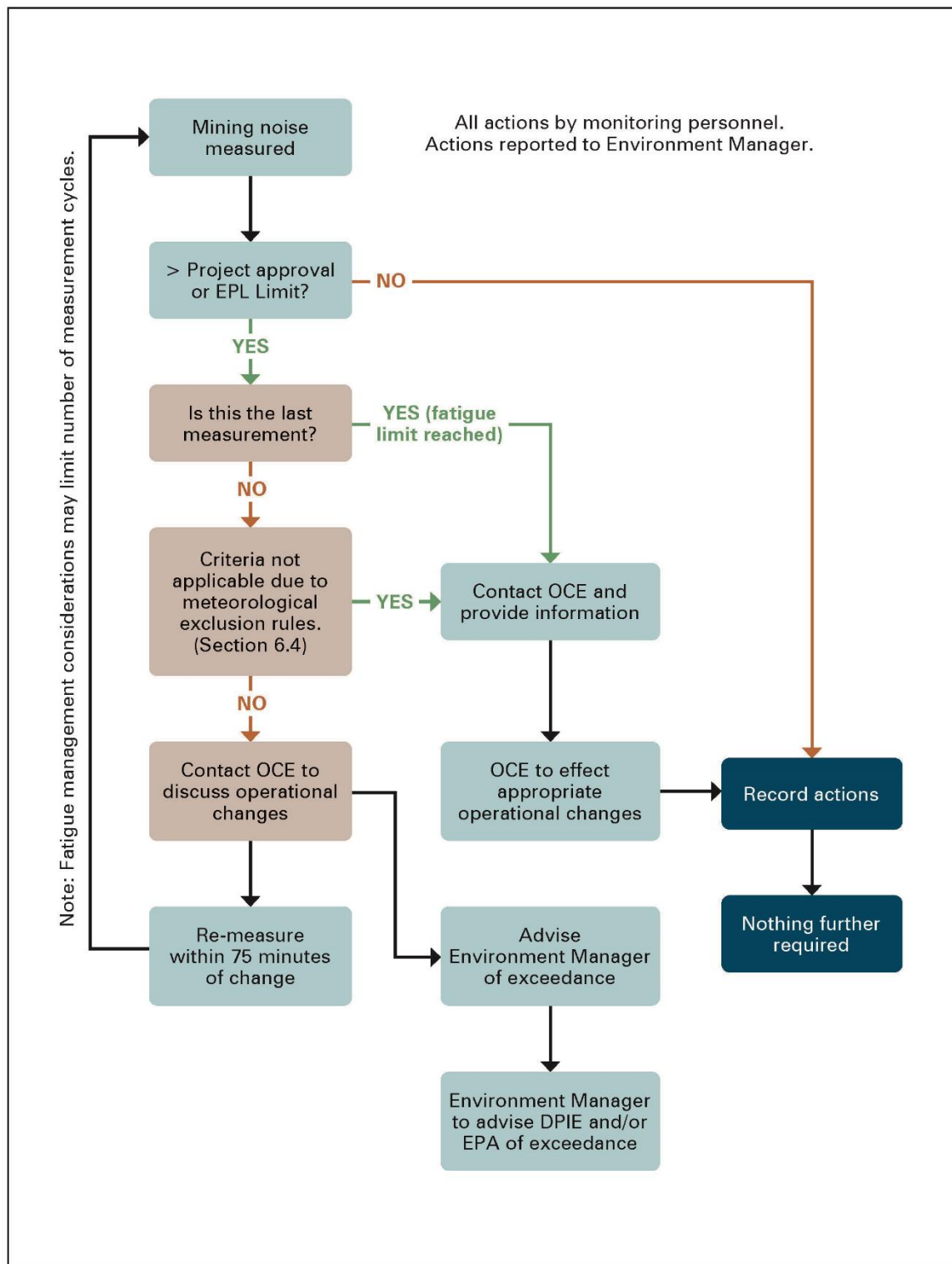
- Noise levels will be analysed and investigated to determine RCM's contribution to total mine noise;
- Bloomfield will inform nearby mining operations of the investigation and outcomes; and
- When noise sources contributing to the exceedance include RCM, actions will be implemented as described in **Section 5.1.1**.

A protocol between nearby mining companies has been developed where nominated environmental personnel from each mine meet quarterly to discuss the amenity issues, management and methods to address cumulative impacts.

The protocol includes the following Mining Operations;

- Ashton Coal;
- Mount Owen Complex;
- Ravensworth Operations; and
- Integra Underground.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	41 of 95



Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	42 of 95

7 Noise Management Measures

Measures to manage mine noise emissions have been divided into those that aim to prevent incidents in the first place, i.e. proactive measures (**Section 7.1**), and those that aim to minimise environmental impact in the event of a noise exceedance occurring. The latter are referred to as reactive measures (**Section 7.2**).

7.1 Proactive Measures

Proactive measures are required under Schedule 3 Condition 9(b) of PA 08_0102 and Condition B4(d) of SSD 6300. **Table 8** lists the Noise Mitigation Measures that are implemented to manage noise emissions. **Table 9** outlines the actions required, who is responsible for implementing them and when they are to be implemented. Explanatory notes are provided in **Sections 7.1.1 to 7.1.5**.

7.1.1 Noise Mitigation Measures

The noise management measures described in this section are designed to minimise the impact on the surrounding environment due to on-site activities. The measures will be revised and updated based on operational changes and advancements in technologies.

The primary measures to control noise emissions for RCM are set out in **Table 8**.

Table 8
Summary of Noise Mitigation Measures

Activity	Noise mitigation measure
General	<ul style="list-style-type: none"> Operate a predictive system (see Section 7.1.2) to provide appropriate warning of adverse conditions when trigger levels may be reached Operation of a reactive management system to respond to observed acoustic performance using internal attended monitoring (Section 7.2) Site induction includes noise mitigation requirements to ensure employee awareness of potential impacts Follow the process for acting on the trigger action response plan in Section 5.1.1. Modify operations as required by internal attended monitoring Regular independent compliance attended noise monitoring at representative private receivers
Mobile Equipment	<ul style="list-style-type: none"> Relevant equipment has been noise attenuated (Section 4.1.1) New equipment will be noise attenuated before being utilised on site Dozers use first gear operation during adverse meteorological conditions 4.5m earth bund to the south of the RCS coal haul route

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	43 of 95

Activity	Noise mitigation measure
	<ul style="list-style-type: none"> Noise attenuated equipment will be preferentially deployed to locations on the site relevant to sensitive receivers likely to be impacted by operational noise as identified by the predictive noise model Conduct sound power level testing on one third of fleet annually Any equipment sound powers >3 dB(L) higher than the specified sound power level will be immediately rectified Defective attenuation equipment will be repaired or replaced when identified during routine maintenance Pre-start inspections include sound attenuation equipment and any defective devices will be reported to maintenance for repair
Mine plan	<ul style="list-style-type: none"> Provide various levels for overburden emplacement to allow shielded emplacement to occur deeper in the pit during adverse meteorological conditions Evening and night-time mining operations will be restricted to areas that support a minimisation of mine contributed noise at locations beyond the Project boundaries Ensure haul route alignments maximise the available topographical shielding For the RCS maximum production rate scenario (2023), two high elevation emplacement areas will be developed, to the north and south of the pit, separated by approximately 1300 metres Separate day and night operating configurations will be developed (scaled down or modified operations for the night period) Tree clearing or soil stripping will only be undertaken during the day-time period, where practicable
Drilling	<ul style="list-style-type: none"> All drills are attenuated
RCS CHPP	<ul style="list-style-type: none"> CHPP has been cladded on two sides (east and south) 6 m high acoustic barrier has been constructed adjacent to the ROM bin Earth barrier constructed to the east of the ROM pad
Construction (Cut and Cover Tunnel)	<ul style="list-style-type: none"> Construction hours are limited as specified in Table 2. Prior to undertaking construction activities, relevant private receptors will be advised of the nature and duration of the activities When undertaking construction activities, specific community communication and response protocols will be developed to minimise the potential for nuisance noise. Construction areas will be targeted for internal attended noise monitoring.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	44 of 95

7.1.2 Predictive Noise Model

A predictive noise model specific to RCM will be maintained to proactively manage noise emissions from RCM through identification of areas of potential noise enhancement resulting from forecast meteorological conditions and proposed operations. Meteorological forecast data from the Hunter Valley Meteorological Sounding Group Joint Venture (HVMSGJV) will be used to develop half hourly predictions of noise enhancement conditions, every twenty-four hours. The model is based on the general locations of all acoustically significant plant items. Outputs from the model provides sufficient detail regarding zones of noise enhancement that a strategic daily noise monitoring program can be developed, and daily operational planning to minimise potential for off-site noise impact can be undertaken. The degree of risk of noise compliance exceedance will be provided.

Validation of the model and of the effectiveness of that aspect of site noise control is to be conducted using internal attended monitoring data. As such, the annual validation will be an ongoing process that is reported in the Annual Review (**Section 10.3**).

7.1.3 Daily Operational Planning

Daily operational planning will be used to minimise the likelihood of exceedance of compliance noise limits. Daily planning will include:

- Utilising the predictive noise model to plan daily operations (6 am to 6 am) and identify likelihood of noise non-compliance;
- Using results of the noise model to identify equipment operating locations posing risk. In the case of high risk, the proposed operating configuration will be modified ahead of time to reduce the risk to low or moderate. If initial risk is low or moderate, performance will be monitored by internal attended monitoring personnel (**Section 5.1**), and operations will be modified if required;
- Developing a daily plan for prioritising machine shut down sequence if noise enhancement is indicated and allocation of alternative (shielded) production areas within the daily mine plan;
- Developing a plan prioritising modifications to the operation such as decreasing the speed of haul trucks, aligning haul routes to maximise the available topographical shielding provided by the pit shell, restricting dozers to first gear, relocating or shutting down non-attenuated equipment, and operating rubber tyred equipment near surface in place of tracked equipment; and
- Communicating the daily operating plan to OCE and other relevant personnel.

As required under Condition B4(c), all major equipment is tracked and this data is documented. It will be readily available should it be requested by DPIE or the EPA.

7.1.4 Sound Power Control

Results of site operational noise modelling, undertaken as part of the Environmental Assessments, are typically the basis of criteria specified in **Appendix A**. A key input to that modelling is sound power of plant to be operated on site.

To ensure the highest likelihood of compliance with regulatory limits, it is important that plant sound power is regularly checked and any non-compliant item is modified and/or repaired.

