



Strength. Performance. Passion

ANNUAL REVIEW

1 January 2021 – 31 December 2021

Cooma Road Quarry

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Appendix 1 – Cooma Road Quarry Quarterly Noise Monitoring Reports 2021

Appendix 2 – IEA 2021

SITE DETAILS

Name of operation	Cooma Road Quarry
Name of operator	Holcim (Australia) Pty Ltd
Development consent / project approval #	SSD 5109
Name of holder of development consent / project approval	Holcim (Australia) Pty Ltd
Annual review start date	1 January 2021
Annual review end date	31 December 2021
<p>I, ADAM BERTRAM, certify that this audit report is a true and accurate record of the compliance status of the COOMA ROAD QUARRY for the period of 1 JANUARY 2021 – 31 DECEMBER 2021 and that I am authorised to make this statement on behalf of HOLCIM (AUSTRALIA) PTY LTD.</p> <p>Note.</p> <p>a) <i>The Annual Review is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.</i></p> <p>b) <i>The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or \$22,000, or both).</i></p>	
Name of authorised reporting officer	Adam Bertram
Title of authorised reporting officer	Quarry Manager
Signature of authorised reporting officer	
Document Date	28/03/2022

1 STATEMENT OF COMPLIANCE

The statement of commitments for the 2021 reporting period for the Cooma Road Quarry is provided in **Table 1**. **Table 3** details the non-compliances at the Cooma Road Quarry identified within the 2021 reporting period, with the compliance status key provided in **Table 2**.

Table 1: Statement of Commitments

Were all conditions of the relevant approval(s) complied with?	
SSD 5109	No – See Table 3.
EPL 1453	Yes

Table 2: DPE Compliance Status Key

Risk level	Colour code	Description
High	Non-compliant	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Medium	Non-compliant	Non-compliance with: <ul style="list-style-type: none"> • potential for serious environmental consequences, but is unlikely to occur; or • potential for moderate environmental consequences, but is likely to occur
Low	Non-compliant	Non-compliance with: <ul style="list-style-type: none"> • potential for moderate environmental consequences, but is unlikely to occur; or • potential for low environmental consequences, but is likely to occur
Admin NC	Non-compliant	Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions)

Table 3: Non-Compliances of SSD 5109 for 2021

Relevant approval	Condition	Condition Description	Compliance Status	Section Addressed in Annual Review/Comment																							
SSD 5109	Air Quality Criteria	<p>Schedule 3 Condition 14 – Air Quality Criteria</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging Period</th> <th>^d Criterion</th> </tr> </thead> <tbody> <tr> <td>Total Suspended particulate (TSP)</td> <td>Annual</td> <td>^a90 µm/m³</td> </tr> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>Annual</td> <td>^a 30 µm/m³</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging Period</th> <th>^d Criterion</th> </tr> </thead> <tbody> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>24 hour</td> <td>^a 50 µm/m³</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging Period</th> <th>Maximum increase in deposited dust level</th> <th>Maximum total deposited dust level</th> </tr> </thead> <tbody> <tr> <td>^c Deposited dust</td> <td>Annual</td> <td>^b2 g/m²/month</td> <td>^a 4 g/m²/month</td> </tr> </tbody> </table> <p>Notes to Tables 4-6:</p> <p>^a Total impact (ie incremental increase in concentrations due to the development plus background concentrations due to all other sources);</p> <p>^b Incremental impact (ie incremental increase in concentration due to the development on its own);</p> <p>^c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia AS/NZS 3850:10.1.2003 – Methods for Sampling and Analysis of Ambient Air – Determination of Particulate Matter – Deposited Matter – Gravimetric Method</p> <p>^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Secretary in consultation with EPA.</p>	Pollutant	Averaging Period	^d Criterion	Total Suspended particulate (TSP)	Annual	^a 90 µm/m ³	Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µm/m ³	Pollutant	Averaging Period	^d Criterion	Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µm/m ³	Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level	^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month	<p style="background-color: yellow;">Low Risk Non-Compliance</p>	<p>Section 6.3 Air Quality</p> <p>The July 2021 result could not be retrieved from DDG4 due to the funnel being missing from this gauge when sampling was attempted. This was suspected to be the result of vandalism. Therefore, the annual DDG4 average is calculated from less than 12 sampling months.</p> <p>There was one exceedance in the short term (24 hour) PM10 criterion on 2 January 2021. Contamination is noted for this exceedance because there was livestock mustering occurring in the vicinity of the monitor on this day.</p>
		Pollutant	Averaging Period	^d Criterion																							
		Total Suspended particulate (TSP)	Annual	^a 90 µm/m ³																							
		Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µm/m ³																							
		Pollutant	Averaging Period	^d Criterion																							
		Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µm/m ³																							
		Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level																						
		^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month																						

Relevant approval	Condition	Condition Description	Compliance Status	Section Addressed in Annual Review/Comment
SSD 5109	Water Management	<p>Schedule 3 Condition 20 – Groundwater Monitoring Program</p> <p>The Applicant must prepare a Water Management Plan for the development to the satisfaction of the Secretary. This plan must be prepared in consultation with the EPA and DoI – Water by suitably qualified and experienced person/s whose appointment has been approved by the Secretary, and be submitted to the Secretary for approval within 6 months of the date of this consent. This plan must include a:</p> <p>3. Groundwater Monitoring Program that includes:</p> <ul style="list-style-type: none"> • baseline data of groundwater levels surrounding the development; • groundwater assessment criteria based upon analysis of baseline data for groundwater, including trigger levels for investigation of any potentially adverse groundwater impacts; and • a program to monitor and/or validate the impacts of the development on groundwater resources; 	<p>Low Risk Non-Compliance</p>	<p>Section 7</p> <p>Groundwater monitoring was not undertaken in Quarter 1 2021. This was due to planning and installation of bores still occurring at that time.</p> <p>Groundwater monitoring as per the WMP commenced in Quarter 2 2021.</p>

2 INTRODUCTION

Holcim (Australia) Pty Ltd (Holcim) operates the Cooma Road Quarry, a hard rock quarry located on Old Cooma Road in the Queanbeyan Local Government Area. The site operates under Development Consent (SSD 5109) approved by the New South Wales (NSW) Department of Planning & Infrastructure (now Department of Planning, Industry & Environment [DPE]) on 27 September 2013.

The site also operates in accordance with the Environmental Protection Licence (EPL) No. 1453 issued by the NSW Environment Protection Authority (EPA). A regional locality figure and aerial view of the site are outlined in **Figure 1** and **Figure 2** below.

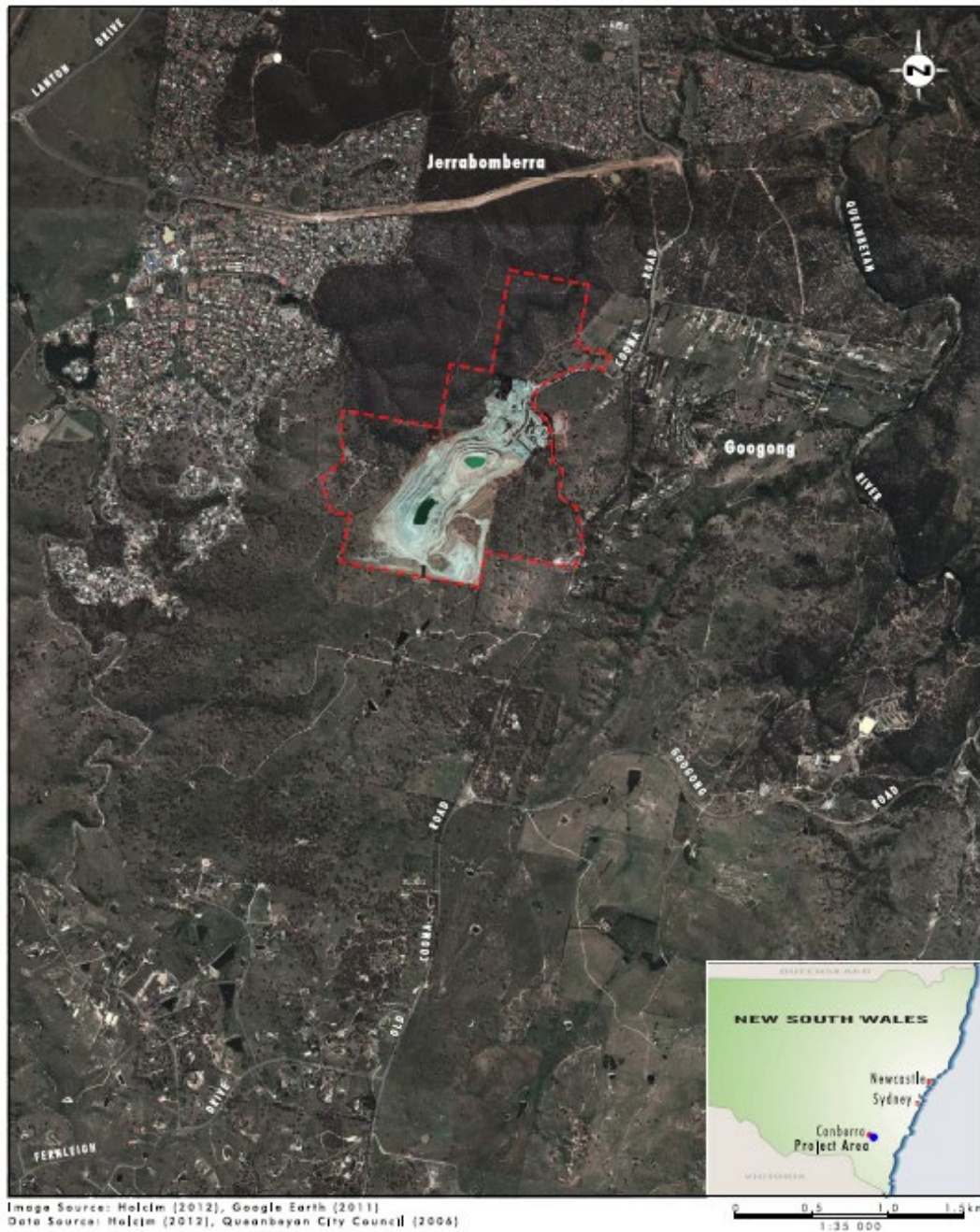


Figure 1: Locality Map (Umwelt 2014)



Figure 2: Aerial view of the Cooma Road Quarry, located on Old Cooma Road, Queanbeyan

In accordance with Schedule 5 Condition 9 of the modified Development Consent the site is required to prepare an Annual Review of the site in accordance with the conditions provided in **Table 4**.

Table 4: Annual Review Requirements

Condition	Section addressed in Annual Review
By the end of March each year, the Applicant shall review the environmental performance of the development to the satisfaction of the Secretary. This review must:	
a) describe the development (including rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;	Section 4 and 6
b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against the: <ul style="list-style-type: none"> - relevant statutory requirements, limits or performance measures/criteria; - the monitoring results of previous years; and - the relevant predictions in the EIS. 	Section 6, 7 and 9.3
c) identify any noncompliance over the last year, and describe what actions were (or are being) taken to ensure compliance;	Section 1
d) identify any trends in the monitoring data over the life of the development	Section 6 and 7
e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and	Section 6
f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the development.	Section 12

This Annual Review has also been prepared in accordance with the *Annual Review Guideline: Post-approval requirements for State significance mining developments* (October 2015). This report documents the environmental performance of the quarry from 1 January to 31 December 2021.

2.1 Name and Contact Details

The key contact details for the site are outlined below:

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3 APPROVALS

The site operates under the following approvals listed in **Table 5**.

Table 5: Approvals for the Cooma Road Quarry Operations

Approval	Regulatory Authority
Development Consent SSD 5109	Department of Planning, Industry & Environment
EPL No. 1453	Environment Protection Authority
Water Approval No. 40WA413082	NSW Department of Industry - Water

Holcim holds **EPL 1453** which covers its activities at the Cooma Road Quarry. **Table 6** outlines these licensing limits. The EPL was varied by the EPA on 17 April 2018 enabling the site to receive **Virgin Excavated Natural Material (VENM)** to match Development Consent Modification approved in 2016. The second Modification of Development Consent SSD 5109 was approved on the 30 April 2019 by DPE.

Table 6: EPL Fee-Based Activity at the Cooma Road Quarry

Fee Based Activity	Scale
Crushing, grinding or separating	>500,000 T – 2,000,000 T processed
Land-based extractive activity	>500,000 T – 2,000,000T extracted, processed or stored

4 OPERATIONS SUMMARY

4.1 Exploration

No exploration occurred at the Cooma Road Quarry in the 2021 reporting period.

4.2 Land Preparation

No land preparation activities occurred at the Cooma Road Quarry in the 2021 reporting period.

4.3 Construction Activities

No construction activities occurred at the Cooma Road Quarry in the 2021 reporting period.

4.4 Quarry Operations

Development activities undertaken at the Cooma Road Quarry in 2021 included:

- Stripping of topsoil and overburden within the existing extraction limit boundary;
- Drill, Blast, Load and Haul Activities;
- Crushing, screening and stockpiling of product;
- Overburden removal and replacement in the southwest overburden dump;
- Maintenance of rehabilitation undertaken on the overburden dump in the south-western disturbance area; and
- Increasing the size of the Granite Pit.

All activities took place in accordance with the approved operating hours being 6am to 6pm, Monday to Saturday. These 6am-6pm timeframes applied to all operational activities where no crushing, screening or vehicle movements occurred after 6pm and before 6am.

Operating hours relating to Cooma Road are outlined in **Table 7**.

Table 7: Cooma Road Operating Hours

<i>Activity</i>	<i>Operating Hours</i>		
	<i>Monday - Friday</i>	<i>Saturday</i>	<i>Sunday and Public Holidays</i>
<i>Primary Crushing, Truck Departures</i>	6 am – 6 pm	6 am – 6 pm	None
<i>Construction Operations</i>	7 am – 6 pm	8 am – 1 pm	
<i>Return Truck Movements</i>	6 am – 8 pm	6 am – 8 pm	
<i>Other Operations</i>	6 am – 10 pm	6 am – 10 pm	

Table 8 includes a summary of the operations undertaken during the reporting period against the Development Consent conditions regarding product transported from the Cooma Road Quarry, with the site well below the consent criteria.

Table 8: Total Product Distributed (Cooma Road Quarry)

Material	Approval Limit (Tonnes)	2018 Reporting Period (Tonnes)	2019 Reporting Period (Tonnes)	2020 Reporting Period (Tonnes)	2021 Reporting Period (Tonnes)
Product Distributed - Total	1,500,000	735,978	803,272	1,105,376	1,066,320

4.5 Next Reporting Period

Development activities proposed to be carried out at the Cooma Road Quarry in the 2022 reporting period include:

- Stripping of topsoil and overburden within the existing extraction limit boundary (In both the Granite and Dacite Pits);
- Drill, blast, load and haul activities;
- Crushing, screening and stockpiling of product;
- Overburden removal and placement in the south-west overburden dump; and
- Maintenance of rehabilitation in the south-western disturbance area.

5 ACTIONS REQUIRED FROM PREVIOUS ANNUAL REVIEW

5.1 DPE Actions from Previous Annual Review

Holcim received a letter from DPE on 10 June 2021 acknowledging the receipt of Cooma Road Quarry's 2020 Annual Review.

Based on recommendations in this letter, Holcim acknowledges this 2021 Annual Review will be provided to Queanbeyan Palerang Council as per Condition 9 of Schedule 5 of the Development Consent.

5.2 Proposed Actions from 2020 Annual Review (Proposed for 2021)

Table 9 outlines the actions proposed in the previous Annual Review (2020) for completion or commencement in 2021.

Table 9: Holcim Proposed Actions from 2020 Annual Review for the 2021 Reporting Period

Improvement Measure	Activities	Update for this Annual Review
Progressive Rehabilitation	The site will continue to progressively rehabilitate available areas.	Rehabilitation maintained in 2021.
Maintenance of rehabilitation	Continued maintenance of rehabilitation in the completed overburden dump in the south-western disturbance area including weed control as well as nest box monitoring.	Maintenance continued, with nest boxes installed and maintenance activities undertaken.
Groundwater monitoring	Completion of groundwater monitoring.	Monitoring commencing in 2022.
Biodiversity	Weed spraying will continue at site during the next Annual Review period. Implementation of the Rehabilitation Management Plan.	Weed spraying continued. Further work for implementation of Rehabilitation Management Plan.
Biodiversity	Installation of new nest boxes.	Completed in April 2021 by Wild Thing Consultants.

6 ENVIRONMENTAL PERFORMANCE

6.1 Meteorological Monitoring

Meteorological monitoring was undertaken at Cooma Road Quarry using a weather station on the Project site. The site uses results from this weather station to inform daily operational activities, and to control potential impacts around noise and air quality. Results from this meteorological monitoring station for the report period are summarised in **Table 10**.

Table 10: 2021 Rainfall Observed at Cooma Road Quarry

Monthly Rainfall (mm)												Total 2021
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
57	79	104	0	23	110	52	47	119	70	170	62	893

Total rainfall for 2021 had increased compared to total rainfall of 719.5 mm in 2020.

6.2 Noise

6.2.1 EIS Predictions

The 2012 EIS stated that *'Modelling results indicate that under worst case operational and meteorological conditions, with the implementation of the noise management measures outlined above, the Project is predicted to result in an exceedance of the PSNLs at one privately owned residence located to the south east of the Project area (N67) of up to 4dB during the day time period. If the secondary crushing plant were to be operated during the evening under worst case meteorological conditions, this same residence could be expected to experience exceedances of up to 3dB during the evening period. Holcim is however committed not to operate the secondary crushing plant under such conditions, namely gradient winds from the north east, thereby avoiding this potential impact.'*

6.2.2 Approved Criteria

The site has undertaken quarterly noise monitoring throughout 2019 in accordance with the Noise Management Plan. The Approved noise criteria from the Development Consent (Schedule 3 Condition 4) are provided in **Table 11**.

Table 11: Cooma Road Quarry Noise Criteria (SSD 5109)

Receiver	Morning Shoulder 6 – 7 am	Day 7 am – 6 pm	Evening 6 – 10 pm
	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{Aeq} (15 min)
N1, N7, N8, N56, N59, N63, N64, N65	40	44	39
N67	36	41	35
All other receivers between N9 and N71 inclusive	36	38	35
All other receivers	35	35	35

Notes:

- To locate the receivers referred in Table 1 refer to Appendix 5 of the Development Consent.
- After the first review on any EPL granted for this development under Section 78 of the POEO Act, nothing in this approval prevents the EPA from imposing stricter noise limits on the quarrying operations on site under the EPL.

Appendix 9 of the Development Consent sets out the metrological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria. However, these criteria do not apply if the Applicant has a written agreement with the relevant landowner/s to generate higher noise levels, and the Applicant has advised the Department in writing of these terms of this agreement.

6.2.3 Key Environmental Performance

Attended noise monitoring was undertaken quarterly at the Cooma Road Quarry by Muller Acoustic Consulting on the following dates:

- 10 February 2021;
- 21 April 2021;
- 11 September 2021; and
- 10 November 2021.

The compliance assessments for each monitoring location (N3, N8, N38, N60 and N67) are presented in **Table 12**.

Cooma Road Quarry was not operational in the evening period of the duration of 2021 and therefore satisfied the minimum noise criterion of 35dBA. Non-quarry contributors to the noise survey results included birds, dogs, traffic and roadworks.