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	45 of 95

All mobile plant types that are significant noise generators have sound power limits specified in the Sound Power Specification. Listed plant types require:

- A sound power test on delivery and before acceptance for use on site (for both purchased and hire equipment); and
- A sound power test at least once every three years after entering service.

Equipment sound power levels are to be determined utilising testing undertaken in accordance with standards specified in the sound power specification or other appropriate standards, as applicable.

The environmental officers are to arrange testing as required to ensure the above requirements are met.

It is also a requirement under Schedule 3 Condition 8 of PA 08_0102 that *“the rail spur is only accessed by locomotives that are approved to operate on the NSW rail network”*. This requires confirmation by the train operators.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	46 of 95

Table 9
Proactive Measures

Program/Procedure	Measure	Responsibility	Section
Predictive Noise Modelling and Daily Operational Planning	Review daily predictive modelling program outputs and refine the daily proposed mine working configuration, including specific operating locations of all acoustically significant plant items.	Mine Manager and Environmental Officer	7.1.2 and 7.1.3
Internal Attended Monitoring Program	Conduct internal attended noise monitoring to ensure off-site mining operational noise impacts do not exceed approved noise limit levels at surrounding receivers.	Senior Environmental Officer	5.1
Sound Power Screening Program	Control site noise emissions by initial and regular checks on mobile plant and rectification where needed.	Environmental Officer	7.1.4
Internal Attended monitoring data review	Review internal attended monitoring data to identify activities and/or meteorological conditions that result in higher noise levels at receiver locations. Use review to refine noise mitigation measures and operating procedures.	Environmental Officer	7.1.5
Tree Clearing and Soil Stripping	Undertaken during day time operations only, where practical and consistent with any commitments in the <i>Biodiversity Management Plan</i> (Bloomfield, 2020).	OCE	7.1.1
Evening & Night Time Operational Restriction	Restrict mining operations, where practical, to areas that will minimise noise emissions beyond the Project boundary.	OCE	7.1.1

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	47 of 95

7.1.5 Review Data for Trends

To facilitate a real-time noise management system, internal attended monitoring data from around the site can be analysed to ascertain what instances of, or combinations of, operations and meteorological conditions typically generate higher mine contributed noise levels off-site. These observations can be used for:

- Validation of actions undertaken;
- Providing/refining an empirical guide to operational controls required during a range of meteorological conditions; and
- Calibration of site noise models.

Data on spatial location of mobile plant, review of previous response triggers/exceedances and weather conditions can be utilised for developing an operational awareness of the effectiveness, in the context of noise management, of the shut-down of specific noise producing plant items.

The outcome of these data analyses should be communicated to Technical Services and Production and to any external contractors that may provide modelling services to site.

7.2 Reactive Measures

Reactive measures are taken in response to a noise criteria exceedance or a community complaint. These responses are detailed in the following sections:

- Internal attended monitoring action response trigger: **Section 5.1**;
- Internal unattended noise monitoring alarm: **Section 5.2.5**;
- Compliance attended monitoring exceedance: **Section 6**;
- Community complaint: **Section 8**; and
- Identification of noisy plant: **Section 4.1.1**.

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	48 of 95

8 Complaints Handling

The actions in **Figure 7** are typically undertaken when responding to noise complaints.

Bloomfield has a 24-hour telephone hotline (02 4930 2665) for the members of the public to lodge complaints and concerns or to raise issues associated with the operations. This service aims to promptly and effectively address community concerns and environmental matters.

The hotline number is advertised on the Bloomfield Group website (<https://www.bloomcoll.com.au/>) and members of the community are encouraged to contact the hotline if they need to highlight any environmental issues or seek information regarding environmental aspects associated with RCM.

In addition, a member of the community can contact an RCM Environmental Advisor or Manager in person, by phone, e-mail or letter. Any person that is likely to be in a position to receive concerns is trained to deal with complaints in a professional, private and effective manner.

All complaints received are recorded in accordance with the *Privacy Act 1988* and logged in the Complaint Register. The Complaint Register is only viewable by environmental personnel and is protected to prevent others viewing recorded information. All complainants are asked if they would like their complaint and details recorded. Information which may be recorded includes:

- Date and time the complaint was logged;
- The method by which the complaint was made;
- Personal details provided by the complainant;
- Nature of the complaint;
- Action taken regarding the complaint, or if no action was taken, the reason why; and
- Follow up contact with the complainant following investigation.

All anonymous complaints will be received, investigated and actioned (if required). However, if no details are provided RCM will not be able to provide feedback to the complainant. The outcome of the complaint will be recorded in the register.

In the event of a community complaint about previous operations, all relevant information pertaining to the time of alleged noise nuisance is to be gathered as follows:

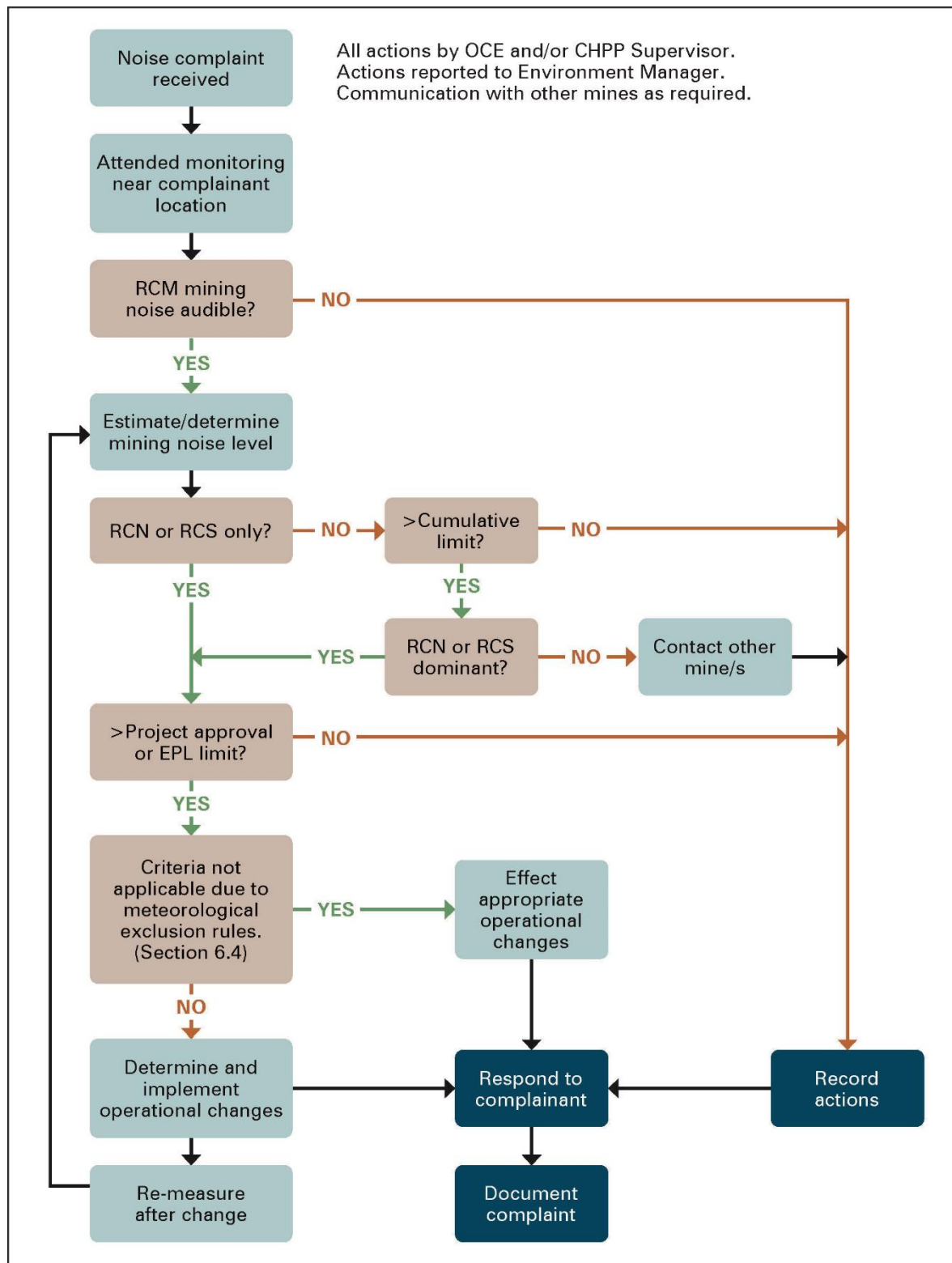
- Locations and quantities of mining plant operational;
- Meteorological conditions; and
- Noise monitoring data from most recent internal attended monitoring.

Using the above data an assessment is to be made as to the validity of the noise complaint.

Only generalised, non-personal information is published in the monthly complaint register on the Company website. No personal details such as name, address, phone number are published or any other information which may allow the complainant to be identified. A summary of complaints is reported in the EPL Annual Return and Annual Review, and presented at the CCC meetings.

The complaint record will be kept for at least four years after the complaint was made.

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	49 of 95



RIX'S CREEK COAL MINE

FIGURE 7

Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	50 of 95

9 Landholder Notifications, Mitigation and Acquisition

9.1 Landholder and Tenants Notifications

Under Schedule 4, Condition 1 of PA 08_0102 and Condition D4 of SSD 6300, Bloomfield were required to notify landowners and tenants of their mitigation or acquisition rights. The required notification actions under SSD6300 were sent to all required landowners in October 2019.

9.2 Future Tenancy Agreements

Prior to entering into any future tenancy agreement (including renewals) for any Bloomfield owned land that is predicted to experience exceedances of the recommended dust and/or noise criteria, Bloomfield will advise the prospective tenants of the rights they would have under SSD 6300 and PA 08_0102.

9.3 Notifications of Exceedances or Incidents

Where the protocol in **Section 6.7** identifies an exceedance of relevant criteria, notification in writing to affected land owners, tenants and the CCC will occur as soon as practical in accordance with Schedule 4, Condition 3 of PA 08_0102 and Condition D6 of SSD 6300.

9.4 Independent Review

If an owner of privately-owned land considers RCM to be exceeding the relevant criteria in PA 08_0102 Schedule 3 or SSD 6300 Part B they may ask the Planning Secretary in writing for an independent review of the impacts of the development on their land.

Bloomfield will progress this review in accordance with Schedule 4, Condition 4 of PA 08_0102 and Conditions D8 to D10 of SSD 6300 as required.

The outcomes of the Independent Review may be that:

- No further action is required of the RCM,
- Noise mitigation measures are required at the residence as discussed in **Section 9.6**; or
- The property should be acquired as discussed in **Section 9.5**.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	51 of 95

9.5 Acquisition upon Request

Upon receipt of a written request for acquisition from the owner of the land listed in Table 1 of PA 08_0102 or Table 7 of SSD 6300, Bloomfield will follow the procedures in Schedule 4, Conditions 7 and 8 of PA 08_0102 and Conditions D11 to D18 of SSD 6300 to acquire any property stipulated in the consent and summarised in **Appendix B**, but only if that land is no longer subject to acquisition upon request under a relevant development consent or project approval for another mine as detailed in the Tables.

Within three months of receiving a written request from a landowner with acquisition rights, Bloomfield will make a binding written offer to the landowner in accordance with Schedule 4, Condition 7 of PA 08_0102 and Condition D11 of SSD 6300.

9.6 Mitigation Upon Request

Upon receiving a written request from the owner of any residence on the land listed in:

- PA 08_0102 Table 1 or SSD 6300 Table 7 (for which the acquisition basis is noise); or
- PA 08_0102 Table 12 or SSD 6300 Table 8; or
- Any privately owned land where subsequent monitoring shows the noise generated by RCN exceeds the limits in PA 08_0102 Table 6,

Bloomfield will implement additional noise mitigation measures in consultation with the owner of the residence.

These measures must be reasonable and feasible and directed towards reducing the noise impacts of RCM on that residence. Bloomfield will also be responsible for the reasonable costs of ongoing maintenance of these additional mitigation measures until the cessation of mining operations.

If within three months of receiving a request for mitigation from the land owner, Bloomfield and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	52 of 95

10 Reporting and Review

10.1 Compliance Reporting

Compliance attended monitoring reports include a comparison to criteria detailed in the relevant project approval. All compliance attended measurement result analysis should consider criteria applicability (for impact, mitigation, cumulative and acquisition criteria) with regard to wind speed, stability class and/or VTG.

All results that exceed criteria, including instances where the second measurement indicates compliance with criteria, shall be reported to DPIE and any other relevant agencies immediately as required under Schedule 5 Condition 8 of PA 08_0102 and Condition E7 of SSD 6300. An incident is defined as:

“An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance.”

Bloomfield are required to report any non-compliances to DPIE in writing within seven (7) days of becoming aware of the non-compliance under Schedule 5 Condition 9 of PA 08_0102 and Condition E8 of SSD 6300. A non-compliance is defined as:

“An occurrence, set of circumstances or development that is a breach of this consent.”

An incident report includes:

- Identification of the development (including development application number and name);
- Location and nature of the incident.

A non-compliance report includes:

- Identification of the development (including development application number and name);
- Set out the condition of the relevant approval that the development is non-compliant with;
- The way in which it does not comply and the reasons for the non-compliance (if known);
- What actions have been, or will be, undertaken to address the non-compliance.

If monitoring results indicate an exceedance of the relevant noise criteria outlined in **Appendix A**, at a private residence, RCM will notify the affected landowners, tenants and the CCC as soon as practical in accordance with Schedule 4, Condition 3 of PA 08_0102 and Condition D6 of SSD 6300.

If an affected landowner considers RCM is exceeding the relevant criteria, they may request from the Director-General an independent review of impacts that would include monitoring and identifying measures to be implemented to ensure compliance (**Section 7.1.1**).

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	53 of 95

10.2 Monthly Reporting

Compliance noise monitoring results will be reported monthly on the public website as required by the EPL and Schedule 5, Condition 13 of PA 08_0102 and Condition E14 of SSD 6300.

10.3 Annual Review

By the end of March each year, Bloomfield will provide an Annual Review required under Schedule 5 Condition 10 of PA 08_0102 and Condition E9 of SSD 6300 to the Planning Secretary. The Annual Review will:

- Describe the development over the previous calendar year and that proposed for the next calendar year;
- Report on actual versus proposed surface disturbance;
- Summarise the environmental performance of RCM for the previous calendar year, including the effectiveness of noise and air quality management systems and compliance with relevant criteria;
- Include the presentation and analysis of the results of monitoring, including any relevant trends;
- Discuss any non-compliances, incidents, complaints and any management actions implemented at RCM over the reporting period;
- Identify any discrepancies between the predicted and actual impact of the development and analyse the potential cause of any significant discrepancy; and
- Include a description of what measures will be implemented over the coming year to improve the performance of the noise management system.

The Annual Review will be made publicly available through placement on Bloomfield's website <http://www.bloomcoll.com.au/> and will be provided to the CCC.

10.4 Management Plan Review

Schedule 5, Condition 5 of PA 08_0102 (as modified) and Condition E5 of SSD 6300 require that, within three months of the submission of the following documents, Bloomfield will review, and if necessary, revise the NMP to the satisfaction of the Planning Secretary:

- Annual Review in accordance with Schedule 5 Condition 10 and Condition E9;
- Incident report under Schedule 5 Condition 8 and Condition E7;
- Audit report under Schedule 5 Condition 11 and Condition E10; or
- Modification to the conditions of PA 08_0102 or SSD 6300 (unless the conditions require otherwise).

When a review leads to revision in the NMP, then within six weeks of the review decision, unless the Secretary agrees otherwise, the revised NMP will be submitted to the Secretary for approval.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	54 of 95

11 Roles and Responsibilities

The roles and responsibilities of staff at the Complex in respect of this NMP are presented in **Table 10**.

Table 10
Roles and Responsibilities

Role	Responsibilities	Section
Manager of Mining Engineering/Mine Manager	• Ensure implementation of daily noise monitoring and operational planning; and	5.1
	• Ensure adequate resources are trained and available to enable implementation of this NMP.	5.1
Environment Manager (or delegate)	• Authorise the NMP and future amendments;	10.4
	• Review this NMP if any significant changes to mine plans or operations occur;	10.4
	• Inform the relevant Operations Manager and Manager of Mining Engineering of unexpected or serious environmental impact issues;	10.1
	• Promptly notify the relevant regulatory agencies of any incidences or non-compliances;	10.1
	• Investigate noise complaints and provide feedback to complainant within 24 hours;	8
	• Manage complaints protocol;	8
	• Act as the interface for environmental matters between government authorities, private industry, contractors, community groups and the wider community;	10
	• Attend quarterly meetings with nearby mining companies;	6.8
	• Develop an annual environmental report (Annual Review) detailing the results of key performance indicators developed for each monitoring location;	10.3
	• Annual validation of predictive noise model;	10.3
	• Manage the noise monitoring program to the standard and frequency outlined in the NMP;	5, 6
	• Review internal attended monitoring data quarterly and refine mitigation measures and operating procedures as relevant;	5.1.4
	• Provide most recent NMP to any consultant conducting compliance attended noise monitoring;	6

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	55 of 95

Noise Management Plan Rix's Creek Mine

Role	Responsibilities	Section
	<ul style="list-style-type: none"> Manage information available on the Bloomfield website; Arrange sound power testing; Ensure inductions and training relevant to the NMP is implemented; Assess the implementation of this NMP; and As required, seek the assistance of a consultant to undertake specialised monitoring, interpretation and reporting functions 	<p>0</p> <p>4.1.1</p> <p>7.1.1</p> <p>10.4</p> <p>10.3</p>
OCE (or delegate)	<ul style="list-style-type: none"> Maintain accountability for the overall environmental performance of RCM, including the procedures and outcomes of this NMP; Manage mining plant locations and activities to keep off-site operational noise levels compliant; Ensure tree clearing and soil stripping are only undertaken during daytime periods; Respond to any unplanned events that may potentially result in, or cause, negative environmental impacts; Implement TARP as required; In the event of a noise complaint, direct Noise Monitoring/Compliance personnel to the vicinity of complainant; Record all complaints and any actions taken to alter operations; Ensure reportable incidents are investigated and reported to the Environmental Officers. Provide shift changes via Pulse 'comments' section as well as shift examiner's report for oncoming OCE; Respond to trigger alarm and implement management and control measures; and Check that persons conducting response to alarms and complaints are appropriately trained, understand their obligations and the specific requirements of this NMP. 	<p>5.1.1</p> <p>7.1.1</p> <p>5.1</p> <p>5.1.1</p> <p>8</p> <p>8</p> <p>5</p> <p>5.2.5</p> <p>7.1.1</p>
Monitoring Personnel	<ul style="list-style-type: none"> Maintain a high level of understanding of the NMP; Review results of daily predictive model to determine areas of potential noise enhancement; 	<p>5.1</p> <p>5.1.1</p>

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	56 of 95

Noise Management Plan Rix's Creek Mine

Role	Responsibilities	Section
	<ul style="list-style-type: none"> Plan daily off-site noise monitoring locations and time frames for internal attended management monitoring; Undertake routine daily internal attended noise monitoring at locations identified as having potential for noise enhancement based on the daily predictive model; Report internal attended noise levels to the OCE and complete the noise level log; Plan noise minimisation actions in-conjunction with the OCE; Undertake re-monitoring at monitoring locations if noise issues are identified; Monitor at location of any complaints received by the OCE and/or Rix's Creek Mine Hotline; Report changes made to operation for oncoming shift personnel to review; and Assist OCE in reporting of any complaints. 	<p>5.1.1</p> <p>5.1.1</p> <p>5.1.1</p> <p>5.1.1</p> <p>5.1</p> <p>5.1</p> <p>5.1</p> <p>8</p>
Noise monitoring consultant	<ul style="list-style-type: none"> Undertake attended compliance monitoring in accordance with the procedures outlined in this NMP; Alert OCE of any exceedance of noise criterion and discuss changes to operations; and Advise Senior Environmental Officer and Environmental Officer of any exceedances. 	<p>6</p> <p>6</p> <p>6</p>
Maintenance supervisor	<ul style="list-style-type: none"> Ensure remediation of equipment above sound power level specification. 	4.1.1
All personnel	<ul style="list-style-type: none"> Adhere to the requirements of this NMP; and Report any events that may potentially result in, or cause, negative environmental impacts immediately to the Supervisor. 	<p>7.1</p> <p>10.1</p>

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	57 of 95

12 References

- AECOM (2015), *Rix's Creek Mine Continuation of Mining Project Environmental Impact Statement*
- Department of Planning (2013), *Integra Coal Complex MOD 2 Project Approval*
- Environment Protection Authority (2000), *NSW Industrial Noise Policy*
- Environment Protection Authority (2017), *NSW Noise Policy for Industry*
- Environment Protection Authority (2019), *Rix's Creek Mine Environment Protection Licence EPL 3391*
- Minister for Urban Affairs and Planning (1995), *Rix's Creek Mine Development Consent DA N90/00356*
- R.W.Corkery & Co Pty Ltd (2007), *Integra Coal Operations North Pit EA*
- Standards Australia (1997) *Australian Standard 1055*
- URS,(2009), *Integra Open Cut Project Environmental Assessment*

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	58 of 95

13 Glossary

L_A - The A-weighted root mean squared (RMS) noise level at any instant.