Table 12: Cooma Road Quarry Noise Results 2021

Assessment Period	Receiver No.	Quarrying Noise Criteria	Q1 10 February 2021		Q2 21 April 2021		Q3 11 September 2021		Q4 10 November 2021	
		LAeq(15min)	Quarry Noise Contribution	Compliance	Quarry Noise Contribution	Compliance	Quarry Noise Contribution	Compliance	Quarry Noise Contribution	Compliance
Morning Shoulder	N3	35	30	✓	<30	✓	<35	✓	<35	✓
	N8	40	<35	✓	<35	✓	<40	✓	<40	✓
	N38	36	<35	✓	<35	✓	<36	✓	<36	✓
	N60	36	<35	✓	<35	✓	<36	✓	<35	✓
	N67	36	29	✓	<30	✓	<36	✓	32	✓
Daytime	N3	35	35	✓	<30	✓	<30	✓	<31	✓
	N8	44	<35	✓	<35	✓	<40	✓	<40	✓
	N38	38	<35	✓	<35	✓	<38	✓	<38	✓
	N60	38	<38	✓	<35	✓	<38	✓	<38	✓
	N67	41	30	✓	<30	✓	<35	✓	<41	✓
Evening	N3	35	Quarry Not Operating	✓	Quarry Not Operating	✓	Quarry Not Operating	✓	Quarry Not Operating	✓
	N8	39	Quarry Not Operating	✓	Quarry Not Operating	✓	Quarry Not Operating	✓	Quarry Not Operating	✓
	N38	35	Quarry Not Operating	✓	Quarry Not Operating	✓	Quarry Not Operating	✓	Quarry Not Operating	✓
	N60	35	Quarry Not Operating	✓	Quarry Not Operating	✓	Quarry Not Operating	✓	Quarry Not Operating	✓
	N67	35	Quarry Not Operating	✓	Quarry Not Operating	✓	Quarry Not Operating	✓	Quarry Not Operating	✓

All monitoring results for quarterly noise assessments have been undertaken in accordance with the conditions of consent.

Long-term Trends:

Noise monitoring results were consistent with previous years and continued to meet the Development Consent criteria. The site continues to effectively manage noise.

6.2.4 Management Measures

Management measures relating to noise are outlined within the Cooma Road Quarry Noise Management Plan. These include:

- Defined operating hours;
- Work restrictions during the early morning shoulder period;
- Monitoring for noise and meteorological conditions;
- Broadband reversing beepers;
- Training of staff and contractors; and
- Controlled blasting activities.

6.2.5 Proposed Improvements

There are no proposed improvements to noise management.

6.3 Air Quality

6.3.1 EIS Predictions

A comprehensive Air Quality assessment was undertaken for the Project by Sinclair Knight Merz (SKM) for the 2012 EIS. The results of the predictive air quality modelling have identified that the Project will comply with the relevant air quality criteria at all nearby sensitive receiver locations under worst case operating conditions.

6.3.2 Approved Criteria

Depositional dust monitoring conducted at Cooma Road Quarry is compared with the monitoring criteria stipulated in Schedule 3, Condition 14 of SSD 5109 and reproduced in **Table 13**.

Table 13: Depositional Dust Criteria

Table 6: Long-term impact assessment criteria for Deposited Dust (from Development Consent)

Pollutant	Averaging Period	Maximum increase in deposited dust level	Maximum total deposited dust level
^c Deposited dust	Annual	^b 2 g/m ² /month	^a 4 g/m ² /month

Notes to Tables 4-6:

- ^a Total impact (i.e., incremental increase in concentrations due to the development plus background concentrations due to all other sources);
- ^b Incremental impact (i.e., incremental increase in concentration due to the development on its own);
- ^c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia AS/NZS 3850:10.1.2003 – Methods for Sampling and Analysis of Ambient Air – Determination of Particulate Matter – Deposited Matter – Gravimetric Method
- ^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Secretary in consultation with EPA.

The site installed a **High Volume Sampling Unit (HVAS)** in late 2016 to monitor PM₁₀ in accordance with the criteria stipulated in Schedule 3, Condition 14 of SSD 5109 and listed in **Table 14**. HVAS air quality monitoring at the site has been undertaken throughout 2021.

Table 14: TSP and PM₁₀ Dust Criteria

Table 4: Long-term impact assessment criteria for Particulate Matter (from Development Consent)

Pollutant	Averaging Period	^d Criterion
Total Suspended particulate (TSP)	Annual	^a 90 µm/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µm/m ³

Table 5: Short-term impact assessment criteria for Particulate Matter (from Development Consent)

Pollutant	Averaging Period	^d Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µm/m ³

6.3.3 Key Environmental Performance

The principle source of air pollution at the quarry is in the form of airborne dust, which arises from activities such as quarrying, vehicle movements and crushing. To minimise dust emissions associated with vehicle movements, Holcim continued to dampen haul roads and utilise the quarry's wheel wash facility.

6.3.3.1 Depositional Dust Monitoring

Depositional dust monitoring was undertaken at five depositional dust gauges at Cooma Road Quarry in 2021. Results for this monitoring are provided in **Table 15**.

Table 15: 2021 Dust Monitoring (Depositional Dust)

Date	Insoluble Solids (g/m ² /month)				
	DDG1	DDG2	DDG3	DDG4	DDG5
January 4, 2021	2.6	1.4	1.2	0.6	1.1
February 5, 2021	3.5	1.6	1.8	1.5	1.1
March 9, 2021	2.7	1.3	1.7	3.8	2.5
April 7, 2021	3.5	3.3	0.5	9.8 ¹	1.9
May 5, 2021	5.2	2.3	1.0	2.6	1.4
June 2, 2021	3.1	1.2	0.7	0.9	0.5
July 2, 2021	2.5	2.1	0.6	NS	0.9
August 3, 2021	2.5	1.9	0.9	0.7	0.5
September 3, 2021	4.2	2.4	0.9	0.4	5.4
October 5, 2021	6.4	3.5	2.7	11.0	2.3
November 5, 2021	3.5	1.5	2.2	6.4	2.8
December 7, 2021	3.1	2.6	1.7	3.5	3

Note 1: Attributed to nearby road works.

For the 2021 reporting period, all annual averages were compliant with the consent criteria.

One instance of contamination was noted in 2021 at DDG4 in April, when local road works off-site created dusty conditions and is thought to have impacted the April result. The July 2021 DDG4 result could not be retrieved due to the funnel being missing from this gauge when sampling was attempted. This was suspected to be the result of vandalism.

A summary of depositional dust trends between 2017 and 2021 are outlined in **Table 16**.

Table 16: Depositional Dust Trends

Dust Depositional Gauge	Monitoring Summary for Annual Review Period	Monitoring Results (Contamination Removed) (g/m ² /month)				
		2021	2020	2019	2018	2017
DDG1	Insoluble Solids Reporting Period Average	2.6	3.6	4.9	3.8	3.1
	Max. Insoluble Solids	6.4	6.2	7.7	5.4	3.7
	Min. Insoluble Solids	2.5	0.5	2.8	1.9	2.1
DDG2	Insoluble Solids Reporting Period Average	2.1	1.9	2.2	1.7	1.8
	Max. Insoluble Solids	3.5	8.2	4.1	3.0	2.6
	Min. Insoluble Solids	1.2	0.9	1	0.7	0.9
DDG3	Insoluble Solids Reporting Period Average	1.3	1.9	2.1	1.5	0.8
	Max. Insoluble Solids	2.7	6.7	5	3.9	1.6
	Min. Insoluble Solids	0.5	0.6	0.3	0.5	0.4
DDG4	Insoluble Solids Reporting Period Average	3.7	2.1	3.6	4.2	2.1
	Max. Insoluble Solids	11.0	11.2	7.1	13.1	4.3
	Min. Insoluble Solids	0.4	0.2	1.7	0.3	0.8
DDG5	Insoluble Solids Reporting Period Average	2.0	1.5	2.0	2.2	2.0
	Max. Insoluble Solids	5.4	8.4	4.1	6.1	3.8
	Min. Insoluble Solids	0.5	0.2	0.6	0.5	0.7

6.3.3.2 PM₁₀ Monitoring

Monitoring of PM₁₀ was undertaken at the quarry for the first full year in 2017 after the HVAS was installed in late 2016. Results for 2021 PM₁₀ monitoring are provided in **Table 17**.

Table 17: 2021 Dust Monitoring (PM₁₀)

Sample Date	PM10 (µg/m3)	TSP (calculated)	PM ₁₀ 24-hour Compliance Status
January 2, 2021	100.9	242.2	Non-Compliant for PM10 Short-term exceedance (contamination likely from stock mustering)
January 8, 2021	16.5	39.6	Within Criteria
January 14, 2021	12.0	28.8	Within Criteria
January 20, 2021	8.8	21.1	Within Criteria
January 26, 2021	21.4	51.4	Within Criteria
January 30, 2021	13	31.2	Within Criteria
February 5, 2021	11.2	26.9	Within Criteria
February 11, 2021	23.2	55.7	Within Criteria
February 17, 2021	15.7	37.7	Within Criteria
February 23, 2021	18.9	45.4	Within Criteria
February 28, 2021	9.6	23.0	Within Criteria (contamination)
March 3, 2021	10.2	24.5	Within Criteria
March 9, 2021	9.5	22.8	Within Criteria
March 15, 2021	10.8	25.9	Within Criteria
March 21, 2021	17.5	42.0	Within Criteria
March 27, 2021	19.2	46.1	Within Criteria
April 2, 2021	13.4	32.2	Within Criteria
April 8, 2021	11.2	26.9	Within Criteria
April 14, 2021	9	21.6	Within Criteria
April 20, 2021	6.3	15.1	Within Criteria
April 26, 2021	8.2	19.7	Within Criteria
May 5, 2021	27.5	66	Within Criteria
May 8, 2021	21.0	50.4	Within Criteria
May 14, 2021	1.0	2.4	Within Criteria
May 20, 2021	24.5	58.8	Within Criteria
May 26, 2021	10.6	25.4	Within Criteria
June 3, 2021	8.2	19.7	Within Criteria
June 9, 2021	15.2	36.5	Within Criteria
June 15, 2021	15.6	37.4	Within Criteria
June 21, 2021	6.9	16.6	Within Criteria
June 27, 2021	16.1	38.6	Within Criteria
July 1, 2021	5.8	13.9	Within Criteria

Sample Date	PM10 (µg/m3)	TSP (calculated)	PM ₁₀ 24-hour Compliance Status
July 7, 2021	8.7	20.9	Within Criteria
July 13, 2021	6.4	15.4	Within Criteria
July 19, 2021	4.4	10.6	Within Criteria
July 25, 2021	3.0	7.2	Within Criteria
August 3, 2021	6.9	16.6	Within Criteria
August 9, 2021	11.6	27.8	Within Criteria
August 15, 2021	4.5	10.8	Within Criteria
August 21, 2021	2.4	5.8	Within Criteria
August 27, 2021	9.1	21.8	Within Criteria
September 3, 2021	3.8	9.1	Within Criteria
September 9, 2021	4.5	10.8	Within Criteria
September 17, 2021	11.8	28.3	Within Criteria
September 23, 2021	12.4	29.8	Within Criteria
September 29, 2021	7.7	18.5	Within Criteria
October 5, 2021	4.1	9.8	Within Criteria
October 11, 2021	19.2	46.1	Within Criteria
October 17, 2021	15.5	37.2	Within Criteria
October 23, 2021	28.0	67.2	Within Criteria
October 29, 2021	4.5	10.8	Within Criteria
November 5, 2021	6.8	16.3	Within Criteria
November 11, 2021	7.3	17.5	Within Criteria
November 17, 2021	7.4	17.8	Within Criteria
November 23, 2021	14.1	33.8	Within Criteria
November 29, 2021	37.3	89.5	Within Criteria
November 30, 2021	3.9	9.4	Within Criteria
December 7, 2021	9.5	22.8	Within Criteria
December 13, 2021	11.6	27.8	Within Criteria
December 18, 2021	4.9	11.8	Within Criteria
December 24, 2021	7.2	17.3	Within Criteria
December 30, 2021	10.9	26.2	Within Criteria

There were 62 sampling events recorded in the 2021 report period. There was one exceedance in the short term (24 hour) PM₁₀ criterion of 50 µg/m³. This exceedance occurred on 2 January 2021. Contamination is noted for this exceedance because there was livestock mustering occurring in the vicinity of the monitor on this day. Holcim note that this is a non-compliance with the criteria, however it was considerably influenced by external dust-generation.

TSP is also included in this report in **Table 17** as per the requirements of the Development Consent. These results have been calculated rather than directly measured through the monitoring program at Cooma Road, using a conversion factor per the Cooma Road Air Quality Management Plan and consistent with the region. There are no long-term records to compare these results.

The 2021 annual average for PM₁₀ was 11.6 µg/m³, compared to 12.2 µg/m³ for 2020. A summary of average, minimum and maximum results from 2021 compared to results from previous years are outlined in **Table 18**.

Table 18: PM₁₀ Monitoring Trends

Monitoring Summary for Annual Review Period	Monitoring Results 2021 Period (µg/m ³)	Monitoring Results 2020 Period (µg/m ³)	Monitoring Results 2019 Period (µg/m ³)	Monitoring Results 2018 Period (µg/m ³)	Monitoring Results 2017 Period (µg/m ³)
PM ₁₀ Average	11.6	12.2	10.7	13.1	10.97
Max. PM ₁₀	37.3	35.1	37	80.3	35.9
Min. PM ₁₀	1.0	2.8	1.8	1	1.2

6.3.3.3 Long term Trends:

Depositional Dust

Holcim has monitored depositional dust on a monthly basis at five locations within the Cooma Road Quarry project area since 2001. Dust deposition data from the site shows that annual average dust deposition levels have remained below the Development Consent criteria of 4 g/m²/month. Depositional dust levels at DDG2, DDG4, and DDG5 increased in 2021 compared to the 2020 average. DDG1 and DDG3 recorded lower annual averages in 2021 compared to 2020 results. Monitoring results for 2021 remain consistent with long-term dust trends at Cooma Road Quarry.

PM₁₀

PM₁₀ results for 2021 are mostly consistent with previous years. There was one exceedance in 2021 results for 24-hour criteria. Stock mustering adjacent to the monitor was recorded at the time of sampling which is thought to have contributed to the high result.

The maximum PM₁₀ result, excluding the January exceedance, was 37.3 µg/m³ which is typical of previous years. The PM₁₀ annual average for 2021 was below the criteria and consistent with previous years.

6.3.3.4 Comparison to EIS Predictions:

The results for annual average for depositional dust and PM₁₀ were within the predicted limits of the EIS predictions.

There was one occasion where the site was above the PM₁₀ short term criteria (2 January 2021). This was above the EIS predictions.

6.3.4 Management Measures

Mitigation measures relating to air quality are outlined within the Cooma Road Quarry Air Quality Management Plan (2019). The plan outlines the control measures implemented by Cooma Road Quarry to minimise the potential air quality impacts on the local community, including:

- Inspections;
- Defined operating hours;
- Application of water for dust suppression;
- Enclosure of plants and transfer points;
- Monitoring for air quality and meteorological conditions; and
- Training of staff and contractors.

6.3.5 Proposed Improvements

A review of the current dust gauge locations will be undertaken in 2022 to decrease the potential for contamination of air quality monitoring results.

6.4 Blasting

6.4.1 EIS Predictions

The 2012 EIS found that air blast and ground vibration levels would comply with relevant vibration and air blast criteria at all sensitive residential receivers through ongoing management of blast design and size.

6.4.2 Approved Criteria

According to both EPL 1453 and SSD 5109, the overpressure level from blasting operations must not exceed 115 dB (L) for more than 5% of the total number of blasts, at any residences or nearby receiver, and must not exceed 120 dB (L) at any time.

Ground vibration must not exceed 5 mm/s for 5% of the total number of blasts over a period of 12 months and must not exceed 10 mm/s at the nearby receiver.

6.4.3 Key Environmental Performance

Table 19 outlines the blast monitoring results at the Cooma Road Quarry during the Annual Review period.

Table 19: 2021 Blast Monitoring Results

Date	Time	Heffernans House		Jerrabomberra		Compliance Status
		Overpressure (dB)	Vibration (mm/s)	Overpressure (dB)	Vibration (mm/s)	
22/02/2021	12:12	84.6	0.71	92	0.95	Compliant
23/02/2021	12:06	104	0.61	88.2	0.34	Compliant
12/03/2021	12:16	111.5	1.06	88.2	0.82	Compliant
19/03/2021	11:41	101.5	0.54	97.7	0.33	Compliant
13/04/2021	12:22	101.4	2.04	111.5	0.93	Compliant
13/05/2021	13:18	103.2	1.62	DNT	DNT	Compliant
11/06/2021	11:29	110.6	1.11	106.6	0.8	Compliant
29/06/2021	10:44	96.2	1.7	DNT	DNT	Compliant
6/07/2021	11:36	112.9	1.11	94.9	0.57	Compliant

27/07/2021	11.43	105.3	1.6	96.4	1.2	Compliant
20/08/2021	13.01	100.5	0.94	DNT	DNT	Compliant
10/09/2021	12.32	110	0.33	96.1	2.14	Compliant
21/09/2021	10.36	DNT	DNT	DNT	DNT	Compliant
22/10/2021	12.24	DNT	DNT	88.9	0.49	Compliant
5/11/2021	11.54	110	0.33	104.4	0.5	Compliant

In summary:

- There were 15 blasts during 2021; and
- All blasts were compliant with the overpressure and vibration criteria.

Holcim alerts the nearest sensitive receivers within 24 hours of a proposed blast. This process is managed by the weighbridge staff who send a text message to the tenants the day before a planned blast is undertaken.

Long-term Trends:

Blasting levels from 2016 to 2021 measured at Heffernans House are compared in **Table 21**.

In 2016 there was a non-compliance relating to a blast result of 119.8 dB. Zero non-compliances for blasting occurred in the subsequent years including this report period.

Table 20: Long-term Blasting Trends

Year	Heffernans House				
	Number of Blasts	Max. Overpressure (dBL)	Average Overpressure (dBL)	Max Vibration (mm/s)	Average Vibration (mm/s)
2016	9	119.8	102.6	1.98	0.88
2017	32	113.5	101.4	4.34	0.75
2018	16	113.5	102.8	3.55	0.98
2019	25	114.7	102.5	4.00	1.12
2020	29	114.7	104.8	3.0	1.1
2021	15	112.9	104.0	2.0	1.1

Comparison to EIS Predictions:

The results for blasting in 2021 were within the predicted limits of the EIS.

6.4.4 Management Measures

Management measures relating to blasting are outlined within the Cooma Road Quarry Blast Management Plan. The Blast Management Plan provides a mechanism for assessing blast monitoring results against the relevant blast impact assessment criteria and outlines the control measures implemented as part of the continued operations of the quarry to minimise the potential for blast related impacts in the local community.

6.4.5 Proposed Improvements

Blast monitoring will continue in 2022 and all blasts will be reported in the Annual Review.

6.5 Traffic Management

6.5.1 EIS Predictions

The 2012 EIS predicted the increased traffic associated with the Project on the local road network to be satisfactory. On the wider network, the increase in traffic as a result of the Project was predicted to comprise a very small proportion of total traffic and be dispersed over a number of routes, resulting in relatively small increase in the overall traffic levels on these roads and intersections.

The Project was not predicted to have a negative impact on road safety.

The road upgrades were predicted to assist in managing/addressing future road safety issues associated with the overall future traffic growth on the road network, including the relatively small increase in traffic volumes due to the Project.

6.5.2 Approved Criteria

According to Schedule 2, Condition 13 of SSD 5109, for the life of the development, the Applicant must ensure that:

- No more than an average of 48 truck movements per hour occur collectively to and from the site on any day; and
- No more than 30 laden trucks per hour are dispatched from the site.

6.5.3 Key Environmental Performance

Holcim recorded daily truck movements and volumes transported throughout 2021. The site maintained compliance with the conditions for truck movements throughout 2021. A copy of the truck movements and transported quarry product recorded throughout 2021 are outlined in **Table 21**. A total of 969,026 tonnes of product was transported on and offsite during 2021. There were a higher number of truck movements in 2021 compared to 2020 due to lower tonnages being transported in 2021.

Table 21: Transport Tonnages 2021

Month	Transport Tonnages	Truck Movements
January	91,194	3640
February	107,012	3665
March	99,421	3860
April	91,016	3524
May	90,768	4523
June	71,904	3554
July	89,626	4795

Month	Transport Tonnages	Truck Movements
August	60,572	2927
September	70,414	3777
October	70,412	3917
November	62,151	3513
December	64,536	3204
Total	969,026	44,899

6.5.4 Management Measures

Traffic and transport impacts are managed in accordance with the specific management measures and controls within the Cooma Road Quarry Transport Management Plan.

6.5.5 Proposed Improvements

Truck movements will continue to be monitored and recorded in the oncoming reporting period to ensure that they remain within the approved criteria.

6.6 Biodiversity

6.6.1 EIS Predictions

Consideration of the proposal under Section 5A of the *Environment Planning and Assessment Act 1979* (EPBC Act) determined there was unlikely to be any significant impacts to species or communities listed in NSW.

The Project is also considered unlikely to result in a significant impact on EPBC Act listed species and communities, or on migratory species.

6.6.2 Approved Criteria

There are no specific criteria associated with biodiversity management for the site. The approved quarrying plan has been designed to include a number of biodiversity impact mitigation factors and rehabilitation design factors.

6.6.3 Key Environmental Performance

There was no additional clearing in the 2021 reporting period which limited the site's impacts to biodiversity.

Weed spraying continued in 2021. Maintenance of trees planted in 2017 continued in this reporting period. Holcim continued to collect boulders and fallen timber to promote increased habitat complexity in the site rehabilitation areas.

55 new nest boxes were installed in the 2021 reporting period. The following designs were installed in April 2021:

- 5 Large parrot nest boxes
- 16 Small parrot boxes
- 4 treecreeper nest boxes
- 8 Microbat nest boxes
- 9 Brushtail nest boxes
- 3 Ringtail nest boxes

- 10 Squirrel glider nest boxes.

6.6.4 Management Measures

The ongoing management of the ecological values of the Project area are required to be conducted in accordance with the Cooma Road Quarry Rehabilitation Management Plan. The plan outlines the control measures to be implemented as part of the continued operations at the Cooma Road Quarry. This includes minimising the potential impacts on biodiversity as a result of quarrying activities as well as risks associated with unsuccessful post-quarrying rehabilitation.

6.6.5 Proposed Improvements

During the 2022 reporting period Holcim will continue to manage weed species on the site.

Holcim will assess the need to carry out feral animal control and implement a program if required, however there have been no feral animal sightings to date.

Holcim will continue to salvage fallen timber and boulders to promote increased habitat complexity in the rehabilitation areas.

Nest box monitoring will continue into 2022 as per the Rehabilitation Management Plan.

6.7 Heritage (Aboriginal Archaeology and Historic Heritage)

6.7.1 EIS Predictions

6.7.1.1 Aboriginal Archaeology

The 2012 EIS and associated due diligence assessment found that due to the highly disturbed nature of the Project Area, the potential for subsurface Aboriginal artefacts in modified areas would be extremely low. No previously recorded sites were identified within the proposed disturbance area.

One isolated artefact, a silcrete broken flake (identified as Cooma Quarry 2), was located on the spur crest adjacent to the proposed infrastructure area. Holcim has committed that the Project will not impact on this site.

6.7.1.2 Historic Heritage

The known locally listed Moses Morley Kiln is the only heritage item/site to be identified within the Project Area.

The Historic Heritage Assessment conducted as part of the 2012 EIS determined the Project would not physically impact on the kiln and it would be very unlikely to impact on the identified heritage significance of the site.

The EIS did identify the potential for indirect impacts as the result of vibration associated with blasting and construction. Holcim implemented additional management measures for construction and blasting operations.

No other potential heritage items/sites were identified within the Project Area.

6.7.2 Approved Criteria

There are no specific criteria associated with heritage relating to the project. The process for managing any unexpected heritage items is outlined in the Heritage Management Plan.

6.7.3 Key Environmental Performance

There were no issues relating to Aboriginal and historic heritage during the reporting period.

6.7.4 Management Measures

Heritage impacts will continue to be monitored in accordance with the Heritage Management Plan.

6.7.5 Proposed Improvements

As there have been no Aboriginal heritage items located to date, no improvements to management measures are proposed.

6.8 Summary of Environmental Performance

A summary of the performance of environmental management measures and sampling results for 2021 are detailed in **Table 22**.

Table 22: Environmental Performance at Cooma Road Quarry in 2021

Aspect	Approval Criteria / EIS Prediction	Performance during the reporting period	Trend / key management implications	Implemented / proposed management actions
Noise	EIS predictions are all below development consent criteria.	Quarter 1- 4 monitoring has met the Development Consent Criteria.	Consistently meets criteria.	None Required.
Blasting	EIS predictions are all below development consent criteria.	Below criteria.	Below criteria from 2017 to 2021.	None required.
Air Quality	EIS predictions are all below development consent criteria.	Dust deposition results are within criteria of EPL, EIS and Development Consent. However, annual average depositional dust was not calculated using monthly samples across the reporting period due to vandalism to DDG4. The site was above the PM ₁₀ short term impact assessment criteria for one monitoring events in January 2021.	Dust deposition was consistent with EIS and previous Annual Reviews. PM ₁₀ data was generally consistent with the previous period.	Holcim will continue to refine the implementation of the air quality monitoring program and air quality management measures.
Traffic Management	EIS predictions are all below development consent criteria.	Met the Development Consent Criteria.	Consistently meets criteria.	None required.
Water Management	EIS predictions are all below development consent criteria.	No discharge. Groundwater monitoring commenced in quarter 2 of 2021.	Surface water generally meets criteria. There were no discharge events during 2021. Groundwater quality was generally compliant with trigger	Continued implementation of Water Management Plan.

Aspect	Approval Criteria / EIS Prediction	Performance during the reporting period	Trend / key management implications	Implemented / proposed management actions
			values. TDS levels were higher than trigger levels in 2021.	
Biodiversity	It is unlikely there will be any significant impacts to species or communities listed in NSW.	No additional impacts. Installation of nest boxes was completed in 2021.	Biodiversity monitoring has been consistent with the Rehabilitation Management Plan.	Implement the Rehabilitation Management Plan (2019).
Heritage	No predictions.	No impacts to Aboriginal Cultural Heritage or European Heritage.	Continued to be no impacts.	None Required.

7 WATER MANAGEMENT

Water management at the Cooma Road Quarry is undertaken in accordance with the Water Management Plan. The 2014 Water Management Plan (Umwelt) (WMP) was updated and significantly altered in July 2019. The updated WMP was approved by DPE 12 August 2019.

7.1 EIS Predictions

Section 5.3 of the EIS (2012) assessed impacts to local water systems. The Project is expected to have a negligible impact on annual flow volumes in Barracks Creek compared to the currently approved impacts. The Project will not impact on annual flow volumes within Jerrabomberra Creek. The Project is primarily located within the boundary of the existing water management system. The construction and operation of the Project will be consistent with the existing Water Management Plan and associated erosion and sediment controls. Therefore, it is considered that there will be negligible impact on water quality in downstream surface water systems. As such it is considered that the Project will result in no changes to the currently approved impacts.

Given both rock types (granite and dacite) quarried at the Cooma Road Quarry are relatively stable with respect to groundwater quality, there is no concern regarding the potential for the quarried material to affect groundwater quality.

7.2 Approved Criteria

Holcim are required to monitor surface water quality during discharge events at the Cooma Road Quarry licensed discharge point (LDP), in accordance with the requirements of EPL 1453 (provided in **Table 23**). These criteria only apply to water quality results when the site is discharging.

Table 23: Water Quality Criteria for the Cooma Road Quarry (EPL 1453) POINT 1

Pollutant	Units of Measure	100 percentile concentration limit
Oil and Grease	milligrams per litre	10
pH	pH	6.5-8.5
Total Suspended solids	milligrams per litre	50

7.3 Water Usage and Storage

Water storages utilised at the Cooma Road Quarry include:

- Extractive Area Sump;
- Granite Hole;
- Pump Dam;
- Sediment Interception Pond (SIP); and
- Discharge Pond

During this reporting period water has been used for use in crushing and screening and watering of haul roads. Water usage has continued to be recorded during this reporting period.

7.4 Surface Water Results

Holcim monitors surface water quality in Barracks Creek monthly.

All water monitoring results listed in **Table 24** are recorded from monitoring undertaken within the creek line, with there being no direct discharge to Barracks Creek in 2021.

Table 24: 2021 Water Monitoring Results (Barracks Creek)

Sample Date	Total Suspended Solids (mg/L)	pH	Oil and Grease	
			mg/L	Visual Inspection
January 4, 2021	8.4	7.96	5	Not Visible
February 5, 2021	7.4	7.31	5	Not Visible
March 9, 2021	1	8.7	5	Not Visible
April 7, 2021	5	8.5	5	Not Visible
May 5, 2021	8	8.3	5	Not Visible
June 3, 2021	100	8.2	12	Not Visible
July 2, 2021	4.8	8.4	5	Not Visible
August 3, 2021	23	8.1	15	Not Visible
September 3, 2021	13	8.2	12	Not Visible
October 5, 2021	7.8	8.5	20	Not Visible
November 5, 2021	5	8.8	5	Not Visible
December 7, 2021	260	8.2	5	Not Visible
Average	36.95	8.26	8.25	Not Visible (12)

The 2021 surface water monitoring results were generally compliant with EPL criteria.

Total suspended solids (TSS) were considerably below the criteria levels in 2021, with the exception of the June and December samples. The TSS results in June and December 2021 exceeded the criteria level.

Generally, pH was neutral and within the criteria range in 2021. The water was slightly alkaline in March and November, when the pH values exceeded the criteria level of 8.5.

Oil and grease was higher than the EPL criteria in June, August, September, and October 2021 samples, but remained non-visible.

There were no discharges into Barrack's Creek in 2021, therefore no non-compliances with Condition L2.4.

Long-term Trends:

A comparison of data between 2016 and 2021 indicated that results for pH, total oil and grease and suspended solids are generally within the EPL criteria. Previous exceedances included one result in 2016 and one result in 2017 for pH. There was a small increase in the average pH sampled in 2021 compared to previous years. Oil and grease levels were greater in 2021 than seen in previous years. The average TSS reduced in 2021 compared to the 2020 average.

It should be noted that rainfall was higher in 2021 than in 2020, and high rainfall events may have impacted results.

There was no discharge events in 2016-2021, therefore the EPL criteria are not relevant.

Table 25: Long-term Water Monitoring Barracks Creek

Year	pH Average	Oil and Grease Average (mg/L)	TSS Average (mg/L)
2016	7.4	<1	2.5
2017	7.5	<1	2.6
2018	7.5	<1	4.75
2019	7.5	<1	5.0
2020	7.7	5.58	53.08
2021	8.3	8.25	36.95

Comparison to EIS Predictions:

There was no evidence of any detrimental impact from the Quarry on surface water. This is consistent with the EIS predictions.

7.5 Groundwater

Holcim notes in a letter from the DPE on 14 May 2018 that groundwater monitoring is required by Holcim at Cooma Road. Groundwater monitoring is required in accordance with the WMP.

A groundwater assessment by Coffey Geotechnics (2012) concluded that the operation of Cooma Road Quarry is not considered to have a significant impact on the regional groundwater resources, as:

- The quarry site is in a tight rock formation where no meaningful groundwater extractions can be attained;
- Quarrying activities do not impact on a viable aquifer;
- The volume of groundwater affected by the Cooma Road Quarry is limited to the exposed water table in the granite pit;
- Interaction of the granite pit with regional groundwater is very limited; and
- The maximum extraction depth will not be increased.

Cooma Road Quarry has committed to the following to establish a regular groundwater monitoring system:

- Drilling of MB01 and MB02 bores;
- Casing and installation of piezometer;
- Obtain quarterly land access to bores with neighbors for access to GW400534 and GW 416130 for monitoring;
- Add groundwater monitoring to contractors quarterly environmental monitoring program;
- Update the Water Management Plan accordingly; and
- Engage consultant over the 24 months to set trigger values based quarterly level monitoring.

The Cooma Road Water Management Plan was revised in 2019 and outlines a groundwater monitoring program for quarterly groundwater depth and quality at four monitoring bores to be drilled. Groundwater assessment monitoring occurred in 2020 to establish criteria for the Water Management Plan. The groundwater bore drilling program continued into 2021. Groundwater trigger levels are to be set after 24 months of monitoring and a routine groundwater monitoring program will be implemented by 2022.

In summary, Cooma Road has commenced works to create a groundwater monitoring program by undertaking a groundwater assessment. Groundwater monitoring as per the WMP was not undertaken in 2021, which is a non-compliance with the Development Consent. Groundwater monitoring was not undertaken due to being in the planning and assessment phase. Groundwater monitoring will commence in future reporting periods in accordance with the WMP.

A total of four bores were installed in early 2021. Quarterly groundwater monitoring commenced in June 2021 as per the previous Annual Review.

7.5.1 Groundwater Performance

Schedule 3 Condition 20 of the Consent requires Cooma to create and implement a groundwater monitoring program. Groundwater results for 2021 were compared to the trigger values in the Water Management Plan, outlined in **Table 26**.

Table 26: Interim Groundwater Quality Trigger Values (Water Management Plan)

Parameter	Unit	Trigger Values
pH	-	6.5 to 8.5 ¹
Electrical Conductivity (EC)	µS/cm	125-2200 ¹
Total Dissolved Solids (TDS)	mg/L	600 ²

Notes:

1. Based on default trigger values for slightly to moderately disturbed lowland river systems for south east Australia in the ANZECC 2000 Guidelines.
2. Based on *Groundwater Assessment Cooma Road Quarry* (Coffey, 2012)

Cooma Road began groundwater monitoring in June 2021 at the pre-existing bores (GW400534 and GW416130) and the newly installed bores (MB01 and MB02). Groundwater monitoring commenced immediately after the installation of bores MB01 and MB02. The monitoring results for 2021 are presented in **Table 27**.

Table 27: Groundwater Monitoring Results 2021

Sampling Period	Monitoring Location	pH	Total Dissolved Solids (TDS)	Electrical Conductivity (µS/cm)
Quarter 2 (3/6/2021)	MB01	7.1	814	1270
	MB02	7.1	832	1300
	GW400534	7.1	616	963
	GW416130	6.7	1290	2020
Quarter 3 (4/8/2021)	MB01	7.1	1050	1640
	MB02	7.1	1020	1600
	GW400534	7.0	646	1010
	GW416130	6.7	1680	2620
Quarter 4 (7/12/2021)	MB01	7.1	787	1230
	MB02	7.0	432	675
	GW400534	6.9	353	552
	GW416130	6.7	1220	1910

All groundwater monitoring results for pH in 2021 were within the trigger levels.

TDS levels were greater than the trigger values for the majority of samples at all bores. TDS levels decreased to within trigger levels in quarter 4 of 2021 at MB02 and GW400534.

Electrical conductivity levels were within the trigger values for all sampling events at GW400534, MB01 and MB02. There was one exceedance in the trigger values at GW416130 in August 2021, with a result of 2620 µS/cm.

Because these trigger values are based on the ANZECC Guideline values, these exceedances are not considered to be non-compliances for the groundwater at site.

Holcim will continue to perform groundwater monitoring in 2022.

7.6 Water Take

Table 28 outlines the water take at the Cooma Road Quarry in 2021. The water take was within the limits of the water access licence requirement.

Table 28: 2021 Water Take

Water Licence Number	Entitlement	Water Usage During 2021	Water Usage During 2020	Water Usage During 2019	Water Usage During 2018	Water Usage During 2017
40SL27690	98 ML	31ML	36ML	70ML	60ML	48ML

8 REHABILITATION AND LANDSCAPE MANAGEMENT

The site is required to undertake biodiversity and rehabilitation in accordance with the requirements in Table 29.

Table 29: Rehabilitation Requirements for Cooma Road Quarry (SSD 5109)

Rehabilitation Objectives	
<p>22. The Applicant must rehabilitate the site to the satisfaction of the Secretary. This rehabilitation must be generally consistent with the proposed rehabilitation strategy in the EIS and Appendix 7, and comply with the objectives in Table 7.</p> <p>Rehabilitation Objectives</p>	
Feature	Objectives
Site (as a whole)	Safe, stable and non-polluting
Surface Infrastructure	To be decommissioned and removed (unless otherwise agreed with the Secretary)
Benched Quarry Walls	Landscaped and revegetated utilising native tree and understory species, ensuring that the tree canopy is restored and integrated with the surrounding canopy to minimise visual impacts
Quarry Pit Floors	Landscaped and revegetated utilising native flora species, above the anticipated final void water level
Other land affected by the development	Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of: <ul style="list-style-type: none"> - Native endemic species: ad - A landform consistent with Appendix 7 and the surrounding environment
Community	<ul style="list-style-type: none"> • Ensure public safety • Minimise the adverse socio-economic effects associated with the closure of the development

Note: Revegetation of existing and proposed industrial areas is not required

Progressive Rehabilitation

23. The Applicant must rehabilitation the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready to final rehabilitation.

Rehabilitation and biodiversity management strategies, procedures, controls and monitoring programs at the Cooma Road Quarry are undertaken in accordance with the Rehabilitation Management Plan. The Rehabilitation Management Plan is available on the Holcim Community Link website.

8.1 Rehabilitation Performance during the Reporting Period

There was no rehabilitation undertaken during 2021. Existing rehabilitation areas continue to be inspected and maintained. See **Table 30** for details of rehabilitation performance.

Table 30: Rehabilitation Performance in 2021

Guideline Requirement	Site Comment
Extent of the operations and rehabilitation at completion of the reporting period	No rehabilitation completed. Inspections were completed of the rehabilitation area. Rehabilitation monitoring was conducted on two occasions in 2021.
Agreed post-rehabilitation land use	The final rehabilitation at the Cooma Road Quarry will consist of a woodland/grassland revegetation mix.
Key rehabilitation performance indicators	See Section 4 of the Rehabilitation Management Plan.
Renovation or removal of buildings	No renovation or removal of buildings occurred in 2021. Relocation of workshop proposed for 2022.
Any other Rehabilitation Taken including: <ul style="list-style-type: none"> • Exploration activities; • Infrastructure; • Dams; and • The installation or maintenance of fences, bunds and any other works. 	No rehabilitation completed in 2021 relating to exploration, infrastructure, or dams.
Any rehabilitation areas which have received formal sign off from the Resources Regulator	No rehabilitation has received signoff.
Variations to activities undertaken to those proposed (including why there were variations and whether the Resources Regulator was notified)	Rehabilitation activities were undertaken as per the Rehabilitation Management Plan.
Outcomes of trials, research projects and other initiatives.	No trials proposed.
Key issues that may affect successful rehabilitation	There are several potential issues that can affect rehabilitation including availability of material, seed stock, climatic events, and rehabilitation methodology.

8.2 Summary of Current Rehabilitation and Performance

A summary of the rehabilitation and disturbance status of Cooma Road Quarry is outlined in **Table 31** and **Figure 3**.

Table 31: Rehabilitation and Disturbance Status

Quarry Area Type	2018 (ha)	2019 (ha)	2020 (ha)	2021 (ha)	Proposed for 2022 (ha)
A. Total Quarry Footprint ¹	0	0	0	0	0
B. Total Active Disturbance ²	71.5	71.5	71.5	71.5	72.5
C. Land Being Prepared for Rehabilitation ³	0	0	0	0.5	0
D. Land Under Active Rehabilitation ⁴	7.6	7.6	7.6	7.6	9.6
E. Completed Rehabilitation ⁵	0	0	0	0	0

1 Total disturbance and rehabilitation.

2 Total disturbance within the Project Approval boundary

3 Rehabilitation that is being shaped in a phase of decommissioning, landform establishment and growth medium development.