L_{A10} - The noise level which is exceeded for 10 per cent of the time, which is approximately the average of the maximum noise levels.

L_{A90} - The level exceeded for 90 per cent of the time, which is approximately the average of the minimum noise levels. The L_{A90} level is often referred to as the “background” noise level and is commonly used to determine noise criteria for assessment purposes.

L_{Aeq} - The average noise energy during a measurement period.

L_{pk} - The unweighted peak noise level at any instant.

dB(A) - Noise level measurement units are decibels (dB). The “A” weighting scale is used to describe human response to noise.

Sound power level (L_w) - 10 times the logarithm of energy radiated from a source (as noise) divided by a reference power, the reference power being 1 picowatt.

Sound pressure level (SPL) - Fluctuations in pressure measured as 10 times a logarithmic scale, the reference pressure being 20 micropascals.

Sound exposure level (SEL) - The A-weighted noise energy during a measurement period normalised to one second.

Hertz (Hz) - Cycles per second, the frequency of fluctuations in pressure, sound is usually a combination of many frequencies together.

ABL - The 10th percentile background noise level for a single period (day, evening or night) of a 24 hour monitoring period.

RBL - The background noise level for a period (day, evening or night) determined from ABL data.

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	59 of 95

Appendix A – Development Consent Conditions

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	60 of 95

Table A1
PA 08_0102 Consent Conditions

Ref	Legal Requirement	Section																																																															
Schedule 3, Condition 1	<p>Upon receiving a written request for acquisition from an owner of the land containing a residential receiver listed in Table 1, the Proponent must acquire the land in accordance with the procedures in conditions 6 and 7 of Schedule 4.</p> <p><i>Table 1: Land subject to acquisition upon request</i></p> <table><tr><th>Residential Receiver No.</th><th>Acquisition Basis</th></tr><tr><td>64 – W & A Gardner</td><td>Noise</td></tr><tr><td>87 – B & R Richards</td><td>Noise</td></tr><tr><td>106 – B & R Richards</td><td>Noise</td></tr><tr><td>111 – T Burgess</td><td>Noise</td></tr><tr><td>153 – R & D Hall</td><td>Noise and Air Quality</td></tr><tr><td>N240 – N.A. Long</td><td>Air Quality</td></tr><tr><td>N234-239 – N.R. and J.M. Long</td><td>Air Quality</td></tr><tr><td>351 – WG Bowman</td><td>Noise</td></tr><tr><td>352 – AS Bowman</td><td>Noise</td></tr></table> <p>For the purposes of acquisition under this condition, parcels of land that are in close proximity and operated as a single agricultural enterprise by the owner of a listed residential receiver should be included as part of the land to be acquired. Where the Applicant and the owner(s) cannot agree whether non-contiguous parcels of land should be included, either party may refer the matter to the Secretary for resolution. The Secretary's decision as to the lands to be included for acquisition under the procedures in conditions 7 and 8 of Schedule 4 must be final.</p> <p><i>Note: To interpret the locations referred to in Table 1, see the applicable figures in Appendix 4.</i></p>	Residential Receiver No.	Acquisition Basis	64 – W & A Gardner	Noise	87 – B & R Richards	Noise	106 – B & R Richards	Noise	111 – T Burgess	Noise	153 – R & D Hall	Noise and Air Quality	N240 – N.A. Long	Air Quality	N234-239 – N.R. and J.M. Long	Air Quality	351 – WG Bowman	Noise	352 – AS Bowman	Noise	0																																											
Residential Receiver No.	Acquisition Basis																																																																
64 – W & A Gardner	Noise																																																																
87 – B & R Richards	Noise																																																																
106 – B & R Richards	Noise																																																																
111 – T Burgess	Noise																																																																
153 – R & D Hall	Noise and Air Quality																																																																
N240 – N.A. Long	Air Quality																																																																
N234-239 – N.R. and J.M. Long	Air Quality																																																																
351 – WG Bowman	Noise																																																																
352 – AS Bowman	Noise																																																																
Schedule 3 Condition 2	<p>Except for the noise-affected land referred to in Table 1, the Applicant shall ensure that the noise generated by the project does not exceed the criteria in Table 2 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.</p> <p><i>Table 2: Noise criteria dB(A)</i></p> <table><tr><th colspan="2" rowspan="2">Location</th><th>Day</th><th>Evening</th><th colspan="2">Night</th></tr><tr><th>L_{Aeq}(15min)</th><th>L_{Aeq}(15min)</th><th>L_{Aeq}(15min)</th><th>L_{A1}(1min)</th></tr><tr><td rowspan="2">NAG 3</td><td>All privately-owned land</td><td>40</td><td>40</td><td>39</td><td>49</td></tr><tr><td>99, 100</td><td>39</td><td>39</td><td>39</td><td>47</td></tr><tr><td rowspan="3">NAG 4</td><td>88, 91, 95</td><td>40</td><td>40</td><td>40</td><td>47</td></tr><tr><td>105, 161</td><td>41</td><td>41</td><td>41</td><td>47</td></tr><tr><td>All other privately-owned land</td><td>42</td><td>42</td><td>37</td><td>47</td></tr><tr><td rowspan="5">NAG 5</td><td>104</td><td>35</td><td>35</td><td>35</td><td>52</td></tr><tr><td>139</td><td>36</td><td>36</td><td>36</td><td>52</td></tr><tr><td>103</td><td>37</td><td>37</td><td>37</td><td>52</td></tr><tr><td>121</td><td>40</td><td>40</td><td>40</td><td>52</td></tr><tr><td>All other privately-owned land</td><td>50</td><td>46</td><td>42</td><td>52</td></tr></table>	Location		Day	Evening	Night		L _{Aeq} (15min)	L _{Aeq} (15min)	L _{Aeq} (15min)	L _{A1} (1min)	NAG 3	All privately-owned land	40	40	39	49	99, 100	39	39	39	47	NAG 4	88, 91, 95	40	40	40	47	105, 161	41	41	41	47	All other privately-owned land	42	42	37	47	NAG 5	104	35	35	35	52	139	36	36	36	52	103	37	37	37	52	121	40	40	40	52	All other privately-owned land	50	46	42	52	7.1
Location				Day	Evening	Night																																																											
		L _{Aeq} (15min)	L _{Aeq} (15min)	L _{Aeq} (15min)	L _{A1} (1min)																																																												
NAG 3	All privately-owned land	40	40	39	49																																																												
	99, 100	39	39	39	47																																																												
NAG 4	88, 91, 95	40	40	40	47																																																												
	105, 161	41	41	41	47																																																												
	All other privately-owned land	42	42	37	47																																																												
NAG 5	104	35	35	35	52																																																												
	139	36	36	36	52																																																												
	103	37	37	37	52																																																												
	121	40	40	40	52																																																												
	All other privately-owned land	50	46	42	52																																																												

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	61 of 95

Noise Management Plan

Rix's Creek Mine

Ref	Legal Requirement					Section
	Location		Day	Evening	Night	
			L _{Aeq} (15min)	L _{Aeq} (15min)	L _{Aeq} (15min)	L _{A1} (1min)
	NAG 6	137	35	35	35	48
		133	37	37	37	48
		132	38	38	38	48
		All other privately-owned land	41	41	38	48
	NAG 7	All privately-owned land	45	42	39	49
	NAG 8	142	35	35	35	45
		All other privately-owned land	42	42	35	45
	NAG 9	146, 148, 149	35	35	35	48
		143, 144, 145, 147, 150, 151, 152	36	36	36	48
		2	37	37	37	48
		3, 4	39	39	39	48
		All other privately-owned land	40	40	38	48
	NAG 10	5	40	40	40	47
		6	41	41	41	47
		8	42	42	42	47
		All other privately-owned land	39	39	37	47
	NAG 11	18	35	35	35	49
		20, 21	37	37	36	49
		19	37	37	37	49
		17	38	38	38	49
		7	39	39	39	49
		12, 15	40	40	40	49
		14, 16	42	42	42	49
		All other privately-owned land	41	41	39	49
	NAG 12	52	35	35	35	45
		51	37	37	37	45
		53	38	38	38	45
		50, 54	39	39	39	45
		62	40	40	40	45
		All other privately-owned land	38	38	35	45
	NAG A	24, 25, 26, 27, 28, 29, 30, 36, 37, 38, 39, 40, 41	35	35	35	46
		31	36	36	35	46
		42, 43	36	36	36	46
		32	37	37	35	46
		22, 23	37	37	37	46
		34	39	39	36	46
		35	39	39	35	46
		All other privately-owned land	39	39	36	46
	NAG C	All other privately-owned land	37	37	35	45
	NAG D	44, 48	36	36	36	48
		49	39	39	39	48
		All other privately-owned land	40	40	38	48
	Location		Day	Evening	Night	
			L _{Aeq} (15min)	L _{Aeq} (15min)	L _{Aeq} (15min)	L _{A1} (1min)
	NAG F	67	40	40	40	50
		All other privately-owned land	40	40	40	50
	All other privately-owned land		35	35	35	45

Notes:

- All land located within NAG 1, NAG 2, NAG B and NAG G is now mine-owned.