4 rehabilitation under a phase of ecosystem and land use establishment or ecosystem and land use sustainability

5 This refers to rehabilitation that has been signed off from the DRG.

At the end of 2021 there was approximately 71.5 Ha of active disturbance and 7.6 Ha of active rehabilitation. There was no further disturbance or rehabilitation preparation activities done in 2021. Cooma Road Quarry is proposing to prepare 0.5 ha for rehabilitation for the next reporting period. Rehabilitation maintenance will be continued into 2022.

Rehabilitation monitoring continued in Winter and Spring in 2021.

8.3 Actions for the Next Reporting Period

The DPE 2015 *Annual Review Guidelines* require the Annual Review to outline the rehabilitation actions proposed during the next reporting period. These actions are detailed in **Table 31**.

Table 32: Rehabilitation and Closure Actions for the 2022 Reporting Period

Requirement	Site Comment
Describe the steps to be undertaken to progress agreement during next reporting period, where final rehabilitation outcomes have not yet been agreed between stakeholders	2 ha to be prepared for rehabilitation in 2022. The proposed area is still being finalized.
Outline proposed rehabilitation trials, research projects and other initiatives to be undertaken during next reporting period	No further trials are proposed.
Summary of rehabilitation activities proposed for next report period	The maintenance of existing and new rehabilitation will continue in 2022.

	Rehabilitation monitoring is to continue into 2022 in order to meet Condition 24 of Schedule 3 of the Development Consent.
--	----------------------------------------------------------------------------------------------------------------------------

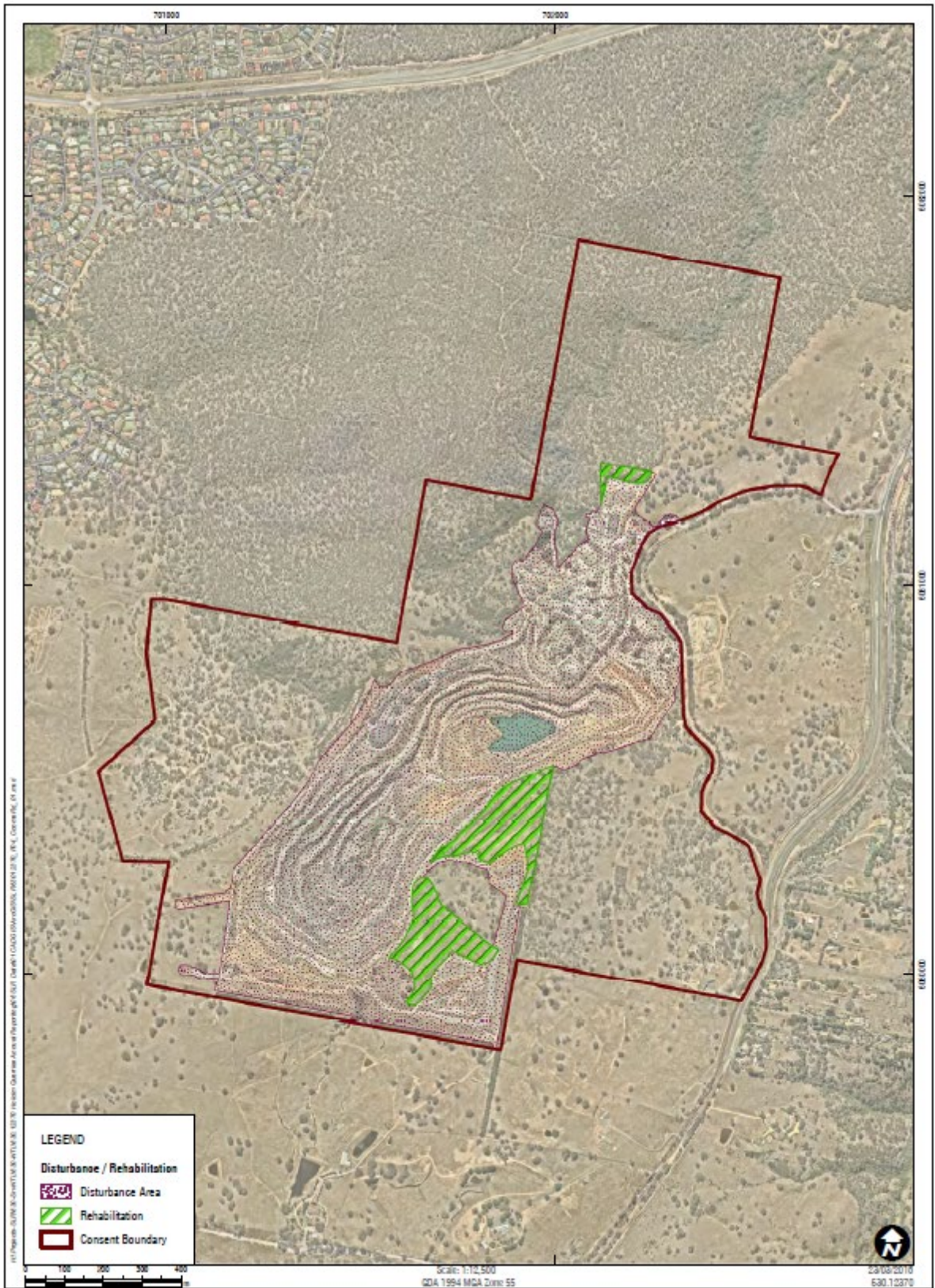


Figure 3: Current Disturbance and Rehabilitation

9 WASTE MANAGEMENT

The waste streams at Cooma Road Quarry are categorised as:

- General waste
- Recyclables such as cardboard and paper
- Scrap steel
- Oils, greases, and filters.

There are three 2m³ general waste bins and one 1.5m³ recycling bin on site which are serviced weekly by contractors. Waste oil, grease, and associated filters are disposed of in a 44-gallon drum which is inspected monthly.

During the 2019 Annual Review period Cooma Road Quarry became an accredited Smart Waste organisation. Cooma Road Quarry continues to demonstrate a commitment to improving the efficiency of their waste streams.

Cooma Road Quarry receives and processes waste concrete as per Schedule 2 Condition 14 of the Development Consent. This condition limits the intake of recycled concrete up to 10,000 tonnes per calendar year. The site is compliant with this condition due to receiving 3,491.77 tonnes of recycled concrete in 2021. This is less than the amount received and processed in 2020.

10 COMMUNITY

10.1 Community Engagement Activities

Holcim has maintained community engagement measures during the reporting period by undertaking the following activities in accordance with Schedule 5 Condition 6 of the Development Consent:

- Maintenance of a website (containing publicly available documents);
- A telephone number, email and postal address (on the website) for community complaints and feedback;
- A copy of the Complaints Register is maintained on the company website; and
- All documents and items displayed on the website are regularly updated by Holcim staff.

Schedule 5 Condition 6 also requires the establishment and operation of a Community Consultative Committee (CCC) for Cooma Road Quarry. The Cooma Road Quarry CCC was established in May 2014.

CCC meetings were held in the reporting period on 19th April 2021 and 19th July 2021.

Past community engagement activities have included open days, attendance at resident's association meetings and provision of materials for local projects. Whilst there were no community engagement days held in the reporting period, residents or groups are welcome to contact the Quarry to arrange tours.

In addition to the CCC, Holcim prepared a Community Engagement Plan in 2016 to establish two-way communication with the community. Holcim understands that an integral part of ensuring the continuing success of the quarry operations is the fostering of positive community relations through effective two-way communications and through the promotion of a positive public image.

The Cooma Road Quarry has an extensive program for engagement with the local Ngambri Land Council including employment of indigenous workers for maintenance and housekeeping activities, assistance in the start-up of a local native nursery and guidance on the establishment of a construction materials haulage company utilising indigenous workers.

10.2 Community Contributions

There were no specific community contributions in 2021.

10.3 Complaints

A complaint register is updated and published on the Holcim website quarterly. There was one community complaint received in 2021. In the previous report period, a complaint was received on 8 December 2020 concerning traffic, however this was closed out.

All publicly listed information including this 2021 complaints register, incidents and contacts for locals in the community is available at <http://www.holcim.com.au/cooma-road.html>. Holcim continue to operate a community contact line (02 6297 2211).

11 INDEPENDENT AUDIT

The most recent Independent Environmental Audit (IEA) was undertaken by EMM Consulting Pty Ltd on behalf of Holcim in July 2021 as required in accordance with Schedule 5, Condition 10 of the Development Consent (SSD_5109) – MOD 1 for the quarry. This was the third IEA, with the previous IEA completed in 2017. The IEA is attached to this Annual Review in **Appendix 2**.

DPE acknowledged the 2021 IEA Report by letter on 22 August 2021, indicating it generally met the requirements of the Consent and DPE.

12 INCIDENTS AND NON-COMPLIANCE

Incidents and non-compliances at Cooma Road Quarry in 2021 are summarised in **Table 32**.

Table 33: Incidents and Non-Compliance at the Cooma Road Quarry During 2021

Date	Incident/Non-Compliance	Action/Comment
July 2021	Air Quality Monitoring	DDG4 July 2021 result could not be retrieved due to the funnel being missing from this gauge when sampling was attempted. This was suspected to be the result of vandalism.
January 2021	Above Short Term PM ₁₀ Criteria	The site was above the PM ₁₀ short term impact assessment criteria for one monitoring event on 2 January 2021. This has been recorded as an exceedance, but the site was not a big factor.
Quarter 1	Groundwater Monitoring	Groundwater monitoring was not undertaken in Quarter 1 2021. This was due to planning and installation of bores still occurring at that time. Groundwater monitoring as per the WMP commenced in Quarter 2 2021.

13 ACTIVITIES TO BE COMPLETED IN THE NEXT REPORTING PERIOD

Proposed improvement actions for 2022 are noted in **Table 33**.

Table 34: Improvement Actions for 2022

Improvement Measure	Activities	Timeframe
Progressive Rehabilitation	The site will continue to progressively rehabilitate available areas.	Ongoing
Maintenance of rehabilitation	Continued maintenance of rehabilitation in the completed overburden dump in the south-western disturbance area including weed control as well as nest box monitoring.	Ongoing.
IEA Action Plan	The site will continue to close out recommendations from the 2021 IEA.	Ongoing.
Biodiversity	Weed spraying will continue at site during the next Annual Review period. Implementation of the Rehabilitation Management Plan.	Annually.

14 APPENDICES

APPENDIX 1

COOMA ROAD QUARRY QUARTERLY NOISE MONITORING REPORTS 2021

Noise Monitoring Assessment

Cooma Road Quarry, Googong, NSW
Quarter 1 Ending March 2021.

Document Information

Noise Monitoring Assessment

Cooma Road Quarry, Googong, NSW

Quarter 1 Ending March 2021

Prepared for: Holcim (Australia) Pty Ltd



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APPENDIX A - GLOSSARY OF TERMS

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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by Holcim (Australia) Pty Ltd (Holcim) to complete a Noise Monitoring Assessment (NMA) for Cooma Road Quarry the 'quarry', Googong, NSW.

The monitoring has been conducted in accordance with the quarry Noise Management Plan and in general accordance with Development Consent (SSD-5109); at five representative monitoring locations. This assessment has been undertaken for the quarterly period ending March 2021 and forms part of the annual noise monitoring program for the quarry.

The assessment has been conducted in accordance with the following documents:

- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- Cooma Road Quarry, Noise Management Plan (NMP), 2014;
- Development Consent SSD-5109; and
- Australian Standard AS 1055:2018 - Acoustics - Description and measurement of environmental noise.

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

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2 Noise Criteria

Schedule 3, Condition 4 of the Cooma Road Quarry Development Consent, approved on 27 September 2013, outlines the applicable noise criteria for residential receivers N1 – N71 surrounding the quarry and are presented in **Table 1**.

Table 1 Noise Criteria			
Receivers	Morning Shoulder	Day	Evening
	6am – 7am	7am – 6pm	6pm – 10pm
	dB LAeq(15min)	dB LAeq(15min)	dB LAeq(15min)
N1, N7, N8, N56, N57, N59, N63, N64, N65	40	44	39
N67	36	41	35
All other Receivers between N9 and N71 inclusive	36	38	35
All other Receivers	35	35	35

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

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3 Methodology

3.1 Locality

The quarry is located in Googong, NSW approximately 13km south east of Canberra, ACT. The quarry is bounded primarily by rural and residential properties in all directions, with noise from passing road traffic on Old Cooma Road dominating the acoustic environment for receivers to the east of the quarry. The monitoring locations with respect to the quarry and assessed receivers are presented in the locality plan shown in **Figure 1**.

3.2 Noise Monitoring Locations

Five monitoring locations have been selected as part of the NMA and in accordance with the Development Consent.

Location N3 is to the west of the quarry situated on a rural property off Copperfield Place. This location represents residential and rural receivers to the west of the quarry.

Location N8 is to the north east of the quarry along Tempe Crescent and is representative of residential receivers in that area.

Location N38 is on Heights Road and is representative of the elevated residential receivers to the east of the quarry.

Location N60 is at 501 Old Cooma Road and represents the residence adjacent to the quarry access road.

Location N67 is situated on a rural property at 732 Old Cooma Road to the south of the quarry. This is representative of rural and residential receivers to the south, with direct line of site into the quarry pit.

3.3 Assessment Methodology

Attended noise surveys were conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise" and the EPL. Measurements were carried out using Svantek Type 1, 971 noise analysers from Tuesday 9 February 2021 to Thursday 11 February 2021. The acoustic instrumentation used carries current NATA calibration and complies with AS IEC 61672.1-2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed ± 0.5 dBA.

Noise measurements were of 15-minutes in duration and where possible, throughout each survey the operator quantified the contribution of each significant noise source. One measurement was conducted at each monitoring location during the day, evening and morning shoulder periods.

Extraneous noise sources were excluded from the analysis to calculate the $L_{Aeq}(15min)$ quarry noise contribution for comparison against the relevant criteria.

Where the quarry is inaudible, the contribution is estimated to be at least 10dBA below the ambient noise level.



FIGURE 1
Site Locality
MAC180611-03
Holcim Cooma Road Quarry

KEY

● Noise Monitoring Locations

0 100 200 300 400 500 m

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4 Results

4.1 Assessment Results - Location N3

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N3 for the NMA are presented in **Table 2**.

Table 2 Operator-Attended Noise Survey Results – Location N3						
Date	Time (hrs)	Descriptor (dBA re 20 μ Pa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
10/02/2021	10:24 (Day)	60	37	31	WD: S WS: 0.5m/s Rain: Nil	Traffic 30-40
						Birds 27-60 Residential Noise 33-38 Quarry Not Audible
Cooma Road Quarry L _{Aeq} (15min) Contribution						<30
09/02/2021	18:59 (Evening)	62	40	31	WD: SE WS: 1.0m/s Rain: Nil	Traffic 30-38
						Birds 27-53 Aircraft 30-62 Wind 27-35 Quarry Not Audible
Cooma Road Quarry L _{Aeq} (15min) Contribution						Quarry Not Operating
10/02/2021	06:37 (Morning Shoulder)	60	39	32	WD: W WS: 0.1m/s Rain: Nil	Birds 28-60
						Traffic 31-38 Quarry Not Audible
Cooma Road Quarry L _{Aeq} (15min) Contribution						<30

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.2 Assessment Results - Location N8

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N8 for the NMA are presented in **Table 3**.

Table 3 Operator-Attended Noise Survey Results – Location N8						
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
10/02/2021	09:10 (Day)	77	55	45	WD: S	Traffic 37-77
					WS: <0.5m/s	Birds 34-50
					Rain: Nil	Quarry Not Audible
Cooma Road Quarry L _{Aeq} (15min) Contribution						<35
09/02/2021	18:33 (Evening)	65	46	33	WD: SE	Traffic 28-65
					WS: 0.5m/s	Insects <28-30
					Rain: Nil	Dogs 33-46
Cooma Road Quarry L _{Aeq} (15min) Contribution						Quarry Not Operating
11/02/2021	06:38 (Morning Shoulder)	67	54	47	WD: S	Traffic 38-67
					WS: 0.1m/s	Birds 35-55
					Rain: Nil	Quarry – Vehicles Enter/Exit <35-54 (4 movements, 2-3 minute total duration)
Cooma Road Quarry L _{Aeq} (15min) Contribution						<35

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.3 Assessment Results - Location N38

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N38 for the NMA are presented in **Table 4**.

Table 4 Operator-Attended Noise Survey Results – Location N38						
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
10/2/2021	08:52	80	57	43	WD: S	Traffic 33-80
	(Day)				WS: <0.5m/s	Birds 30-54
					Rain: Nil	Dog Barking 48-63
						Quarry Not Audible
		Cooma Road Quarry L _{Aeq} (15min) Contribution				<35
09/02/2021	20:13	65	53	51	WD: E	Traffic <45-50
	(Evening)				WS: 0.5m/s	Birds 45-65
					Rain: Nil	Insects 48-54
						Quarry Not Audible
		Cooma Road Quarry L _{Aeq} (15min) Contribution				Quarry Not Operating
11/02/2021	06:19	74	52	43	WD: S	Traffic 36-69
	(Morning				WS: 0.1m/s	Birds 33-74
	Shoulder)				Rain: Nil	Quarry Not Audible
		Cooma Road Quarry L _{Aeq} (15min) Contribution				<35

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.4 Assessment Results - Location N60

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N60 for the NMA are presented in **Table 5**.

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
10/02/2021	09:58 (Day)	79	60	44	WD: S WS: <0.5m/s Rain: Nil	Traffic 34-79
						Birds 30-44
Cooma Road Quarry L _{Aeq} (15min) Contribution						<38
09/02/2021	19:53 (Evening)	69	54	42	WD: E WS: 1.0m/s Rain: Nil	Traffic 36-69
						Birds 35-51
Cooma Road Quarry L _{Aeq} (15min) Contribution						Quarry Not Operating
11/02/2021	06:00 (Morning Shoulder)	73	58	38	WD: S WS: 0.1m/s Rain: Nil	Birds 30-42
						Traffic 33-73
Cooma Road Quarry L _{Aeq} (15min) Contribution						<35

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.5 Assessment Results - Location N67

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N67 for the NMA are presented in **Table 6**.

Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
10/02/2021	09:34 (Day)	53	36	30	WD: S WS: 0.5m/s Rain: Nil	Traffic 27-44
						Birds 25-41
Cooma Road Quarry L _{Aeq} (15min) Contribution						30
09/02/2021	19:30 (Evening)	59	39	33	WD: SE WS: 1.0m/s Rain: Nil	Traffic 30-41
						Birds 27-59
Cooma Road Quarry L _{Aeq} (15min) Contribution						Quarry Not Operating
10/02/2021	06:04 (Morning Shoulder)	57	35	29	WD: N WS: 0.1m/s Rain: Nil	Traffic 25-39
						Insects 26-31
Cooma Road Quarry L _{Aeq} (15min) Contribution						29

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

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5 Discussion

5.1 Discussion of Results - Location N3

Quarry noise was inaudible during daytime and morning shoulder measurements. Quarry noise contributions were estimated to satisfy the relevant morning shoulder and daytime criteria. The quarry was not operational during the evening period therefore satisfying the evening criteria of 35dB LAeq(15min).

Extraneous noise sources audible during the survey included distant traffic, aircraft, wind in trees, residential noise and birds.

5.2 Discussion of Results - Location N8

Noise levels were dominated by generally constant traffic on Old Cooma Road during all measurements. Quarry noise was inaudible during breaks in traffic for daytime period with quarry noise contributions estimated to satisfy the relevant daytime criteria. Quarry noise was occasionally audible for the morning shoulder period however quarry noise contributions satisfied the relevant morning shoulder criteria. The quarry was not operational during the evening period therefore satisfying the evening noise limit of 39dB LAeq(15min).

Quarry noise sources included trucks entering and exiting the site. Extraneous noise sources audible during the survey included traffic, birds, dogs barking and local residential noise.

5.3 Discussion of Results - Location N38

Noise levels were dominated by generally constant traffic on Old Cooma Road during all measurements. Quarry noise was inaudible during breaks in traffic for daytime and morning shoulder periods. Quarry noise contributions were estimated to satisfy the relevant morning shoulder and daytime criteria. The quarry was not operational during the evening period therefore satisfying the evening criteria of 35dB LAeq(15min).

Extraneous noise sources audible during the survey included insects, traffic, birds, aircraft and dogs barking.

5.4 Discussion of Results - Location N60

Noise levels were dominated by generally constant traffic on Old Cooma Road during all measurements. Quarry noise was occasionally audible for the daytime period however quarry noise contributions satisfied the relevant daytime criteria. Quarry noise was inaudible during breaks in traffic for morning shoulder period with quarry noise contributions estimated to satisfy the relevant morning shoulder criteria. The quarry was not operational during the evening period therefore satisfying the evening criteria of 35dB LAeq(15min).

Quarry noise sources included haul trucks and reverse alarms. Extraneous noise sources audible during the survey included traffic, aircraft, insects, and birds.

5.5 Discussion of Results - Location N67

Quarry noise emissions were just audible during the day time and morning shoulder measurement. Quarry noise contributions satisfied the relevant morning shoulder and daytime criteria. It is noted that the quarry was not operational during the evening period, therefore satisfying the evening noise limit of 35dB LAeq(15min).

Quarry noise sources included mobile plant and reverse alarms. Extraneous noise sources audible during the survey included distant traffic, birds, aircraft, wind in trees and insects.

6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment (NMA) for Holcim (Australia) Pty Ltd at the Cooma Road Quarry, Googong, NSW. The assessment was completed to assess the quarry's compliance with the relevant noise criteria outlined in their Development Consent for residential receivers surrounding the quarry.

Attended monitoring was undertaken from Tuesday 9 February 2021 to Thursday 11 February 2021 at five representative monitoring locations. The assessment has identified that noise emissions generated by Cooma Road Quarry comply with relevant noise criteria specified in the Development Consent at all assessed residential receivers for the quarterly period ending March 2021.

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Appendix A - Glossary of Terms

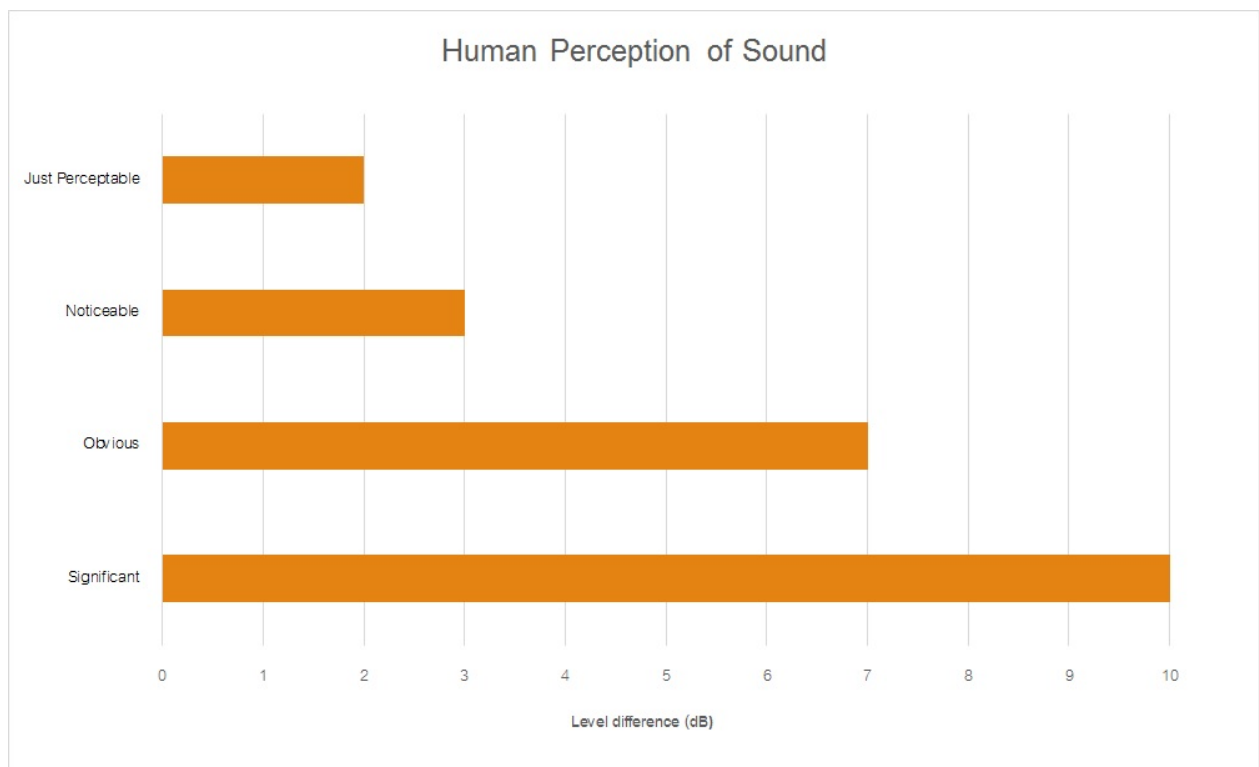
Table A1 provides a number of technical terms have been used in this report.

Table A1 Glossary of Terms	
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured LA90 statistical noise levels.
Adverse Weather	Weather effects that enhance noise (that is, wind and temperature inversions) that occur at a site for a significant period of time (that is, wind occurring more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of the nights in winter).
Ambient Noise	The noise associated with a given environment. Typically a composite of sounds from many sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to noise.
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Linear or decibels Z-weighted.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A noise level which is exceeded 10 % of the time. It is approximately equivalent to the average of maximum noise levels.
LA90	Commonly referred to as the background noise, this is the level exceeded 90 % of the time.
LAeq	The summation of noise over a selected period of time. It is the energy average noise from a source, and is the equivalent continuous sound pressure level over a given period.
LAm _{ax}	The maximum root mean squared (rms) sound pressure level received at the microphone during a measuring interval.
RBL	The Rating Background Level (RBL) is an overall single figure background level representing each assessment period over the whole monitoring period. The RBL is used to determine the intrusiveness criteria for noise assessment purposes and is the median of the ABL's.
Sound power level (LW)	This is a measure of the total power radiated by a source. The sound power of a source is a fundamental location of the source and is independent of the surrounding environment. Or a measure of the energy emitted from a source as sound and is given by : $= 10 \cdot \log_{10} (W/W_0)$ Where : W is the sound power in watts and W ₀ is the sound reference power at 10-12 watts.

Table A2 provides a list of common noise sources and their typical sound level.

Table A2 Common Noise Sources and Their Typical Sound Pressure Levels (SPL), dBA	
Source	Typical Sound Level
Threshold of pain	140
Jet engine	130
Hydraulic hammer	120
Chainsaw	110
Industrial workshop	100
Lawn-mower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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Noise Monitoring Assessment

Cooma Road Quarry, Googong, NSW
Quarter 2 Ending June 2021.

Document Information

Noise Monitoring Assessment

Cooma Road Quarry, Googong, NSW

Quarter 2 Ending June 2021

Prepared for: Holcim (Australia) Pty Ltd



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MAC180611-03RP12	Final	29 April 2021	Nicholas Shipman		Rod Linnett	

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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by Holcim (Australia) Pty Ltd (Holcim) to complete a Noise Monitoring Assessment (NMA) for Cooma Road Quarry the 'quarry', Googong, NSW.

The monitoring has been conducted in accordance with the quarry Noise Management Plan and in general accordance with Development Consent (SSD-5109); at five representative monitoring locations. This assessment has been undertaken for the quarterly period ending June 2021 and forms part of the annual noise monitoring program for the quarry.

The assessment has been conducted in accordance with the following documents:

- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- Cooma Road Quarry, Noise Management Plan (NMP), 2014;
- Development Consent SSD-5109; and
- Australian Standard AS 1055:2018 - Acoustics - Description and measurement of environmental noise.

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

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2 Noise Criteria

Schedule 3, Condition 4 of the Cooma Road Quarry Development Consent, approved on 27 September 2013, outlines the applicable noise criteria for residential receivers N1 – N71 surrounding the quarry and are presented in **Table 1**.

Table 1 Noise Criteria			
Receivers	Morning Shoulder	Day	Evening
	6am – 7am	7am – 6pm	6pm – 10pm
	dB LAeq(15min)	dB LAeq(15min)	dB LAeq(15min)
N1, N7, N8, N56, N57, N59, N63, N64, N65	40	44	39
N67	36	41	35
All other Receivers between N9 and N71 inclusive	36	38	35
All other Receivers	35	35	35

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

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3 Methodology

3.1 Locality

The quarry is located in Googong, NSW approximately 13km south east of Canberra, ACT. The quarry is bounded primarily by rural and residential properties in all directions, with noise from passing road traffic on Old Cooma Road dominating the acoustic environment for receivers to the east of the quarry. The monitoring locations with respect to the quarry and assessed receivers are presented in the locality plan shown in **Figure 1**.

3.2 Noise Monitoring Locations

Five monitoring locations have been selected as part of the NMA and in accordance with the Development Consent.

Location N3 is to the west of the quarry situated on a rural property off Copperfield Place. This location represents residential and rural receivers to the west of the quarry.

Location N8 is to the north east of the quarry along Tempe Crescent and is representative of residential receivers in that area.

Location N38 is on Heights Road and is representative of the elevated residential receivers to the east of the quarry.

Location N60 is at 501 Old Cooma Road and represents the residence adjacent to the quarry access road.

Location N67 is situated on a rural property at 732 Old Cooma Road to the south of the quarry. This is representative of rural and residential receivers to the south, with direct line of site into the quarry pit.

3.3 Assessment Methodology

Attended noise surveys were conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise" and the EPL. Measurements were carried out using Svantek Type 1, 971 noise analysers from Wednesday 21 April 2021 to Thursday 22 April 2021. The acoustic instrumentation used carries current NATA calibration and complies with AS IEC 61672.1-2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed ± 0.5 dBA.

Noise measurements were of 15-minutes in duration and where possible, throughout each survey the operator quantified the contribution of each significant noise source. One measurement was conducted at each monitoring location during the day, evening and morning shoulder periods.

Extraneous noise sources were excluded from the analysis to calculate the $L_{Aeq}(15min)$ quarry noise contribution for comparison against the relevant criteria.

Where the quarry is inaudible, the contribution is estimated to be at least 10dBA below the ambient noise level.



FIGURE 1
Site Locality
MAC180611-03
Holcim Cooma Road Quarry

KEY

● Noise Monitoring Locations

0 100 200 300 400 500 m

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4 Results

4.1 Assessment Results - Location N3

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N3 for the NMA are presented in **Table 2**.

Table 2 Operator-Attended Noise Survey Results – Location N3						
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
21/04/2021	08:45 (Day)	72	47	38	WD: S WS: 2m/s Rain: Nil	Wind 40-48
						Dogs 52-72
						Traffic 40-42
						Aircraft 44-59
Cooma Road Quarry L _{Aeq} (15min) Contribution						<30
21/04/2021	18:24 (Evening)	60	43	40	WD: N WS: 0.1m/s Rain: Nil	Traffic 39-60
						Dogs <42
						Quarry Not Audible
Cooma Road Quarry L _{Aeq} (15min) Contribution						Quarry Not Operating
22/04/2021	06:32 (Morning Shoulder)	53	46	44	WD: SE WS: 0.1m/s Rain: Nil	Traffic 43-50
						Birds 46-53
						Quarry Not Audible
Cooma Road Quarry L _{Aeq} (15min) Contribution						<30

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.2 Assessment Results - Location N8

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N8 for the NMA are presented in **Table 3**.

Table 3 Operator-Attended Noise Survey Results – Location N8						
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
21/04/2021	08:16	83	61	53	WD: S	Traffic 49-83
	(Day)				WS: 0.7m/s	Wind 49-52
					Rain: Nil	Birds 49-55
						Quarry Not Audible
		Cooma Road Quarry L _{Aeq} (15min) Contribution				<35
21/04/2021	18:52	77	53	41	WD: N	Traffic 36-77
	(Evening)				WS: 0.1m/s	Quarry Not Audible
					Rain: Nil	
		Cooma Road Quarry L _{Aeq} (15min) Contribution				Quarry Not Operating
21/04/2021	06:09	69	55	48	WD: S	Traffic 42-69
	(Morning				WS: 1.2m/s	Wind 42-44
	Shoulder)				Rain: Nil	Dogs 54-67
						Birds 48-61
						Quarry Not Audible
		Cooma Road Quarry L _{Aeq} (15min) Contribution				<35

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.3 Assessment Results - Location N38

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N38 for the NMA are presented in **Table 4**.

Table 4 Operator-Attended Noise Survey Results – Location N38						
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
21/04/2021	07:54 (Day)	74	54	46	WD: S	Traffic 44-74
					WS: 0.3m/s	Birds 44-56
					Rain: Nil	Quarry Not Audible
	Cooma Road Quarry L _{Aeq} (15min) Contribution					<35
21/04/2021	19:10 (Evening)	65	50	41	WD: N	Traffic 33-65
					WS: 0.1m/s	Dogs 34-44
					Rain: Nil	Aircraft 34-40
	Cooma Road Quarry L _{Aeq} (15min) Contribution					Quarry Not Operating
21/04/2021	06:27 (Morning Shoulder)	64	53	47	WD: S	Traffic 44-64
					WS: 0.7m/s	Birds 46-54
					Rain: Nil	Quarry Not Audible
	Cooma Road Quarry L _{Aeq} (15min) Contribution					<35

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.4 Assessment Results - Location N60

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N60 for the NMA are presented in **Table 5**.

Table 5 Operator-Attended Noise Survey Results – Location N60						
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
21/04/2021	07:32 (Day)	82	69	54	WD: S	Traffic 45-82
					WS: 0.3m/s	Birds 45-59
					Rain: Nil	Quarry Not Audible
					Cooma Road Quarry L _{Aeq} (15min) Contribution	
21/04/2021	19:52 (Evening)	80	60	33	WD: N	Traffic 44-80
					WS: 0.1m/s	Quarry Not Audible
					Rain: Nil	
					Cooma Road Quarry L _{Aeq} (15min) Contribution	
21/04/2021	06:45 (Morning Shoulder)	86	72	57	WD: S	Traffic 42-86
					WS: 2m/s	Quarry Not Audible
					Rain: Nil	
					Cooma Road Quarry L _{Aeq} (15min) Contribution	

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.5 Assessment Results - Location N67

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N67 for the NMA are presented in **Table 6**.

Table 6 Operator-Attended Noise Survey Results – Location N67						
Date	Time (hrs)	Descriptor (dBA re 20 μ Pa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
21/04/2021	07:08 (Day)	60	40	35	WD: S	Traffic 38-46
					WS: 0.5m/s	Birds 38-60
					Rain: Nil	Quarry Not Audible
Cooma Road Quarry L _{Aeq} (15min) Contribution						<30
21/04/2021	19:31 (Evening)	54	36	28	WD: N	Traffic 26-38
					WS: 0.1m/s	Dogs 30-49
					Rain: Nil	Aircraft 32-54 Quarry Not Audible
Cooma Road Quarry L _{Aeq} (15min) Contribution						Quarry Not Operating
22/04/2021	06:04 (Morning Shoulder)	59	40	36	WD: SE	Traffic 35-43
					WS: 0.1m/s	Birds 38-59
					Rain: Nil	Quarry Not Audible
Cooma Road Quarry L _{Aeq} (15min) Contribution						<30

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

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5 Discussion

5.1 Discussion of Results - Location N3

Quarry noise was inaudible during daytime and morning shoulder measurements. Quarry noise contributions were estimated to satisfy the relevant morning shoulder and daytime criteria. The quarry was not operational during the evening period therefore satisfying the evening criteria of 35dB LAeq(15min).

Extraneous noise sources audible during the survey included wind in trees, dogs barking, traffic, aircraft, and birds.

5.2 Discussion of Results - Location N8

Noise levels were dominated by generally constant traffic on Old Cooma Road during all measurements. Quarry noise was inaudible during breaks in traffic for daytime and morning shoulder periods with quarry noise contributions estimated to satisfy the relevant daytime criteria. The quarry was not operational during the evening period therefore satisfying the evening noise limit of 39dB LAeq(15min).

Extraneous noise sources audible during the survey included traffic, wind in trees, birds, and dogs barking.

5.3 Discussion of Results - Location N38

Noise levels were dominated by generally constant traffic on Old Cooma Road during all measurements. Quarry noise was inaudible during breaks in traffic for daytime and morning shoulder periods. Quarry noise contributions were estimated to satisfy the relevant morning shoulder and daytime criteria. The quarry was not operational during the evening period therefore satisfying the evening criteria of 35dB LAeq(15min).

Extraneous noise sources audible during the survey included traffic, birds, dogs barking, and aircraft.

5.4 Discussion of Results - Location N60

Noise levels were dominated by generally constant traffic on Old Cooma Road during all measurements. Quarry noise was inaudible during breaks in traffic for daytime and morning shoulder periods with quarry noise contributions estimated to satisfy the relevant criteria. The quarry was not operational during the evening period therefore satisfying the evening criteria of 35dB LAeq(15min).

Quarry noise sources included haul trucks and reverse alarms. Extraneous noise sources audible during the survey included traffic and birds.

5.5 Discussion of Results - Location N67

Quarry noise emissions remained inaudible during the daytime and morning shoulder measurement. Quarry noise contributions estimated to satisfy the relevant criteria. It is noted that the quarry was not operational during the evening period, therefore satisfying the evening noise limit of 35dB LAeq(15min).

Extraneous noise sources audible during the survey included traffic, birds, dogs barking and aircraft.

6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment (NMA) for Holcim (Australia) Pty Ltd at the Cooma Road Quarry, Googong, NSW. The assessment was completed to assess the quarry's compliance with the relevant noise criteria outlined in their Development Consent for residential receivers surrounding the quarry.

Attended monitoring was undertaken from Wednesday 21 April 2021 to Thursday 22 April 2021 at five representative monitoring locations. The assessment has identified that noise emissions generated by Cooma Road Quarry comply with relevant noise criteria specified in the Development Consent at all assessed residential receivers for the quarterly period ending June 2021.