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	62 of 95

Noise Management Plan

Rix's Creek Mine

Ref	Legal Requirement	Section												
	<p>However, these criteria do not apply if the Applicant, or another mining company, has acquired the land or if the Applicant ,has a written agreement with the relevant landowner to exceed the criteria, and the Applicant has advised the Department in writing of the terms of this agreement.</p> <p>Noise generated by the project is to be measured in accordance with the relevant requirements of the INP. Appendix 5 sets out the requirements for evaluating compliance with these criteria.</p> <p><i>Note: To interpret the locations referred to in Table 2, see the applicable figures in Appendix 4.</i></p>	6												
Schedule 3 Condition 4	<p>The Applicant must implement all reasonable and feasible measures to ensure that the noise generated by the project combined with the noise generated by other mines in the vicinity does not exceed the criteria in Table 4 at any residence on privately-owned land or on more than 25 percent of any privately- owned land (except for the residential receivers in Table 1 for which the acquisition basis is noise). The Applicant must share the costs associated with implementing these measures on as equitable basis as possible with the relevant mines.</p> <p><i>Table 4: Cumulative noise criteria dB(A) L_{Aeq} (period)</i></p> <table><tr><th>Location</th><th>Day</th><th>Evening</th><th>Night</th></tr><tr><td>NAGs 4, 5, 8 and 9</td><td>55</td><td>45</td><td>40</td></tr><tr><td>All other privately-owned land</td><td>50</td><td>45</td><td>40</td></tr></table> <p>Cumulative noise is to be measured in accordance with the relevant requirements of the INP. Appendix 5 sets out the requirements for evaluating compliance with these criteria.</p> <p>For the purposes of this condition, ‘reasonable and feasible avoidance and mitigation measures’ includes, but is not limited to, the requirements in conditions 9 and 10 to develop and implement a real-time noise management system that ensures effective operational response to the risk of exceedance of the criteria.</p> <p><i>Note: To identify the locations referred to in Table 4, see the figures in Appendix 4</i></p>	Location	Day	Evening	Night	NAGs 4, 5, 8 and 9	55	45	40	All other privately-owned land	50	45	40	6.8
Location	Day	Evening	Night											
NAGs 4, 5, 8 and 9	55	45	40											
All other privately-owned land	50	45	40											
Schedule 3 Condition 6	<p>Upon receiving a written request from the owner of any residence:</p> <p>(a) on the land listed in Table 1 for which the acquisition basis is noise; or</p> <p>(b) on land listed in Table 6; or</p> <p>(c) on privately-owned land where subsequent noise monitoring shows the noise generated by the project is greater than or equal to the criteria in Table 7.</p>	9.6												

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	63 of 95

Ref	Legal Requirement	Section																				
	<p>the Applicant must implement additional noise mitigation measures (such as double-glazing, insulation, and/or air conditioning) at the residence in consultation with the landowner.</p> <p>If within 3 months of receiving this request from the owner, the Proponent and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.</p> <p><i>Table 6: Land where additional noise mitigation measures are available on request</i></p> <table><tr><td>5 – D P Cox</td><td>6 – W G Cox</td></tr><tr><td>8 – DK Geelan</td><td>16 – A Lambkin</td></tr><tr><td>14 – M Hoggan</td><td>31 – C Craven</td></tr><tr><td>20 – Mr Garvie</td><td>48 - G Cheetham</td></tr><tr><td>32 – M Langdon</td><td>50 – D & M Bridge</td></tr><tr><td>47 – B & R Cherry</td><td>54 – G Holmes</td></tr><tr><td>53 – K & J Badior</td><td>63 – J & M Moore</td></tr><tr><td>62 – D Moran</td><td>95 – J & T Clarke</td></tr><tr><td>91 – T & D Olofsson</td><td>161 – V Lopes</td></tr><tr><td>105 – J & G McInerney</td><td>363 – D & L Bynon</td></tr></table> <p><i>Note: To interpret the locations referred to in Table 6, see the applicable figures in Appendix 4.</i></p>	5 – D P Cox	6 – W G Cox	8 – DK Geelan	16 – A Lambkin	14 – M Hoggan	31 – C Craven	20 – Mr Garvie	48 - G Cheetham	32 – M Langdon	50 – D & M Bridge	47 – B & R Cherry	54 – G Holmes	53 – K & J Badior	63 – J & M Moore	62 – D Moran	95 – J & T Clarke	91 – T & D Olofsson	161 – V Lopes	105 – J & G McInerney	363 – D & L Bynon	
5 – D P Cox	6 – W G Cox																					
8 – DK Geelan	16 – A Lambkin																					
14 – M Hoggan	31 – C Craven																					
20 – Mr Garvie	48 - G Cheetham																					
32 – M Langdon	50 – D & M Bridge																					
47 – B & R Cherry	54 – G Holmes																					
53 – K & J Badior	63 – J & M Moore																					
62 – D Moran	95 – J & T Clarke																					
91 – T & D Olofsson	161 – V Lopes																					
105 – J & G McInerney	363 – D & L Bynon																					
Schedule 3 Condition 8	The Applicant must seek to ensure that its rail spur is only accessed by locomotives that are approved to operate on the NSW rail network in accordance with noise limits L6.1 to L6.4 in RailCorp's EPL (No. 12208) and ARTC's EPL (No. 3142) or a Pollution Control Approval issued under the former <i>Pollution Control Act 1970</i> .																					
Schedule 3 Condition 28	<p>METEOROLOGICAL MONITORING</p> <p>For the life of the project, the Applicant must ensure that there is a meteorological station in the vicinity of the site that:</p> <p>(a) complies with the requirements in the <i>Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales</i> guideline; and</p> <p>(b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the <i>NSW Industrial Noise Policy</i> or as otherwise approved by the EPA.</p>	6.5																				
Schedule 4 Condition 3	<p>As soon as practicable after obtaining monitoring results showing:</p> <p>(a) an exceedance of the relevant criteria in Schedule 3, the Applicant shall notify the affected landowner and/or tenants in writing of the exceedance, and provide regular monitoring results to each of these parties until the projects are complying with the relevant criteria again; and</p>	9.3																				

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	64 of 95

Ref	Legal Requirement	Section
	(c) an exceedance of the relevant criteria in Conditions 22, 23 of Schedule 3, the Applicant shall 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 (including the tenants of any mine-owned land).	Not applicable for noise
Schedule 4 Condition 4	<p>If an owner of privately-owned land considers the project to be exceeding the relevant criteria in Schedule 3, then he/she may ask the Secretary in writing for an independent review of the impact of the project on his/her land.</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:</p> <ul style="list-style-type: none"> • consult with the landowner to determine his/her concerns; • conduct monitoring to determine whether the project is complying with the relevant criteria in Schedule 3; and • if the project is not complying with these criteria then: <ul style="list-style-type: none"> – determine if more than one mine is responsible for the exceedance, and if so the relative share of each mine towards the impact on the land; – identify the measures that could be implemented to ensure compliance with the relevant criteria; and <p>(b) give the Secretary and landowner a copy of the independent review.</p>	9.4
Schedule 4 Condition 5	<p>If the independent review determines that the project is complying with the relevant criteria in Schedule 3, then the Applicant may discontinue the independent review with the approval of the Secretary.</p> <p>If the independent review determines that the project is not complying with the relevant criteria in Schedule 3, and that the project is primarily responsible for this non-compliance, then the Proponent shall:</p> <p>(a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent person, and conduct further monitoring until there is compliance with the relevant criteria; or</p>	9.4

Document Title:	Noise Management Plan	Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021
Reviewed By:	Dianne Munro	Version No:	2.0
Approved By:	Chris Knight	Issue Date:	12/05/2021
Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	65 of 95

Noise Management Plan Rix's Creek Mine

Ref	Legal Requirement	Section
	<p>(b) secure a written agreement with the landowner to the satisfactory of the Secretary.</p> <p>If the independent review determines that the project is not complying with the relevant acquisition criteria in Schedule 3, and that the project is primarily responsible for this non-compliance, then upon receiving a written request from the landowner, the Applicant shall acquire all or part of the landowner's land in accordance with the procedures in Conditions 8-9 below.</p>	
Schedule 4 Condition 6	<p>6. If the independent review determines that the relevant criteria in Schedule 3 are being exceeded, but that more than one mine is responsible for this exceedance, then together with the relevant mine/s the Proponent must:</p> <p>(a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent person, and conduct further monitoring until there is compliance with the relevant criteria; or</p> <p>(b) secure a written agreement with the landowner to allow exceedances of the relevant criteria, to the satisfaction of the Secretary.</p> <p>If the independent review determines that relevant acquisition criteria in Schedule 3 are being exceeded, but that more than one mine is responsible for the exceedance, then upon receiving a written request from the landowner, the Applicant must acquire all or part of the landowner's land on as equitable a basis as possible with the relevant mine/s in accordance with the procedures in conditions 7 to 8 below.</p>	9.4
Schedule 5 Condition 2	<p>The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:</p> <p>(a) detailed baseline data;</p>	Not applicable
	<p>(b) a description of:</p> <ul style="list-style-type: none"> the relevant statutory requirements (including any relevant approval, licence or lease conditions); any relevant limits or performance measures/criteria; and 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; 	<p>2</p> <p>2.3</p> <p>2.6</p>

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	66 of 95

Noise Management Plan

Rix's Creek Mine

Ref	Legal Requirement	Section
	(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	7.1.1
	(d) a program to monitor and report on the: <ul style="list-style-type: none"> impacts and environmental performance of the project; and effectiveness of any management measures (see (c) above); 	10
	(e) a contingency plan to manage any unpredicted impacts and their consequences;	7.2
	(f) a program to investigate and implement ways to improve the environmental performance of the project over time;	10.4
	(g) a program to regularly review management practices to align with contemporary best practice industry standards;	10.4
	(h) a protocol for managing and reporting any: <ul style="list-style-type: none"> incidents; complaints; non-compliances with the conditions of this consent I and statutory requirements; and exceedances of the impact assessment criteria and/or performance criteria; and 	10.1 8 10.1 10.1
	(i) a protocol for periodic review of the plan. <i>Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.</i>	10.4
Schedule 5 Condition 3	Preparation of Management Plans Prior to approval of management plans required under Schedule 3, all existing management plans, monitoring programs, strategies, programs, protocols, etc approved as at the date of approval of Modification 6 shall continue to have full force and effect, and may be revised under the requirements of condition 5 below as if subject to the conditions of this consent that applied prior to the approval of Modification 6, or otherwise with the approval of the Secretary.	