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Appendix A - Glossary of Terms

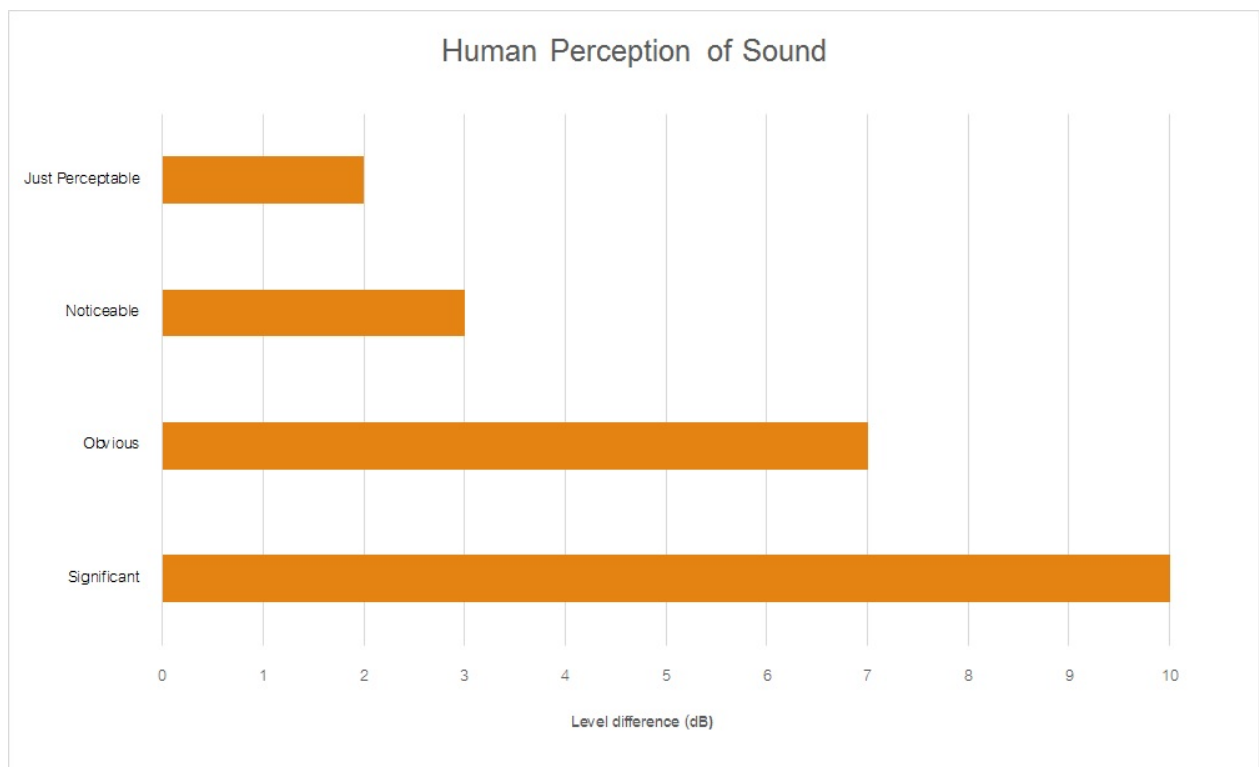
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1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured LA90 statistical noise levels.
Adverse Weather	Weather effects that enhance noise (that is, wind and temperature inversions) that occur at a site for a significant period of time (that is, wind occurring more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of the nights in winter).
Ambient Noise	The noise associated with a given environment. Typically a composite of sounds from many sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to noise.
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Linear or decibels Z-weighted.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A noise level which is exceeded 10 % of the time. It is approximately equivalent to the average of maximum noise levels.
LA90	Commonly referred to as the background noise, this is the level exceeded 90 % of the time.
LAeq	The summation of noise over a selected period of time. It is the energy average noise from a source, and is the equivalent continuous sound pressure level over a given period.
LAm _{ax}	The maximum root mean squared (rms) sound pressure level received at the microphone during a measuring interval.
RBL	The Rating Background Level (RBL) is an overall single figure background level representing each assessment period over the whole monitoring period. The RBL is used to determine the intrusiveness criteria for noise assessment purposes and is the median of the ABL's.
Sound power level (LW)	This is a measure of the total power radiated by a source. The sound power of a source is a fundamental location of the source and is independent of the surrounding environment. Or a measure of the energy emitted from a source as sound and is given by : $= 10 \cdot \log_{10} (W/W_0)$ Where : W is the sound power in watts and W ₀ is the sound reference power at 10-12 watts.

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Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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Noise Monitoring Assessment

Cooma Road Quarry, Googong, NSW
Quarter 3 Ending September 2021.

Document Information

Noise Monitoring Assessment

Cooma Road Quarry, Googong, NSW

Quarter 3 Ending September 2021

Prepared for: Holcim (Australia) Pty Ltd



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 5.5 DISCUSSION OF RESULTS - LOCATION N67 20

6 CONCLUSION 21

APPENDIX A - GLOSSARY OF TERMS

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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by Holcim (Australia) Pty Ltd (Holcim) to complete a Noise Monitoring Assessment (NMA) for Cooma Road Quarry the 'quarry', Googong, NSW.

The monitoring has been conducted in accordance with the quarry Noise Management Plan and in general accordance with Development Consent (SSD-5109); at five representative monitoring locations. This assessment has been undertaken for the quarterly period ending September 2021 and forms part of the annual noise monitoring program for the quarry.

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- Cooma Road Quarry, Noise Management Plan (NMP), 2014;
- Development Consent SSD-5109; and
- Australian Standard AS 1055:2018 - Acoustics - Description and measurement of environmental noise.

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

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2 Noise Criteria

Schedule 3, Condition 4 of the Cooma Road Quarry Development Consent, approved on 27 September 2013, outlines the applicable noise criteria for residential receivers N1 – N71 surrounding the quarry and are presented in **Table 1**.

Table 1 Noise Criteria			
Receivers	Morning Shoulder	Day	Evening
	6am – 7am	7am – 6pm	6pm – 10pm
	dB LAeq(15min)	dB LAeq(15min)	dB LAeq(15min)
N1, N7, N8, N56, N57, N59, N63, N64, N65	40	44	39
N67	36	41	35
All other Receivers between N9 and N71 inclusive	36	38	35
All other Receivers	35	35	35

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

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3 Methodology

3.1 Locality

The quarry is located in Googong, NSW approximately 13km south east of Canberra, ACT. The quarry is bounded primarily by rural and residential properties in all directions, with noise from passing road traffic on Old Cooma Road dominating the acoustic environment for receivers to the east of the quarry. The monitoring locations with respect to the quarry and assessed receivers are presented in the locality plan shown in **Figure 1**.

3.2 Noise Monitoring Locations

Five monitoring locations have been selected as part of the NMA and in accordance with the Development Consent.

Location N3 is to the west of the quarry situated on a rural property off Copperfield Place. This location represents residential and rural receivers to the west of the quarry.

Location N8 is to the north east of the quarry along Tempe Crescent and is representative of residential receivers in that area.

Location N38 is on Heights Road and is representative of the elevated residential receivers to the east of the quarry.

Location N60 is at 501 Old Cooma Road and represents the residence adjacent to the quarry access road.

Location N67 is situated on a rural property at 732 Old Cooma Road to the south of the quarry. This is representative of rural and residential receivers to the south, with direct line of site into the quarry pit.

3.3 Assessment Methodology

Attended noise surveys were conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise" and the EPL. Measurements were carried out using Svantek Type 1, 971 noise analysers from Tuesday 27 July 2021 to Thursday 29 July 2021. The acoustic instrumentation used carries current NATA calibration and complies with AS IEC 61672.1-2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed ± 0.5 dBA.

Noise measurements were of 15-minutes in duration and where possible, throughout each survey the operator quantified the contribution of each significant noise source. One measurement was conducted at each monitoring location during the day, evening and morning shoulder periods.

Extraneous noise sources were excluded from the analysis to calculate the $L_{Aeq}(15min)$ quarry noise contribution for comparison against the relevant criteria.

Where the quarry is inaudible, the contribution is estimated to be at least 10dBA below the ambient noise level.



FIGURE 1
Site Locality
MAC180611-03
Holcim Cooma Road Quarry

KEY

● Noise Monitoring Locations

0 100 200 300 400 500 m

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4 Results

4.1 Assessment Results - Location N3

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N3 for the NMA are presented in **Table 2**.

Table 2 Operator-Attended Noise Survey Results – Location N3						
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
29/07/2021	08:51 (Day)	48	35	33	WD: W	Distant traffic 31-39
					WS: 0.5m/s	Birds 30-48
					Rain: Nil	Quarry Inaudible
Cooma Road Quarry L _{Aeq} (15min) Contribution						<30
27/07/2021	18:47 (Evening)	47	39	37	WD: W	Distant Traffic 35-44
					WS: 1.0m/s	Dogs Barking <35
					Rain: Nil	Birds 32-47 Quarry Inaudible
Cooma Road Quarry L _{Aeq} (15min) Contribution						Quarry Not Operating
28/07/2021	06:41 (Morning Shoulder)	76	49	41	WD: W	Wind Gusts 37-56 Birds 34-63
					WS: 2.5m/s	Distant Traffic 34-38
					Rain: Nil	MAC Operator 76 Quarry Inaudible
Cooma Road Quarry L _{Aeq} (15min) Contribution						<35

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.2 Assessment Results - Location N8

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N8 for the NMA are presented in **Table 3**.

Table 3 Operator-Attended Noise Survey Results – Location N8						
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
29/07/2021	10:40	67	52	45	WD: NW	Traffic 35-67
	(Day)				WS: <0.5m/s	Birds 36-48
					Rain: Nil	Dogs Barking 40-53
						Quarry Inaudible
		Cooma Road Quarry L _{Aeq} (15min) Contribution				<40
27/07/2021	20:02	68	50	43	WD: W	Traffic 40-68
	(Evening)				WS: <0.5m/s	Insects <35
					Rain: Nil	Quarry Inaudible
		Cooma Road Quarry L _{Aeq} (15min) Contribution				Quarry Not Operating
29/07/2021	06:41	74	57	49	WD: W	Traffic 40-74
	(Morning				WS: <0.5m/s	Birds 37-53
	Shoulder)				Rain: Nil	Quarry Inaudible
		Cooma Road Quarry L _{Aeq} (15min) Contribution				<40

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.3 Assessment Results - Location N38

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N38 for the NMA are presented in **Table 4**.

Table 4 Operator-Attended Noise Survey Results – Location N38						
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
29/07/2021	10:21 (Day)	66	52	45	WD: NW	Traffic 39-66
					WS: 0.5m/s	Birds 36-46
					Rain: Nil	Quarry Inaudible
Cooma Road Quarry L _{Aeq} (15min) Contribution						<38
27/07/2021	20:22 (Evening)	54	46	41	WD: W	Traffic 36-54
					WS: <0.5m/s	Insects <30
					Rain: Nil	Quarry Inaudible
Cooma Road Quarry L _{Aeq} (15min) Contribution						Quarry Not Operating
29/07/2021	06:22 (Morning Shoulder)	74	55	50	WD: W	Traffic 39-64
					WS: 0.1m/s	Birds 36-48
					Rain: Nil	MAC Operator 74
Cooma Road Quarry L _{Aeq} (15min) Contribution						Quarry Inaudible
Cooma Road Quarry L _{Aeq} (15min) Contribution						<36

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.4 Assessment Results - Location N60

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N60 for the NMA are presented in **Table 5**.

Date	Time (hrs)	Descriptor (dBA re 20 μ Pa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
29/07/2021	09:45 (Day)	72	62	51	WD: W	Traffic 42-72
					WS: 1.0m/s	Birds 40-48
					Rain: Nil	Dogs Barking <40
						Quarry Inaudible
		Cooma Road Quarry L _{Aeq} (15min) Contribution				<38
27/07/2021	19:43 (Evening)	65	51	37	WD: W	Traffic 34-65
					WS: 0.5m/s	Insects <30
					Rain: Nil	Quarry Inaudible
		Cooma Road Quarry L _{Aeq} (15min) Contribution				Quarry Not Operating
29/07/2021	06:00 (Morning Shoulder)	74	62	47	WD: W	Traffic 40-74
					WS: <0.5m/s	Birds 37-45
					Rain: Nil	Quarry Inaudible
		Cooma Road Quarry L _{Aeq} (15min) Contribution				<36

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.5 Assessment Results - Location N67

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N67 for the NMA are presented in **Table 6**.

Table 6 Operator-Attended Noise Survey Results – Location N67						
Date	Time (hrs)	Descriptor (dBA re 20 μ Pa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
29/07/2021	09:21 (Day)	56	40	34	WD: NW WS: 1.0m/s Rain: Nil	Distant Traffic 30-36
						Birds 30-55
						Insects <30
						Wind in Trees <30-35
						Aircraft 35-56
Cooma Road Quarry L _{Aeq} (15min) Contribution						<35
27/07/2021	19:20 (Evening)	53	46	41	WD: W WS: 0.5m/s Rain: Nil	Insects 37-50
						Aircraft 40-53
						Distant Traffic 34-43
Cooma Road Quarry L _{Aeq} (15min) Contribution						Quarry Not Operating
28/07/2021	06:09 (Morning Shoulder)	67	55	47	WD: NW WS: 3-5m/s Rain: Nil	Wind Gusts 42-67
						Quarry Inaudible
Cooma Road Quarry L _{Aeq} (15min) Contribution						<36

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

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5 Discussion

5.1 Discussion of Results - Location N3

Quarry noise was inaudible during daytime and morning shoulder measurements. Quarry noise contributions were estimated to satisfy the relevant morning shoulder and daytime criteria. The quarry was not operational during the evening period therefore satisfying the evening criteria of 35dB LAeq(15min).

Extraneous noise sources audible during the survey included wind in trees, dogs barking, traffic and birds.

5.2 Discussion of Results - Location N8

Noise levels were dominated by generally constant traffic on Old Cooma Road during all measurements. Quarry noise was inaudible during breaks in traffic for daytime and morning shoulder periods with quarry noise contributions estimated to satisfy the relevant morning shoulder and daytime criteria. The quarry was not operational during the evening period therefore satisfying the evening noise limit of 39dB LAeq(15min).

Extraneous noise sources audible during the survey included traffic, birds, insects and dogs barking.

5.3 Discussion of Results - Location N38

Noise levels were dominated by generally constant traffic on Old Cooma Road during all measurements. Quarry noise was inaudible during breaks in traffic for daytime and morning shoulder periods. Quarry noise contributions were estimated to satisfy the relevant morning shoulder and daytime criteria. The quarry was not operational during the evening period therefore satisfying the evening criteria of 35dB LAeq(15min).

Extraneous noise sources audible during the survey included traffic, MAC operator, birds and insects.

5.4 Discussion of Results - Location N60

Noise levels were dominated by generally constant traffic on Old Cooma Road during all measurements. Quarry noise was inaudible during breaks in traffic for daytime and morning shoulder periods with quarry noise contributions estimated to satisfy the relevant morning shoulder and daytime criteria. The quarry was not operational during the evening period therefore satisfying the evening criteria of 35dB LAeq(15min).

Quarry noise sources included haul trucks and reverse alarms. Extraneous noise sources audible during the survey included traffic insects, dogs barking and birds.

5.5 Discussion of Results - Location N67

Quarry noise emissions were audible during the daytime measurement and inaudible during the morning shoulder measurement. Quarry noise was inaudible during lulls in wind gusts in the morning shoulder period. Quarry noise contributions were estimated to satisfy the relevant morning shoulder and daytime criteria. It is noted that the quarry was not operational during the evening period, therefore satisfying the evening noise limit of 35dB LAeq(15min).

Quarry noise sources audible during the survey includes Site alarms and vehicles. Extraneous noise included traffic, birds, insects, wind gusts and aircraft.

6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment (NMA) for Holcim (Australia) Pty Ltd at the Cooma Road Quarry, Googong, NSW. The assessment was completed to assess the quarry's compliance with the relevant noise criteria outlined in their Development Consent for residential receivers surrounding the quarry.

Attended monitoring was undertaken from Tuesday 27 July 2021 to Thursday 29 July 2021 at five representative monitoring locations. The assessment has identified that noise emissions generated by Cooma Road Quarry were just audible at one location and complies with relevant noise criteria specified in the Development Consent at all assessed residential receivers for the quarterly period ending September 2021.

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Appendix A - Glossary of Terms

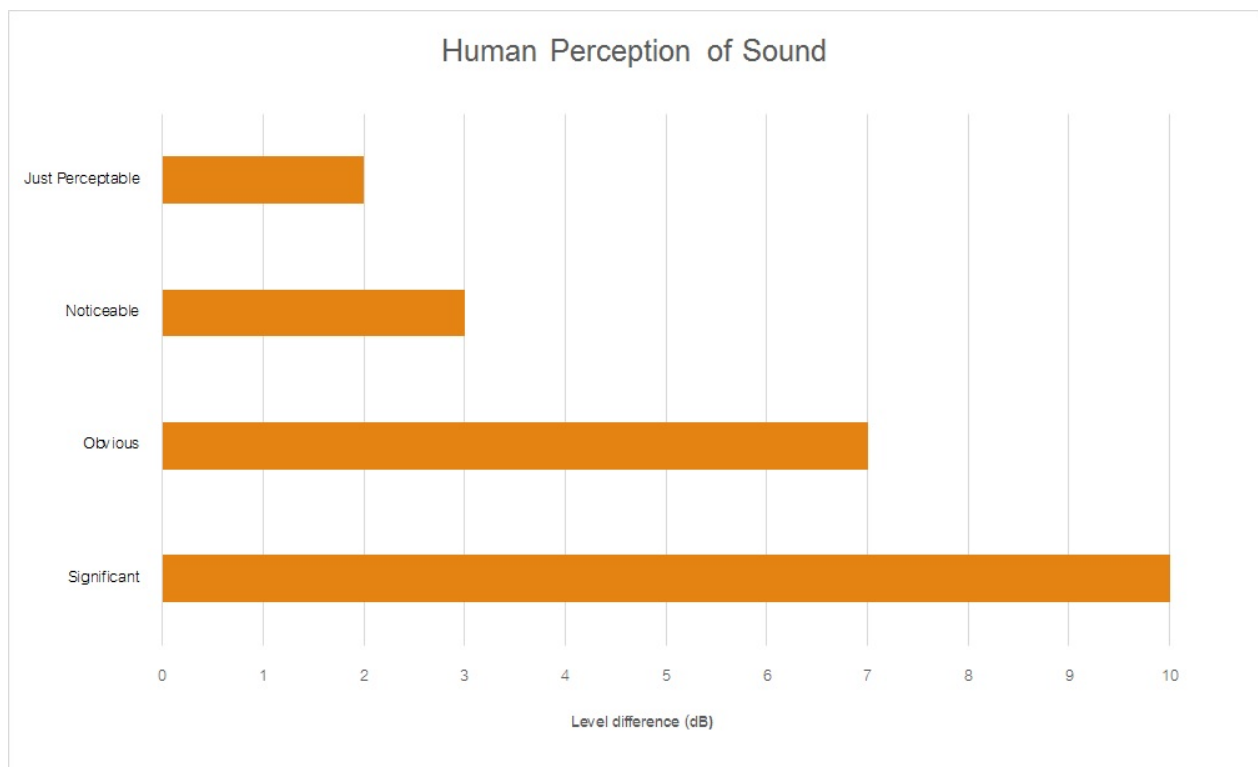
Table A1 provides a number of technical terms have been used in this report.

Table A1 Glossary of Terms	
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured LA90 statistical noise levels.
Adverse Weather	Weather effects that enhance noise (that is, wind and temperature inversions) that occur at a site for a significant period of time (that is, wind occurring more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of the nights in winter).
Ambient Noise	The noise associated with a given environment. Typically a composite of sounds from many sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to noise.
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Linear or decibels Z-weighted.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A noise level which is exceeded 10 % of the time. It is approximately equivalent to the average of maximum noise levels.
LA90	Commonly referred to as the background noise, this is the level exceeded 90 % of the time.
LAeq	The summation of noise over a selected period of time. It is the energy average noise from a source, and is the equivalent continuous sound pressure level over a given period.
LAm _{ax}	The maximum root mean squared (rms) sound pressure level received at the microphone during a measuring interval.
RBL	The Rating Background Level (RBL) is an overall single figure background level representing each assessment period over the whole monitoring period. The RBL is used to determine the intrusiveness criteria for noise assessment purposes and is the median of the ABL's.
Sound power level (LW)	This is a measure of the total power radiated by a source. The sound power of a source is a fundamental location of the source and is independent of the surrounding environment. Or a measure of the energy emitted from a source as sound and is given by : $= 10 \cdot \log_{10} (W/W_0)$ Where : W is the sound power in watts and W ₀ is the sound reference power at 10-12 watts.

Table A2 provides a list of common noise sources and their typical sound level.

Table A2 Common Noise Sources and Their Typical Sound Pressure Levels (SPL), dBA	
Source	Typical Sound Level
Threshold of pain	140
Jet engine	130
Hydraulic hammer	120
Chainsaw	110
Industrial workshop	100
Lawn-mower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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Noise Monitoring Assessment

Cooma Road Quarry, Googong, NSW
Quarter 4 Ending December 2021.

Document Information

Noise Monitoring Assessment

Cooma Road Quarry, Googong, NSW

Quarter 4 Ending December 2021

Prepared for: Holcim (Australia) Pty Ltd

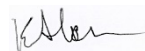

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APPENDIX A - GLOSSARY OF TERMS

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1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by Holcim (Australia) Pty Ltd (Holcim) to complete a Noise Monitoring Assessment (NMA) for Cooma Road Quarry the 'quarry', Googong, NSW.

The monitoring has been conducted in accordance with the quarry Noise Management Plan and in general accordance with Development Consent (SSD-5109); at five representative monitoring locations. This assessment has been undertaken for the quarterly period ending December 2021 and forms part of the annual noise monitoring program for the quarry.

The assessment has been conducted in accordance with the following documents:

- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- Cooma Road Quarry, Noise Management Plan (NMP), 2014;
- Development Consent SSD-5109; and
- Australian Standard AS 1055:2018 - Acoustics - Description and measurement of environmental noise.

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

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2 Noise Criteria

Schedule 3, Condition 4 of the Cooma Road Quarry Development Consent, approved on 27 September 2013, outlines the applicable noise criteria for residential receivers N1 – N71 surrounding the quarry and are presented in **Table 1**.

Table 1 Noise Criteria			
Receivers	Morning Shoulder	Day	Evening
	6am – 7am	7am – 6pm	6pm – 10pm
	dB LAeq(15min)	dB LAeq(15min)	dB LAeq(15min)
N1, N7, N8, N56, N57, N59, N63, N64, N65	40	44	39
N67	36	41	35
All other Receivers between N9 and N71 inclusive	36	38	35
All other Receivers	35	35	35

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

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3 Methodology

3.1 Locality

The quarry is located in Googong, NSW approximately 13km south east of Canberra, ACT. The quarry is bounded primarily by rural and residential properties in all directions, with noise from passing road traffic on Old Cooma Road dominating the acoustic environment for receivers to the east of the quarry. The monitoring locations with respect to the quarry and assessed receivers are presented in the locality plan shown in **Figure 1**.

3.2 Noise Monitoring Locations

Five monitoring locations have been selected as part of the NMA and in accordance with the Development Consent.

Location N3 is to the west of the quarry situated on a rural property off Copperfield Place. This location represents residential and rural receivers to the west of the quarry.

Location N8 is to the north east of the quarry along Tempe Crescent and is representative of residential receivers in that area.

Location N38 is on Heights Road and is representative of the elevated residential receivers to the east of the quarry.

Location N60 is at 501 Old Cooma Road and represents the residence adjacent to the quarry access road.

Location N67 is situated on a rural property at 732 Old Cooma Road to the south of the quarry. This is representative of rural and residential receivers to the south, with direct line of site into the quarry pit.

3.3 Assessment Methodology

Attended noise surveys were conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise" and the EPL. Measurements were carried out using Svantek Type 1, 971 noise analysers from Wednesday 20 October 2021 to Thursday 21 October 2021. The acoustic instrumentation used carries current NATA calibration and complies with AS IEC 61672.1-2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed ± 0.5 dBA.

Noise measurements were of 15-minutes in duration and where possible, throughout each survey the operator quantified the contribution of each significant noise source. One measurement was conducted at each monitoring location during the day, evening and morning shoulder periods.

Extraneous noise sources were excluded from the analysis to calculate the $L_{Aeq}(15min)$ quarry noise contribution for comparison against the relevant criteria.

Where the quarry is inaudible, the contribution is estimated to be at least 10dBA below the ambient noise level.



FIGURE 1
Site Locality
MAC180611-03
Holcim Cooma Road Quarry

KEY

● Noise Monitoring Locations

0 100 200 300 400 500 m

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4 Results

4.1 Assessment Results - Location N3

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N3 for the NMA are presented in **Table 2**.

Table 2 Operator-Attended Noise Survey Results – Location N3						
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
20/10/2021	06:35 (Morning Shoulder)	77	47	38	WD: SE WS: 1.5m/s Rain: Nil	Wind in Trees 36-49
						Birds 33-77
						Traffic 33-42
						Quarry – Haul Trucks 33-40 (Just Audible <50% Measurement)
Cooma Road Quarry L _{Aeq} (15min) Contribution						<35
20/10/2021	10:19 (Day)	62	44	34	WD: SE WS: 1.5m/s Rain: Nil	Wind In Trees 31-45
						Birds 28-60
						Aircraft 35-62
						Quarry – Haul Trucks 33-40 (Just Audible <50% Measurement)
Cooma Road Quarry L _{Aeq} (15min) Contribution						31
20/10/2021	18:29 (Evening)	60	40	33	WD: SE WS: 1.0m/s Rain: Nil	Birds 28-60
						Traffic 31-40
						Wind In Trees 31-42
						Aircraft <35 Quarry Inaudible
Cooma Road Quarry L _{Aeq} (15min) Contribution						Quarry Not Operating

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.2 Assessment Results - Location N8

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N8 for the NMA are presented in **Table 3**.

Date	Time (hrs)	Descriptor (dBA re 20 μ Pa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
21/10/2021	06:37 (Morning Shoulder)	68	54	48	WD: SW WS: 0.5m/s Rain: Nil	Traffic 43-68
						Birds 40-48
						Residential Noise 40-55
Cooma Road Quarry LAeq(15min) Contribution						<40
20/10/2021	11:37 (Day)	67	52	45	WD: SE WS: 1.0m/s Rain: Nil	Traffic 36-65
						Birds 33-67
						Quarry – Vehicles Enter/Exit 35-51 (5 movements, 10-15 second durations)
Cooma Road Quarry LAeq(15min) Contribution						<40
20/10/2021	20:21 (Evening)	76	51	38	WD: E WS: <0.5m/s Rain: Nil	Dogs Barking 40-76
						Traffic 31-60
						Insects 34-38
Cooma Road Quarry LAeq(15min) Contribution						Quarry Inaudible
Cooma Road Quarry LAeq(15min) Contribution						Quarry Not Operating

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.3 Assessment Results - Location N38

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N38 for the NMA are presented in **Table 4**.

Table 4 Operator-Attended Noise Survey Results – Location N38						
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
21/10/2021	06:19				WD: S	Traffic 36-76
	(Morning	76	51	43	WS: <0.5m/s	Birds 33-53
	Shoulder)				Rain: Nil	Quarry Inaudible
	Cooma Road Quarry L _{Aeq} (15min) Contribution					
20/10/2021	11:17				WD: SE	Traffic 40-70
	(Day)	70	53	44	WS: 1.0m/s	Birds 37-48
					Rain: Nil	Wind In Trees <37-40
	Cooma Road Quarry L _{Aeq} (15min) Contribution					
20/10/2021	19:46				WD: E	Traffic 27-72
	(Evening)	72	48	35	WS: 0.5m/s	Birds 27-41
					Rain: Nil	Insects 30-35
	Cooma Road Quarry L _{Aeq} (15min) Contribution					

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.4 Assessment Results - Location N60

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N60 for the NMA are presented in **Table 5**.

Table 5 Operator-Attended Noise Survey Results – Location N60						
Date	Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
21/10/2021	06:00				WD: SW	Traffic 37-76
	(Morning	76	59	44	WS: <0.5m/s	Birds 35-51
	Shoulder)				Rain: Nil	Quarry Inaudible
Cooma Road Quarry L _{Aeq} (15min) Contribution						<36
20/10/2021	11:58				WD: SE	Traffic 44-74
	(Day)	74	61	50	WS: 0.5m/s	Birds 41-48
					Rain: Nil	Quarry Inaudible
Cooma Road Quarry L _{Aeq} (15min) Contribution						<38
20/10/2021	19:25				WD: SE	Traffic 32-72
	(Evening)	72	54	40	WS: 1.0m/s	Birds 30-46
					Rain: Nil	Quarry Inaudible
Cooma Road Quarry L _{Aeq} (15min) Contribution						Quarry Not Operating

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

4.5 Assessment Results - Location N67

The monitored noise level contributions and observed meteorological conditions for each assessment period at Location N67 for the NMA are presented in **Table 6**.

Date	Time (hrs)	Descriptor (dBA re 20 μ Pa)			Meteorology	Description and SPL, dBA
		L _{Amax}	L _{Aeq}	L _{A90}		
20/10/2021	06:04 (Morning Shoulder)	70	47	37	WD: SW WS: 1.5m/s Rain: Nil	Wind In Trees 35-48
						Birds 32-70
						Traffic 32-40
						Quarry – Haul Trucks <35-40 (2-3 minutes total duration)
Cooma Road Quarry L _{Aeq} (15min) Contribution						32
20/10/2021	10:52 (Day)	61	46	42	WD: SE WS: 2.0m/s Rain: Nil	Wind in Trees 39-50
						Birds 36-61
						Traffic 36-40
						Quarry – Haul Trucks <36-38 (Just to Audible <50% Measurement)
Cooma Road Quarry L _{Aeq} (15min) Contribution						<41
20/10/2021	19:02 (Evening)	60	37	32	WD: E WS: 1.0m/s Rain: Nil	Traffic 30-43
						Wind in Trees 30-38
						Birds 27-60
						Aircraft 35-49 Quarry Inaudible
Cooma Road Quarry L _{Aeq} (15min) Contribution						Quarry Not Operating

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

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5 Discussion

5.1 Discussion of Results - Location N3

Quarry noise was just audible during daytime and morning shoulder measurements. Quarry noise contributions were estimated to satisfy the relevant morning shoulder and daytime criteria. The quarry was not operational during the evening period therefore satisfying the evening criteria of 35dB LAeq(15min).

Quarry noise sources included haul trucks movements and reverse alarms. Extraneous noise sources audible during the survey included wind, aircraft, traffic and birds.

5.2 Discussion of Results - Location N8

Noise levels were dominated by generally constant traffic on Old Cooma Road during all measurements. Quarry noise was audible for short periods during breaks in traffic for daytime and morning shoulder periods with quarry noise contributions estimated to satisfy the relevant morning shoulder and daytime criteria. The quarry was not operational during the evening period therefore satisfying the evening noise limit of 39dB LAeq(15min).

Quarry noise sources included heavy vehicles entering and exiting the site. Extraneous noise sources audible during the survey included residential noise, traffic, birds, insects and dogs barking.

5.3 Discussion of Results - Location N38

Noise levels were dominated by generally constant traffic on Old Cooma Road during all measurements. Quarry noise was inaudible during breaks in traffic for daytime and morning shoulder periods. Quarry noise contributions were estimated to satisfy the relevant morning shoulder and daytime criteria. The quarry was not operational during the evening period therefore satisfying the evening criteria of 35dB LAeq(15min).

Extraneous noise sources audible during the survey included wind, traffic, birds and insects.

5.4 Discussion of Results - Location N60

Noise levels were dominated by generally constant traffic on Old Cooma Road during all measurements. Quarry noise was inaudible during breaks in traffic for daytime and morning shoulder periods with quarry noise contributions estimated to satisfy the relevant morning shoulder and daytime criteria. The quarry was not operational during the evening period therefore satisfying the evening criteria of 35dB LAeq(15min).

Extraneous noise sources audible during the survey included traffic and birds.

5.5 Discussion of Results - Location N67

Quarry noise emissions were audible during the daytime and morning shoulder measurement. Quarry noise contributions were estimated to satisfy the relevant morning shoulder and daytime criteria. It is noted that the quarry was not operational during the evening period, therefore satisfying the evening noise limit of 35dB LAeq(15min).

Quarry noise sources included haul trucks movements along the southern site boundary. Extraneous noise included traffic, birds, wind and aircraft.

6 Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Monitoring Assessment (NMA) for Holcim (Australia) Pty Ltd at the Cooma Road Quarry, Googong, NSW. The assessment was completed to assess the quarry's compliance with the relevant noise criteria outlined in their Development Consent for residential receivers surrounding the quarry.

Attended monitoring was undertaken from Wednesday 20 October 2021 to Thursday 21 October 2021 at five representative monitoring locations. The assessment has identified that noise emissions generated by Cooma Road Quarry were just audible to audible at three locations and complies with relevant noise criteria specified in the Development Consent at all assessed residential receivers for the quarterly period ending December 2021.

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Appendix A - Glossary of Terms

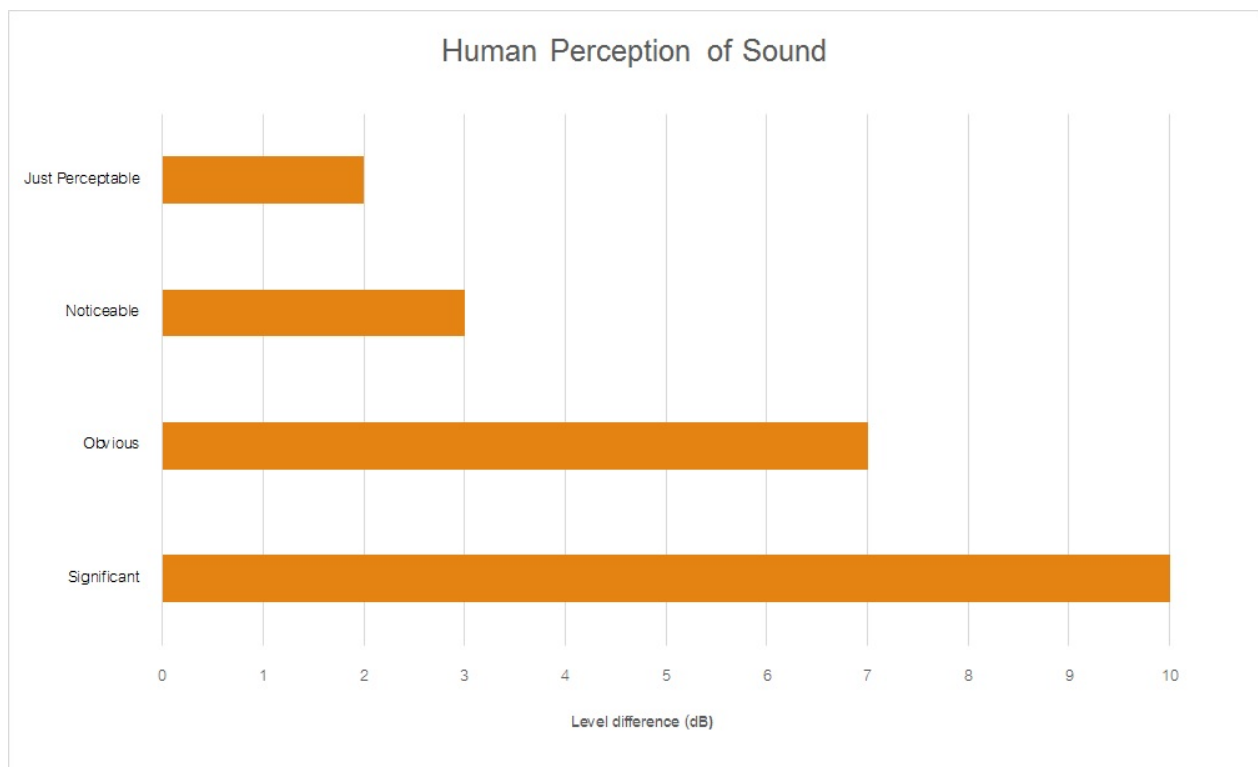
Table A1 provides a number of technical terms have been used in this report.

Table A1 Glossary of Terms	
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured LA90 statistical noise levels.
Adverse Weather	Weather effects that enhance noise (that is, wind and temperature inversions) that occur at a site for a significant period of time (that is, wind occurring more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of the nights in winter).
Ambient Noise	The noise associated with a given environment. Typically a composite of sounds from many sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to noise.
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Linear or decibels Z-weighted.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A noise level which is exceeded 10 % of the time. It is approximately equivalent to the average of maximum noise levels.
LA90	Commonly referred to as the background noise, this is the level exceeded 90 % of the time.
LAeq	The summation of noise over a selected period of time. It is the energy average noise from a source, and is the equivalent continuous sound pressure level over a given period.
LAm _{ax}	The maximum root mean squared (rms) sound pressure level received at the microphone during a measuring interval.
RBL	The Rating Background Level (RBL) is an overall single figure background level representing each assessment period over the whole monitoring period. The RBL is used to determine the intrusiveness criteria for noise assessment purposes and is the median of the ABL's.
Sound power level (LW)	This is a measure of the total power radiated by a source. The sound power of a source is a fundamental location of the source and is independent of the surrounding environment. Or a measure of the energy emitted from a source as sound and is given by : $= 10 \cdot \log_{10} (W/W_0)$ Where : W is the sound power in watts and W ₀ is the sound reference power at 10-12 watts.

Table A2 provides a list of common noise sources and their typical sound level.

Table A2 Common Noise Sources and Their Typical Sound Pressure Levels (SPL), dBA	
Source	Typical Sound Level
Threshold of pain	140
Jet engine	130
Hydraulic hammer	120
Chainsaw	110
Industrial workshop	100
Lawn-mower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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APPENDIX 2

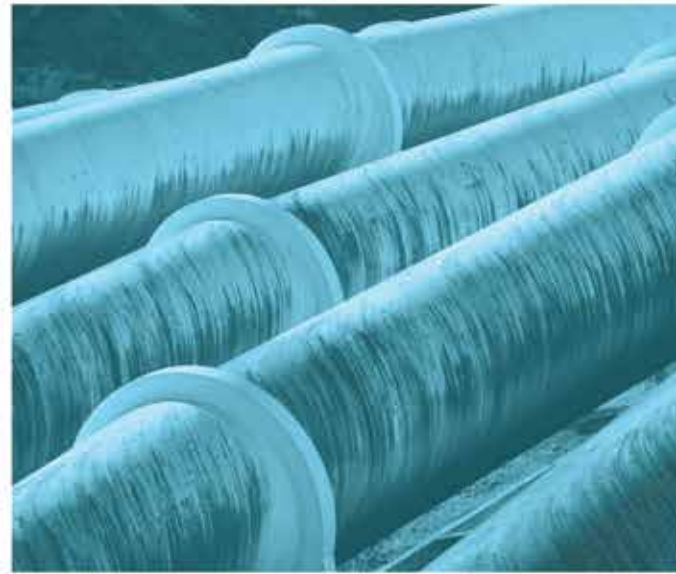
COOMA ROAD IEA 2021



Cooma Road Quarry

Independent Environmental Audit

Prepared for Holcim (Australia) Pty Ltd
July 2021





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Cooma Road Quarry

Independent Environmental Audit

Report Number

J200932 RP1

Client

Holcim (Australia) Pty Ltd

Date

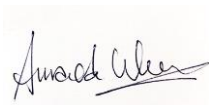
12 July 2021

Version

v2 Final

Prepared by

Approved by



Amanda Weston

Associate Environmental Scientist

12 July 2021



Allan Young

National Technical Leader, Urban and Regional Planning

12 July 2021

This report has been prepared in accordance with the brief provided by the client and has relied upon the information collected at the time and under the conditions specified in the report. All findings, conclusions or recommendations contained in the report are based on the aforementioned circumstances. The report is for the use of the client and no responsibility will be taken for its use by other parties. The client may, at its discretion, use the report to inform regulators and the public.