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	67 of 95

Ref	Legal Requirement	Section
Schedule 5 Condition 4	Relationships between Management Plans With the agreement of the Secretary, the Applicant may combine any strategy, plan or program required by this consent with any similar strategy, plan or program required for Rix's Creek.	
Schedule 5 Condition 5	Revision of Strategies, Plans & Programs Within 3 months of: <ul style="list-style-type: none"> (a) the submission of an incident report under condition 8 below; (b) the submission of an annual review under condition 10 below; (c) the submission of an audit report under condition 11 below, or (d) any modification of the conditions of this consent (unless the conditions require otherwise), the Applicant must review, and if necessary, revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary. The Applicant must notify the Department in writing of any such review being undertaken. Where this review leads to revisions in any such document, then within 6 weeks of the review the revised document must be submitted for the approval of the Secretary. <i>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.</i>	10.4
Schedule 5 Condition 8	Incident Notification 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 to compliance@planning.nsw.gov.au and identify the development (including the development application number and name) and set out the location and nature of the incident.	10.1
Schedule 5 Condition 9	Non-compliance Notification 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 to compliance@planning.nsw.gov.au 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 noncompliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.	10.1

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	68 of 95

Noise Management Plan

Rix's Creek Mine

Ref	Legal Requirement	Section
	<i>Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.</i>	

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	69 of 95

Table A2
SSD 6300 Consent Conditions

Ref	Legal Requirement	Section														
Condition B1	<p>The Applicant must ensure that the noise generated by the development does not exceed the criteria in Table 1 at any residence^a on privately-owned land, excluding the noise-affected land referred to in Table 7.</p> <p><i>Table 1: Operational noise criteria dB(A)</i></p> <table> <tr> <th rowspan="2">NAG</th><th>Day/Evening/Night</th><th>Night</th></tr> <tr> <th>L_{Aeq} (15 min)</th><th>L_{A1} (1 min)</th></tr> <tr> <td>A – C</td><td>42</td><td>47</td></tr> <tr> <td>D – O</td><td>40</td><td>47</td></tr> <tr> <td>All other privately-owned residences</td><td>35</td><td>45</td></tr> </table> <p>^a The NAGs referred to in Table 1 are shown in Appendix 3.</p>	NAG	Day/Evening/Night	Night	L _{Aeq} (15 min)	L _{A1} (1 min)	A – C	42	47	D – O	40	47	All other privately-owned residences	35	45	7.1.1
NAG	Day/Evening/Night		Night													
	L _{Aeq} (15 min)	L _{A1} (1 min)														
A – C	42	47														
D – O	40	47														
All other privately-owned residences	35	45														
Condition B2	Noise generated by the development must be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy (EPA, 2000). Error! Reference source not found. [sic.] sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.	6														
Condition B3	The noise criteria in Table 1 do not apply if the Applicant has an agreement with the owner/s of the relevant residence or land to exceed the noise criteria, and the Applicant has advised the Department in writing of the terms of this agreement.	2.3														
Condition B28	<p>METEOROLOGICAL MONITORING</p> <p>Prior to commencing mining operations under this consent and for the remaining life of the development, the Applicant must ensure that there is a suitable meteorological station operating in the vicinity of the site that:</p> <p>(a) complies with the requirements in the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales (DEC, 2007);</p> <p>(b) is capable of continuous real-time measurement of wind speed, wind direction sigma theta and temperature; and</p> <p>(c) is capable of measuring meteorological conditions in accordance with the NSW Industrial Noise Policy (EPA, 2000),</p> <p>unless a suitable alternative is approved by the Planning Secretary following consultation with the EPA.</p>	6.5														

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	70 of 95

Ref	Legal Requirement	Section
Condition D4	<p>Notification of Landowners/Tenants</p> <p>Within one month of the date of this consent, the Applicant must:</p> <p>(a) notify in writing the owner of:</p> <p>(i) the land listed in Table 7 that they have the right to require the Applicant to acquire their land at any stage during the development;</p> <p>(ii) the residences on the land listed in Table 7 and Table 8 that they are entitled to ask the Applicant to install additional mitigation measures at the residence; and</p> <p>(iii) any privately-owned land within 3 kilometres of the approved open cut mining pit/s that they are entitled to ask the Applicant for an inspection to establish the baseline condition of any buildings or structures on their land, or to have a previous property inspection report updated;</p> <p>(b) notify the tenants of any mine-owned land of their rights under this consent; and</p> <p>(c) send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (NSW Health, 2017) to the owners and/or existing tenants of any land (including mine-owned land) where the predictions in the document/s listed in condition A2(c) identify that dust emissions generated by the development are likely to be greater than the relevant air quality criterion in PART B of this consent at any time during the life of the development.</p>	9
Condition D5	<p>Prior to entering into any tenancy agreement for any land owned by the Applicant that is predicted to experience exceedances of the recommended dust and/or noise criteria, the Applicant must:</p> <p>(a) advise the prospective tenants of the potential health and amenity impacts associated with living on the land, and give them a copy of the NSW Health fact sheet entitled "Mine Dust and You" (NSW Health, 2017); and</p> <p>(b) advise the prospective tenants of the rights they would have under this consent,</p> <p>to the satisfaction of the Planning Secretary.</p>	9
Condition D6	<p>Notification of Exceedances</p> <p>As soon as practicable and no longer than 7 days after obtaining monitoring results showing an exceedance of any noise, blasting or air quality criterion in PART B of this consent, the Applicant must provide the details of the exceedance to any affected landowners, tenants and the CCC.</p>	9

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	71 of 95

Ref	Legal Requirement	Section
Condition D8	<p>Independent Review</p> <p>If a landowner considers the development to be exceeding any relevant air quality, noise or blasting criterion in PART B of this consent, they may ask the Planning Secretary in writing for an independent review of the impacts of the development on their residence or land.</p>	9.4
Condition D9	<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>	9.4
Condition D10	<p>If the Planning Secretary is satisfied that an independent review is warranted, within three months, or other timeframe 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> <p>(i) consult with the landowner to determine their concerns;</p> <p>(ii) conduct monitoring to determine whether the development is complying with the relevant criterion in PART B of this consent; and</p> <p>(iii) if the development is not complying with the relevant criterion, identify measures that could be implemented to ensure compliance with the relevant criterion;</p> <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>	9.4
Part E Condition E4	<p>Management plans required under this consent must be prepared in accordance with any relevant guidelines, and include:</p> <p>(a) a summary of relevant background or baseline data;</p>	Not applicable

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	72 of 95

Noise Management Plan

Rix's Creek Mine

Ref	Legal Requirement	Section
	(b) details of: <ul style="list-style-type: none"> (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures/criteria; and (iii) 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; 	2 2.3 2.6
	(c) any relevant commitments or recommendations identified in the document/s listed in condition A2(c);	Appendix C
	(d) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	7.1.1
	(e) a program to monitor and report on the: <ul style="list-style-type: none"> (i) impacts and environmental performance of the project; and (ii) effectiveness of any management measures (see (c) above); 	6
	(f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	7.2
	(g) a program to investigate and implement ways to improve the environmental performance of the project over time;	10
	(h) a protocol for managing and reporting any: <ul style="list-style-type: none"> (i) incident, non-compliance or exceedance of any impact assessment criteria or performance measure; (ii) complaint; or (iii) failure to comply with other statutory requirements; 	10.1 8
	(i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and	0, 10.3
	(j) a protocol for periodic review of the plan. <i>Note: The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.</i>	10.4

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	73 of 95

Ref	Legal Requirement	Section
Condition E5	<p>Revision of Strategies, Plans & Programs</p> <p>Within 3 months of:</p> <ul style="list-style-type: none"> (k) the submission of an incident report under condition E7; (l) the submission of an annual review under condition E9; (m) the submission of an Independent Environmental Audit under condition E10, or (n) the modification of the conditions of this consent (unless the conditions require otherwise), <p>The suitability of existing strategies, plans, and programs required under this consent must be reviewed by the Applicant.</p>	10.4
Condition E6	<p>If necessary, to either improve the environmental performance of the development or cater for a modification, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within 6 weeks of the review.</p> <p><i>Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.</i></p>	10.4
Condition E7	<p>Incident Notification</p> <p>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 to compliance@planning.nsw.gov.au and identify the development (including the development application number and name) and set out the location and nature of the incident.</p>	10.1
Condition E8	<p>Non-compliance Notification</p> <p>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 to compliance@planning.nsw.gov.au and identify the development (including the development application number and name), set out the condition of this approval that the development is non-compliant with, the way in which it does not comply and the reasons for the noncompliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.</p> <p><i>Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.</i></p>	10.1

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	74 of 95

Appendix B – Land Ownership and Receivers' Rights

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	75 of 95

Table B1 and **Table B2** include individual numbers for private residences which correlate to the Receptor IDs in **Figure A1**.

Table B1 identifies the private properties with rights to acquisition or mitigation upon request as described in Schedule 3, Conditions 1, 6 and 12 of PA 08_0102 as at February 2021 and **Table B2** identifies the private properties with rights to acquisition or mitigation upon request as described in Condition D1 of SSD 6300 as at 21 October 2019.

Table B1
Land Ownership and Receivers' Rights under PA 08_0102

Figure ID	Table ID	Acquisition		Mitigation	
		Air	Noise	Air	Noise
N64	64		✓		
175	87		✓		
176	106		✓	✓	
173	111		✓	✓	
177	153	✓	✓		
170/N207	351		✓		
N210	352		✓		
4	5				✓
5	6				✓
7	8				✓
10	16				✓
9	14				✓
N31	31				✓
N32	32				✓
N48	48				✓
N47	47				✓
N50	50				✓
N53	53				✓
N54	54				✓
N62	62				✓
N63	63				✓
N91	91				✓
N105	105				✓
N161	161				✓
N183	363				✓
N88	88			✓	

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300		Page No:
					76 of 95

Noise Management Plan Rix's Creek Mine

Figure ID	Table ID	Acquisition		Mitigation	
		Air	Noise	Air	Noise
N234	N234	✓			
N235	N235	✓			
N236	N236	✓			
N237	N237	✓			
N238	N238	✓			
N239	N239	✓			
N240	N240	✓			

In **Table A2**, **Blue** shading indicates rights to acquisition or mitigation by Bloomfield if the rights are no longer available under RCN (presently valid to 2035). **Olive** shading indicates rights to acquisition or mitigation by Bloomfield but only if the rights are no longer available under RCN or Ashton South East Open Cut (presently valid to 2020). **Pink** shading indicates rights to acquisition or mitigation by Bloomfield but only if the rights are no longer available under RCN, Ashton South East Open Cut or Glendell Mine (presently valid to 30 June 2024). **Purple** shading indicates rights to acquisition or mitigation by Bloomfield but only if the rights are no longer available under RCN or Glendell Mine.

Table B2
Land Ownership and Receivers' Rights under SSD 6300

Figure ID	Table ID	Acquisition		Mitigation	
		Air	Noise	Air	Noise
1	R1	✓	✓		
N209	1/121623	✓	✓		
N210	1/1244196	✓	✓		
N203	54/252692	✓	✓		
170	R170	✓			
171	R171	✓			
N207	3/1111313	✓			
N200	2/804005	✓			
N201	52/252692	✓			
N202	53/252692	✓			
N88	N88	✓			
N211	104/852484	✓			
N91	N91	✓			
N212	106/855187	✓			

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	77 of 95

Noise Management Plan Rix's Creek Mine

Figure ID	Table ID	Acquisition		Mitigation	
		Air	Noise	Air	Noise
N161	N161	✓			
N172	N172	✓			
N103	N103	✓			
N213	1/248748	✓			
N214	5/758214	✓			
N215	6/758214	✓			
N216	7/758214	✓			
N217	3/758214	✓			
N218	8/758164*	✓			
N219	2/9/758214	✓			
N220	9/758214	✓			
N190	44/1166047*	✓			
N191	5/1166047	✓			
N105	N105	✓			
173	R173			✓	
175	R175			✓	
176	R176			✓	
177	R177			✓	

* incorrect Lot/DP allocated in SSD6300 (N218 should be Lot 8 DP 758214 and N190 should be Lot 4 DP 1166047).

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	78 of 95

Noise Management Plan

Rix's Creek Mine

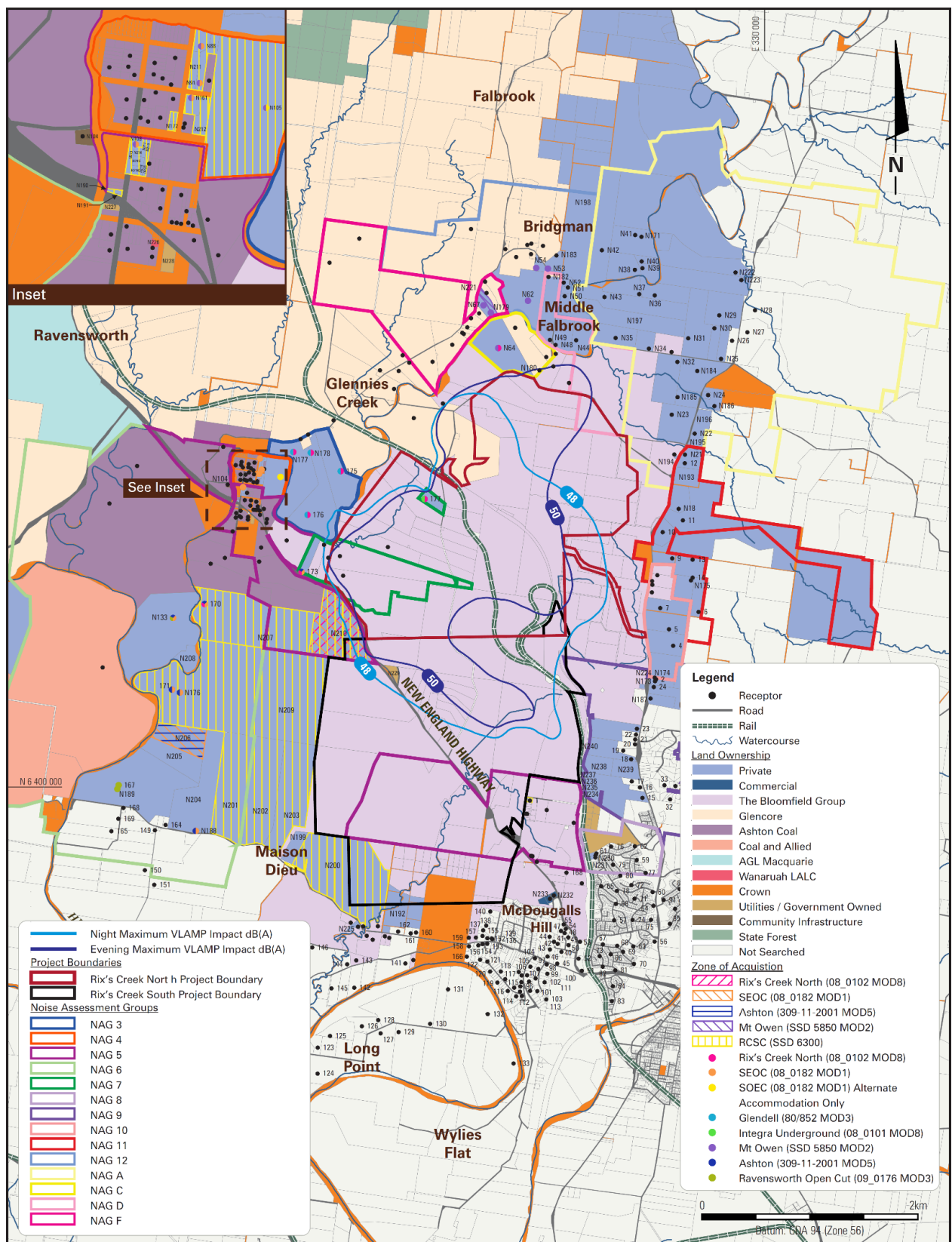


Figure A1- Noise Assessment Groups and Residential Receivers

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	79 of 95

Noise Management Plan

Rix's Creek Mine

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	80 of 95

Appendix C – Environmental Commitments

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	81 of 95

Table C1 and **Table C2** summarise the Noise commitments made in the respective environmental assessments which form part of the PA 08_0102 Appendix 9 and SSD 6300 definition of EIS (page 4).

Table C1
PA 08_0102 Noise Commitments

Item	Mitigation Measure and Commitment	Implementation	Section
G1	Use noise mitigated mobile equipment to achieve the predicted noise emission levels at the identified receivers.	Continuous during operations	7.1.1
G2	Restrict evening and night-time mining operations, where practicable, to areas that minimise emission levels outside of the Project boundary.	Continuous during operations	7.1.1
G3	Undertake development activities such as tree clearing and soil stripping during day time operations only, where practicable.	Continuous during operations	7.1.1
G4	Refine on-site noise mitigation measures and operating procedures, i.e. based upon monitoring results.	Continuous during operations	10.4
G5	Initiate regular discussions with potentially affected residents to proactively identify noise-related issues of concern.	Continuous during operations	9.1
G6	Consider acoustic mitigation at residences where exceedances of the project specific criteria are substantiated by monitoring	Continuous during operations	9.6
G7	Consider negotiated agreements with landowners where exceedances of the project specific criteria are substantiated by monitoring	Continuous during operations	9

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	82 of 95

Table C2
SSD 6300 Noise Commitments

	Factor	Management and Mitigation Measures	Section
4	Operational Noise	Noise model predictions will be considered at the daily production meetings to plan evening and night time operations.	7.1
5	Operational Noise	Trained site personnel will undertake internal attended noise monitoring during the night period, with priority given to receiver areas for which elevated noise predictions were predicted (if any) as per the approved Noise Management Plan (NMP).	5.1
6	Operational Noise	In response to exceedances of a measured or predicted trigger level, operations will be modified to ensure noise emissions meet consent criteria. Modifications may include operating: <ul style="list-style-type: none"> • Within the pit, and/or, • In areas that provide a high degree of topographical shielding, and/or, • Progressively shutting down equipment, starting with plant operating in the most exposed areas. 	7.1
7	Operational Noise	Follow-up internal attended monitoring will be undertaken to determine the effectiveness of modifications implemented.	7.2
8	Operational Noise	Monitoring and any operating modifications actions will be documented in the Rix's Creek Night Time Noise Monitoring Summary Sheet. A copy of this will be held at site.	5
9	Operational Noise	Appropriate overburden emplacement levels/heights will be determined to allow shielded emplacement to occur deeper in the pit during adverse meteorological conditions.	7.1.1
10	Operational Noise	Haul route alignments within the pit will be designed to maximise the available topographical shielding provided by the pit shell.	7.1.1
11	Operational Noise	Emplacement areas will be developed to maximise noise shielding and will be further described in the Rehabilitation Management Plan (RMP).	7.1.1

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	83 of 95

Noise Management Plan

Rix's Creek Mine

	Factor	Management and Mitigation Measures	Section
12	Operational Noise	<p>The mine fleet replacement forecast program will phase-in attenuated plant as follows:</p> <ul style="list-style-type: none"> Year 3 – half of the fleet; and Year 6 – remainder of the fleet; <p>generally in accordance with the timeframes in Section 2 of the EIS Environmental Noise Assessment, as approved in the NMP.</p>	7.1
13	Operational Noise	A 4.5 metre high earth bund will be established to the south of the Southern Coal Haul Road, towards the ROM pad end of the road and adjacent to the infrastructure area.	7.1.1
14	Operational Noise	The existing earth bund located to the east of the ROM coal pad will be maintained.	7.1.1
15	Operational Noise	Cladding will be installed on the south and east facades of the CHPP within 12 months of determination of SSD6300.	7.1.1
16	Operational Noise	Specific night operating configurations will be implemented prior to or during noise enhancing meteorological conditions (temperature inversions).	7.1

Document Title:	Noise Management Plan		Document Owner:	Chris Knight	
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	84 of 95

Appendix D Regulatory Consultation and Post Approvals

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro		36 MONTHS or as required under PA 08_0102 or SSD 6300	Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:			Page No:

Noise Management Plan
Rix's Creek Mine



Planning,
Industry &
Environment

Mr Chris Knight
Environment Manager
The Bloomfield Group

PO Box 4
East Maitland, NSW, 2323

18/02/2020

Dear Mr Knight

**Rix's Creek South Continuation Project (SSD 6300)
Post Approval Requirements**

I refer to your correspondence dated 10 February 2020, requesting the Secretary's approval to combine environmental management plans and strategies and the Community Consultative Committee (CCC) required by Rix's Creek North (MP 08_0102) and Rix's Creek South (DA 49/94) approvals, with those required for the Rix's Creek South Continuation Project (SSD 6300).

I note that Rix's Creek North and Rix's Creek South are now owned and operated by the Bloomfield Group. Consequently, under condition A21(d) the Secretary approves combining the following management plans and strategies required by the relevant conditions of MP 08_0102, DA 49/94 and SSD 6300:

- Environmental Management Strategy;
- Blast Management Plan;
- Water Management Plan;
- Air Quality and Greenhouse Gas Management Plan;
- Noise Management Plan;
- Rehabilitation Management Plan; and
- Bushfire Management Plan.

The Secretary also agrees to combine the CCC required under condition A19 of SSD 6300 with the existing combined CCC operating under the requirements of MP 08_0102 and DA 49/94.

Lastly, I acknowledge that a Bushfire Management Plan has been prepared in accordance with condition B67. I note that this plan does not require approval from the Secretary.

If you wish to discuss the matter further, please contact Melanie Hollis on 8217 2043.

Yours sincerely



Matthew Sprott
A/Director
Resource Assessments (Coal & Quarries)
as nominee of the Planning Secretary

Noise Management Plan Rix's Creek Mine



DOC20/377220-2; EF13/3519

Rix's Creek Pty Limited
PO Box 4
EAST MAITLAND NSW 2323

Email: cknight@bloomcoll.com.au

1 June 2020

Attention: Chris Knight

Dear Mr Knight

Rix's Creek Noise Management Plan

Reference is made to your correspondence dated 15 May 2020 to the Environment Protection Authority ("EPA") requesting review and comment in relation to the *Rix's Creek Noise Management Plan*.

The EPA encourages the development of such plans to ensure that licensees have determined how they will meet their statutory obligations and designated environmental objectives.

Being a regulatory authority, the EPA's role is to set environmental management objectives rather than being directly involved in the development of strategies to achieve those objectives. Accordingly, the EPA has not reviewed this management plan.

If you wish to discuss the matter further, please contact Ms Jenny Rushton on 02 6883 5301.

Yours sincerely

MITCHELL BENNETT
Head Operations – Strategic Planning
Environment Protection Authority

Phone 131 555
Phone 02 4908 6800

Fax 02 4908 6810
TTY 133 677
ABN 43 692 285 758

PO Box 488G
Newcastle
NSW 2300 Australia

117 Bull Street
Newcastle West
NSW 2302 Australia

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

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	87 of 95

Noise Management Plan
Rix's Creek Mine



Planning,
Industry &
Environment

Christopher Knight
Environment Manager
Four Mile Creek Rd
Ashtonfield
NSW, 2323

30/11/2020

Dear Christopher

Rix's Creek Coal Extension (SSD-6300)

Noise Management Plan - Request for Additional Information

I refer to the Noise Management Plan submitted to the Department as required under the Conditions of Consent for the Rix's Creek Coal Extension. After careful consideration, the Department is requesting that you provide additional information.

You are requested to submit a revised document that addresses the comments listed in the attached table.

You are requested to provide the information, or notification that the information will not be provided, to the Department by Thursday 17 December 2020. If you are unable to provide the requested information within this timeframe, you are required to provide, and commit to, a timeframe detailing the provision of this information.

If you have any questions, please contact Charissa Pillay, who can be contacted on / at Charissa.Pillay@planning.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read "M Sprott".

Matthew Sprott
Director
Resource Assessments (Coal & Quarries)

Noise Management Plan Rix's Creek Mine

Rix's Creek SSD-6300-PA-14
Post Approval Review



Document: Noise Management Plan
 Revision: Version 1.1 June 2020
 Reviewed: Charissa Pillay on "November 2020"

<i>Noise Management Plan, Condition B5, Schedule 2</i>	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
The Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:				
(a) Be prepared by a suitably qualified and experienced person/s;	Partial	The title provides info on the preparer, reviewer and revision	Submit details to demonstrate the qualification and experience	Updated cover and section 1.
(b) Be prepared in consultation with the EPA	Partial	Section 3.2 is incomplete and vague information.	Please update section 3.2 to reflect the feedback from the EPA in June 2020.	See section 3.2. Letter dated 1 June clearly notes that EPA do not provide feedback on Management Plans. Copy of letter from EPA is contained in Appendix D of the NMP.
(c) Be submitted to the Planning Secretary for approval within six months of commencing development under this consent;	Yes	-	-	
(d) Describe the measures to be implemented to ensure: (i) Compliance with the noise criteria and operating conditions of this consent	(i) Partial	(i) Section 6 provides much detail on how noise monitoring will be carried out.	(i) As per the condition update the section to specify the noise criteria that will be used. The Conditions of Consent Table 1 differs to Criteria in L3.1 pf the EPL 3391	As discussed. Table has been updated. An application to modify EPL 3391 Noise criteria in accordance with SSD 6300 criteria. When approved

Noise Management Plan Rix's Creek Mine

Rix's Creek SSD-6300-PA-14
Post Approval Review



Document: Noise Management Plan
Revision: Version 1.1 June 2020
Reviewed: Charissa Pillay on "November 2020"

<p>(ii) Best practice management is being employed; and</p>	<p>(ii) Yes</p>	<p>(ii) –</p>	<p>Align Table 6 and Table 7 to clearly outline the noise criteria stated in Table 1 of B4</p> <p>(ii) –</p>	<p>both tables will be consistent.</p>
<p>(iii) Noise impacts of the development are minimised during noise-enhancing meteorological conditions, particularly when the noise criteria in this consent do not apply</p>	<p>(iii) No</p>	<p>(iii) Section 6.7 describes the Result Acceptance and a measurement against a "relevant criterion"</p>	<p>(iii) Revise the section to discuss when/who this noise criterion applies; and State the meteorological conditions under which the development noise trigger levels and describe how they will be minimised</p>	<p>See update to section 6.7. Please note that section 6.4 Method provides an exhaustive explanation of when this applies.</p> <p>In regard to noise triggers section 6.7 describes external compliance monitoring. Noise trigger levels are described in Table 5- section 5.1.</p>

Noise Management Plan Rix's Creek Mine

Rix's Creek SSD-6300-PA-14 Post Approval Review



Document: Noise Management Plan
Revision: Version 1.1 June 2020
Reviewed: Charissa Pillay on "November 2020"

(e) Seek to minimise road traffic noise generated by employee commuter vehicles on public roads;	No	Section 4 describes site noise emissions and mobile plant and equipment management.	Demonstrate the management measures to address traffic noise generated by employee commuter vehicles on public roads. Include a discussion around traffic management.	Additional section added in Section 4.1.3
(f) Describe the noise management in detail;	Yes	-	-	
(g) Describe the fleet attenuation program; and	Partial	Section 4.1.1 mentions the fleet attenuation program is detailed in the RCS EIS 2019 Currently section 6.2.3 of the <i>SSD Rix's Creek Continuation of Mining Project EIS (SSD 6300)</i> mentions existing mitigation measures but no description of the monitoring program	Include a summary in the plan to address the condition and a reference of the EIS.	See update in section 4.1.1 noting fleet attenuation program.
(h) Include a monitoring program that:				
(i) Uses a combination of real-time and supplementary attended monitoring to evaluate the performance of the development	(i)Partial	(i)Section 7.1.5 mentions how data will be reviewed for trends	(i) Describe the program to be implemented using a combination of real-time and supplementary attended monitoring	The monitoring program required under this condition is extensively discussed under sections 5.1 and 5.2. Can you please clarify what other information is required.
(ii) Includes a program to calibrate and validate the real-time noise monitoring	(ii)Yes	(ii) section 5.2.4	(ii) –	

Noise Management Plan Rix's Creek Mine

Rix's Creek SSD-6300-PA-14
Post Approval Review



Document: Noise Management Plan
Revision: Version 1.1 June 2020
Reviewed: Charissa Pillay on "November 2020"

<p>with the attended monitoring results over time;</p> <p>(iii) Adequately supports the noise management system;</p> <p>(iv) Includes a protocol for distinguishing noise emissions of the development and Rix's Creek North; and</p> <p>(v) includes a protocol for identifying any noise related exceedance, incident or non-compliance and for notifying the Department and relevant stakeholders of any such event</p>	<p>(iii)Yes</p> <p>(iv)Yes</p> <p>(v)partial</p>	<p>(iii)section 7</p> <p>(iv) section 6.7</p> <p>(v) section 10</p>	<p>(iii) –</p> <p>(iv)-</p> <p>(v)Revise plan to include a protocol for managing and reporting any noise incidence and non-compliance. Stipulating timeframes.</p>	<p>Section 10.1 clearly notes the reporting requirements and timeframes required for reporting both incidents and non-compliances under both Project approvals. If you require anything additional can you please provide an example.</p>
General Comment			Action Required	Company Response
1) Update the plan to include a discussion on how the construction of the cut and cover tunnel will be managed under the <i>Interim Construction Noise Guidelines</i> .			In addition, discuss the management of road and rail noise to address B5€	See additional section Construction Noise Cut and

Noise Management Plan Rix's Creek Mine

Rix's Creek SSD-6300-PA-14
Post Approval Review



Document: Noise Management Plan
Revision: Version 1.1 June 2020
Reviewed: Charissa Pillay on "November 2020"

		<p>Cover Tunnel new Section 4.15.</p> <p>Condition B5e does not require any discussion on Rail noise.</p> <p>Condition B 5e notes the requirement to address noise generated by employee commuter traffic-please see new section 4.1.3.</p>
2) Noise impacts were raised regularly as a concern in public objections to the Project. Noise was also identified as an issue of concern to nearby residents in the EIS's Social Impact Assessment.	Include a section identifying the most affect receptors and describe the measures to be implemented to manage the impact.	<p>All local receptors are identified on Figure 4. Those receptors where predicted noise limits are above the required criteria have been provided the right to mitigation or acquisition. The Management Plan in its entirety describes measures to manage noise impact to surrounding residents. If you</p>

Noise Management Plan Rix's Creek Mine

Rix's Creek SSD-6300-PA-14
Post Approval Review



Document: Noise Management Plan

Revision: Version 1.1 June 2020

Reviewed: Charissa Pillay on "November 2020"

		require anything additional can you please provide an example.
3) In the EIS the Department recommends that the CHPP is clad before commencement of coal extraction under the Project. Table 8 of the NMP stated it has been cladded on both sides and Table C2 of the NMP states Cladding will be installed....	Include a summary in the NMP on the CHPP impact and mitigation measures	The impact of the CHPP was assessed as part of the project approval. The Statement of commitments noted the requirement to install cladding on the CHPP which has been completed. There are no further measures or assessment required.
Other Agency Comments	Action Required	Company Response
EPA response in June 2020	Plan to be updated.	EPA responded to the request for consultation, however no comment was provided. See section 3.2 and appendix D

Noise Management Plan Rix's Creek Mine



Planning,
Industry &
Environment

Christopher Knight
Environment Manager
Four Mile Creek Road
Ashtonfield, NSW, 2323

23/12/2020

Dear Mr Knight

Rix's Creek Coal Extension (SSD-6300-PA-14) Noise Management Plan

I refer to the Noise Management Plan which was submitted in accordance with Condition B5 of Schedule 2 of the Condition of Consent for the **Rix's Creek Coal Extension (SSD-6300-PA-14)**.

The Department has carefully reviewed the document and is satisfied that it addresses the recent RFI issued.

Accordingly, the Planning Secretary has approved the Noise Management Plan (Revision 1.9, dated December 2020). Please ensure that the approved plan is placed on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Charissa Pillay on 02 99955944.

Yours sincerely

Matthew Sprott
Director
Resource Assessments (Coal & Quarries)
As nominee of the Planning Secretary

Document Title:	Noise Management Plan			Document Owner:	Chris Knight
Prepared By:	Kirstin Blaikie	Print Date:	12/05/2021	Version No:	2.0
Reviewed By:	Dianne Munro			Issue Date:	12/05/2021
Approved By:	Chris Knight	Review Frequency:	36 MONTHS or as required under PA 08_0102 or SSD 6300	Page No:	95 of 95