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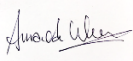
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Independent Audit Declaration Form

Project name	Cooma Road Quarry
Consent number	SSD_5109 – MOD 1
Description of project	Hard rock quarry
Project address	500 Old Cooma Road, Queanbeyan NSW
Proponent	Holcim (Australia) Pty Ltd
Title of audit	Cooma Road Quarry Independent Environmental Audit
Date	12 July 2021
<p>I declare that I have undertaken the Independent Audit and prepared the contents of the attached Independent Audit Report and to the best of my knowledge:</p> <ul style="list-style-type: none"> the audit has been undertaken in accordance with relevant approval condition(s) of consent and in accordance with the <i>Independent Audit Post Approval Requirements</i> (Department 2018); the findings of the audit are reported truthfully, accurately and completely; I have exercised due diligence and professional judgement in conducting the audit; I have acted professionally, objectively and in an unbiased manner; I am not related to any proponent, owner or operator of the project neither as employer, business partner, employee, or by sharing a common employer, having a contractual arrangement outside the audit, or by relationship as spouse, partner, sibling, parent or child; I do not have any pecuniary interest in the audited project, including where there is a reasonable likelihood or expectation of financial gain or loss to me or spouse, partner, sibling, parent or child; neither I nor my employer have provided consultancy services for the audited development that were subject to this audit except as otherwise declared to the Department prior to the audit; and I have not accepted, nor intend to accept any inducement, commission, gift or any other benefit (apart from fair payment for auditing services) from any proponent, owner or operator of the project, their employees or any interested party. I have not knowingly allowed, nor intend to allow my colleagues to do so. <p>Note:</p> <p>a) Under section 10.6 of the <i>Environmental Planning and Assessment Act 1979</i> a person must not include false or misleading information (or provide information for inclusion in) in a report of monitoring data or an audit report produced to the Minister in connection with an audit if the person knows that the information is false or misleading in a material respect. The proponent of an approved project must not fail to include information in (or provide information for inclusion in) a report of monitoring data or an audit report produced to the Minister in connection with an audit if the person knows that the information is materially relevant to the monitoring or audit. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000; and</p> <p>b) The <i>Crimes Act 1900</i> contains other offences relating to false and misleading information: section 307B (giving false or misleading information – maximum penalty 2 years imprisonment or 200 penalty units, or both).</p>	
Name of auditor	Amanda Weston
Signature	
Qualification	BSc (Env Management/Chemistry)
Company	EMM Consulting Pty Limited
Company address	Ground Floor, Suite 01, 20 Chandos Street, St Leonards NSW 2065

1 Introduction

EMM Consulting Pty Limited (EMM) has been commissioned to undertake an independent environmental audit (audit) of the Holcim (Australia) Pty Limited (Holcim) Cooma Road Quarry (the quarry), located approximately 6 kilometres (km) from Queanbeyan in the Southern Tablelands region of New South Wales (NSW).

This audit is required to fulfil the requirements of Schedule 5, Condition 10 of the State Significant Development (SSD) Consent 5109 (Development Consent SSD 5109) granted by the (then) NSW Minister for Planning and Infrastructure on 27 September 2013. In line with Development Consent SSD_5109, an initial independent external environmental audit was undertaken within a year of the date of the consent and is to be undertaken every 3 years thereafter. This is the third three-yearly audit to be conducted at the site.

This report details the audit process, presents the audit findings and provides recommendations that if implemented will facilitate improved compliance with environmental approvals.

The audit period is from 1 January 2018 to 31 December 2020. The audit comprised a desktop assessment, site inspection and interview components.

1.1 Overview of the quarry

The quarry is located in the suburb of Googong within the Queanbeyan-Palerang Local Government Authority (LGA), on land partially leased and partially owned by Holcim. The land is zoned RU2 Rural Landscape under the Queanbeyan Local Environmental Plan (Queanbeyan LEP) 2012.

The quarry has been in operation as a hard rock quarry since 1959. Holcim was granted Development Consent SSD 5109 by the (then) NSW Minister for Planning and Infrastructure for the continued operations of the quarry on 27 September 2013.

Development Consent SSD 5109 has since been modified twice:

- in August 2016, Holcim received approval for Modification 1 to allow the acceptance of virgin excavated natural material (VENM) (Mod 1); and
- on 30 April 2019, Holcim received approval for Modification 2 to allow the acceptance of excavated natural material (ENM) at the quarry for the approved purpose of rehabilitation (Mod 2).

The quarry also holds an Environment Protection Licence (EPL) 1453, as amended, under the provisions of the *Protection of the Environment Operations Act 1997* (POEO Act), Water supply works approval 40WA413082 and Water Access Licence (WAL) WAL33412.

The site has historically been used for quarrying activities, including the extraction and processing of quarry materials. The parcels of land owned by Holcim include Lot 1 DP 808393, Lot 2 DP 1087429 and Lot 4 DP 582954. The rest of the site is leased by Holcim including Lots 101, 111, 103, 104 and 124 of DP 754881.

The site is accessible via Quarry Road, which connects to the Old Cooma Road south of Edwin Land Parkway, Karabar.

1.2 Quarry activities during the audit period

At the time of EMM's site inspection on 25 May 2021, the quarry was in the operations phase.

The Annual Reviews for the audit period note there were no construction activities that occurred at the quarry within the 2018, 2019 and 2020 reporting periods.

Development activities undertaken within this audit period included:

- stripping of topsoil and overburden within the existing extraction limit boundary;
- drill, blast, load and haul activities;
- crushing, screening and stockpiling of product;
- overburden removal and replacement of the southwest overburden dump;
- maintenance of rehabilitation undertaken on the overburden dump in the south-western disturbance area; and
- increasing the size of the Granite Pit (2020).

1.3 Audit of approved quarry operations

Table 1.1 provides an overview of audited quarry operations, as approved under Development Consent SSD 5109, as modified.

Table 1.1 Approved quarry operations and site inspection findings (as on 25 May 2021)

Component	Approved development (Mod 2 2019)	Site inspection findings (25 May 2021)
Development life	20 years (ie until 31 October 2035)	No change
Quarry production	1.5 million tonnes per annum (Mtpa) of hard rock and blended products	No change
Estimated resource	Approximately 16.5 million tonnes (Mt) of hard rock	No change
Extraction methods	Conventional drill-and-blast and free-dig methods	No change
Processing	Crushing and screening using the on-site primary and secondary crusher Blending of extracted and imported products using a mobile pug mill	No change
Water supply	Water is used for the processing plant, dust suppression and truck washing Up to 94 megalitres per year (ML/yr) would be required to meet the predicted water demands of the increased production rate Water is sourced from captured surface water inflows and additional water storages upslope of the quarry	No change
Product transport	Road transportation of product in accordance with Conditions 10, 11, 12 and 13 of Schedule 2, and Appendix 6 of Development Consent SSD 5109	Old Comma Road re-alignment was completed in June 2020 Ellerton drive extension opened July 2020
Infrastructure	Continued use of existing infrastructure (primary and secondary crushing plant, workshop, fuel storage area, administration buildings, weighbridge, wheel wash, truck parking and associated services) Addition of a mobile pug mill	Relocation of existing workshop, truck parking and temporary stockpiles is approved but has not occurred
Hours of operation	6 am to 10 pm Monday to Friday and 6 am to 6 pm Saturday, with the following exceptions: <ul style="list-style-type: none"> • primary crushing and truck departures 6 am to 6 pm Monday to Saturday; • construction operations 6 am to 6 pm Monday to Friday, and 8 am to 1 pm Saturday; • return truck movements 6 am to 8 pm Monday to Saturday; • other operations between 6 am to 10 pm Monday to Saturday; and • no operations on Sundays or public holidays. 	No change
Operational workforce	Employs up to 26 employees during times of peak production Contractors are employed on an as needs basis	No change
Car parking	Provided in a designated car parking area within the site	No change

Table 1.1 **Approved quarry operations and site inspection findings (as on 25 May 2021)**

Component	Approved development (Mod 2 2019)	Site inspection findings (25 May 2021)
Rehabilitation	Progressive rehabilitation of operational areas including revegetation of stepped benches in open cut void and overburden emplacements	Rehabilitation is progressing well with topsoil stockpiled separately for future rehabilitation works

1.4 Audit objectives

This independent environmental audit is required under Schedule 5, Condition 10 of State Significant Development Consent SSD-5109 issued on the 27 September 2013 for the *Cooma Road Quarry Continued Operations Project*. There have been two modifications to this Development Consent (Mod 1 and Mod 2).

The objectives of the audit are to meet the requirements of Condition 10:

Within a year of the date of this consent, and every 3 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:

- a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
- b) include consultation with the relevant agencies;
- c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL and/or Water Licence (including any assessment, plan or program required under these approvals);
- d) review the adequacy of any approved strategy, plan or program required under these approvals;
- e) recommend measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under these approvals; and
- f) be conducted and reported to the satisfaction of the Secretary.

Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.

This audit has been prepared in accordance with the NSW Department of Planning, Industry and Environment (DPIE) Requirement 2: Independent Audit Post Approval Requirements (May 2020) (Independent Audit PAR 2020).

The audit covers activities undertaken during the audit period. However, due to NSW Government and Holcim's COVID-19 site-visit restrictions, the site inspection took place outside of the audit period.

1.5 Audit criteria

Audit criteria are the policies, procedures or requirements against which an action will be compared. In this case, the audit criteria are the conditions, requirements and commitments in:

- Development Consent SSD 5109 for the Cooma Road Quarry Continued Operations (28 September 2013);
- Notice of Modification Section 4.55(1A) of the *Environmental Planning and Assessment Act 1979* for the Cooma Road Quarry Continued Operations Project, dated 30 April 2019;
- Environmental Impact Statement (EIS) for the Cooma Road Quarry Continued Operations Project, dated October 2012 (Umwelt 2012);
- Cooma Road Quarry Modification to Development Consent Environmental Assessment (Mod 1 EA) dated 10 June 2016 (EMM 2016);

- Cooma Road Statement of Environmental Effects; Modification 2 to Development Consent (Mod 2 SEE) dated February 2019 (EMM 2019);
- EPL 1453, as varied– Cooma Road Quarry; and
- environmental management plans and programs required under the approvals listed above.

Since development consent was granted, the administrative procedures for water licensing have changed and with the sites previous Water Licence converted to *Water Management Act 2000* licences: Works Approval (WA) 40WA413082 with linked Water Access Licence (WAL) 33412 (98 units). The WA and WAL for Cooma Road Quarry have been included in the audit.

1.6 Audit scope

The audit scope was determined in accordance with Section 3.3 of the Independent Audit PAR 2020. It has been summarised in Table 1.2, which also references each section that the particular aspect has been addressed.

Table 1.2 Audit scope

Independent Audit PAR 2020 scope requirement	Addressed
An Independent Audit must include:	
1. an assessment of compliance with:	
a) all conditions of consent applicable to the phase of the development that is being audited. Should there be any uncertainty to which conditions are to be audited, the auditor can seek clarification during the consultation as per Section 3.2;	Section 1.5 Appendices C, D & E
b) all post approval compliance documents prepared to satisfy the conditions of consent, including an assessment of the implementation of Environmental Management Plans and Sub-plans; and	Section 2.2
c) all environmental licences and approvals applicable to the development excluding environmental protection licences issued under the <i>Protection of the Environment Operations Act 1997</i> <u>or as otherwise agreed by the Secretary.</u>	Section 1.5 Section 2.2 Appendices C, D & E
2. a review of the environmental performance of the development, including but not necessarily limited to, an assessment of:	
a) actual impacts compared to predicted impacts documented in the environmental impact assessment;	Table 1.1 Appendix C
b) the physical extent of the development in comparison with the approved boundary;	Section 1.1 Appendix C
c) incidents, non-compliances and complaints that occurred or were made during the audit period;	Section 5 Appendices C, D & E
d) the performance of the development having regard to agency policy and any particular environmental issues identified through consultation carried out when developing the scope of the audit; and	Section 5.3
e) feedback received from the Department, and other agencies and stakeholders, including the community of Community Consultative Committee, on the environmental performance of the project during the audit period;	Section 2.4 Section 5.3
3. the status of implementation of previous Independent Audit findings, recommendations and actions (if any);	Section 4
4. a high-level assessment of whether Environmental Management Plans and Sub-plans are adequate; and	Section 3.3 Appendices C, D & E

Table 1.2 **Audit scope**

Independent Audit PAR 2020 scope requirement	Addressed
5. any other matters considered relevant by the auditor of the Department, taking into account relevant regulatory requirements and legislation, knowledge of the development’s past performance and comparison to industry best practices.	There were no other matters that required consideration

This audit covers the activities undertaken by Holcim and its contractors, relating to the quarry that is referred to in the regulatory approvals listed in Section 1.5.

1.7 **Audit schedule**

This is the third independent environmental audit for the quarry. Reports for the previous two audits are available on Holcim’s website.

This audit needed to be commissioned by December 2020 as per Schedule 5, Condition 10 of Development Consent SSD 5109. However, due to NSW Government and Holcim’s COVID-19 restrictions, the audit was delayed until April/May 2021. An independent environmental audit is required every 3 years, unless the Secretary directs otherwise.

The audit inspection could not be scheduled until 25 May 2020 This was three years and six months after the last independent audit site inspection (1 December 2017).

A range of documents were supplied by Holcim prior to the site inspection. However, there was a delay in the provision of all relevant audit documentation, which resulted in a delayed site inspection and audit completion. The audit was finalised within 2 days of receiving the final information from Holcim.

This resulted in the audit report being completed well after the 10-week requirement specified in Schedule 5, Condition 11 of Development Consent SSD 5109.

We understand that Holcim liaised with DPIE regarding some of these delays.

2 Audit methodology

2.1 Audit team roles, responsibilities and competence

The audit team was made up of representatives of Holcim and EMM.

2.1.1 Holcim audit team

Shilpa Shashi is Holcim's Planning and Environment Coordinator NSW/ACT and in this role is responsible for providing assistance on the implementation of management plans and compliance with the conditions of consent. Shilpa Shashi was responsible for assisting the auditors.

Adam Bertram is Holcim's Quarry Manager at the Cooma Road Quarry. In this role, he is responsible for the implementation of management plans and compliance with the conditions of consent.

Hayley Staier is Holcim's Project Coordinator at the Cooma Road Quarry. In this role, she is responsible for assisting the Quarry Manager. Hayley Staier assisted with the provision of information during the audit.

2.1.2 EMM audit team

i Site auditors

a Allan Young

Allan Young is an urban planner and environmental specialist and is currently the National Technical Leader for Urban and Regional Planning and EMM.

Allan's experience spans the public and private sectors, and he has previously held several senior roles within the NSW Government. Allan holds a Master of Urban and Regional Planning from the University of Sydney and has been recognised through a number of awards including Fulbright Scholarship (NYC Mayor's Office, Harvard University and MIT) and a Churchill Fellowship (US, Caribbean and UK).

b Amanda Weston

The auditor and audit report author was Amanda Weston. Amanda has 25 years' experience in the environmental planning and management field with experience in the delivery and management of large environmental projects across a range of disciplines and activities.

Amanda has strong working knowledge of all aspects of environmental management including compliance and reporting, risk management and stakeholder engagement. She holds a Bachelor of Applied Science/ Environmental Management from the University of Canberra.

No technical specialists were required for the audit.

The EMM audit team was endorsed by DPIE in a letter dated 16 February 2021 to undertake the audit (Appendix A).

2.1.3 Independence of audit team

Allan Young and Amanda Weston are independent of Holcim as defined by the criteria listed in Appendix E of the Independent Audit PAR 2020.

2.2 Approvals and documents audited

The approvals and documents audited were provided by Holcim from the commissioning of the audit through to finalisation. Documents audited include, but are not limited to:

- Development Consent SSD 5109 for the Cooma Road Quarry Continued Operations (28 September 2013), as varied in August 2016 (Mod 1) and April 2019 (Mod 2);
- Notice of Modification Section 4.55(1A) of the *Environmental Planning and Assessment Act 1979* for the Cooma Road Quarry Continued Operations Project, dated 30 April 2019 (Mod 2);
- Environmental Impact Statement (EIS) for the Cooma Road Quarry Continued Operations Project, dated October 2012 (Umwelt 2012);
- Cooma Road Quarry Modification to Development Consent Environmental Assessment (Mod 1 EA) dated 10 June 2016 (EMM 2016);
- Cooma Road Statement of Environmental Effects; Modification 2 to Development Consent (Mod 2 SEE) dated February 2019 (EMM 2019);
- EPL 1453, as varied– Cooma Road Quarry;
- water supply works approval 40WA413082 and WAL 33412;
- environmental management plans and programs required under the approvals listed above, including but not limited to:
 - Transport Management Plan (September 2019) (TMP 2019);
 - Noise Management Plan (September 2019) (NMP 2019);
 - Blast Management Plan (September 2019) (BMP 2019);
 - Air Quality Management Plan (September 2019) (AQMP 2019);
 - Water Management Plan (July 2019) (WMP 2019);
 - Heritage Management Plan (September 2019) (HMP 2019);
 - Rehabilitation Management Plan (September 2019) (RMP 2019);
 - Pollution Incident Response Management Plan – Cooma Road Quarry (September 2020) (PIRMP 2020); and
 - quarterly Noise Monitoring Assessment reports for the audit period (Quarter (Q) 1 to Q4 for 2018, 2019 and 2020);
- Community Consultative Committee (CCC) meeting minutes for 7 May 2018, 6 May 2019 and 15 June 2020;
- Annual Review 1 January 2018 – 31 December 2018 (Annual Review 2018);
- Annual Review 1 January 2019 – 31 December 2019 (Annual Review 2019);

- Annual Review 1 January 2020 – 31 January 2020 (Annual Review 2020);
- randomly selected transportation records;
- 2018, 2019 and 2020 truck tonnage data;
- INX incident register from 1 January 2019 to 30 April 2021;
- agency consultation response received for this audit including:
 - NSW Environment Protection Authority (EPA) letter dated 23 April 2021; and
- relevant agency correspondence regarding quarry operations and above-listed documentation.

2.3 Inception meeting/teleconference

An audit opening meeting was held online via Microsoft Teams between approximately 3 pm and 4 pm on Monday 26 April 2021. The meeting was attended by the following:

- Shilpa Shashi, Holcim, Planning and Environment Coordinator NSW/ACT;
- Adam Bertram, Holcim, Quarry Manager – Cooma Road Quarry;
- Hayley Staier, Holcim, Project Co-ordinator;
- Allan Young, EMM, EMM auditor; and
- Amanda Weston, EMM, auditor.

The scope of the audit was confirmed at the meeting.

2.4 Agency consultation

The development consent requires that the audit “include consultation with the relevant agencies”. Accordingly, letters were sent by email to the following agencies on 12 April 2021 requesting their comment on the compliance of the quarry with approval and licence conditions. Letters were sent to the following agencies:

- EPA;
- Queanbeyan-Palerang City Council (Council); and
- Natural Resource Access Regulator (NRAR).

Consultation outcomes are summarised in Section 5.3.

2.5 Site inspection

A full day site inspection was undertaken by Amanda Weston on 25 May 2021. Amanda Weston was escorted by Adam Bertram and Hayley Staier. The site inspection included interviews with site personnel, a review of the environmental files (electronic and paper), requests for further documentation held on site and at Holcim’s head office and an inspection of the entire quarry site.

2.6 Interviews

Holcim staff that have environmental management responsibilities at the quarry were interviewed as part of the audit:

- Shilpa Shashi, Holcim, Planning and Environment Coordinator NSW/ACT;
- Adam Bertram, Holcim, Cooma Road Quarry Manager; and
- Hayley Staier, Holcim Project Co-ordinator.

The interviews included discussion of the staff member's:

- role;
- environmental responsibilities;
- environmental reporting responsibilities; and
- understanding of environmental issues at the site.

It was apparent that each of the staff member had a clear understanding of their environmental responsibilities, environmental issues faced by the site, and the management of these issues. The understanding of day-to-day environmental management of the site, including community liaison, was strong. However, as indicated by the audit results, there is work required by the responsible staff to ensure compliance with the reporting obligations associated with the development consent and licence conditions.

2.7 Request for information

Holcim's first audit input was provided via a series of online Google folders on 1 April 2021. Following an initial review of the documentation provided against audit requirements, a request for information (RFI) was issued on 16 April 2021 seeking additional input from Holcim. The RFI included items not provided to date.

While a partial response was received on 28 April 2021 and during a Microsoft Teams meeting held on Monday 26 April 2021, further documentation was still required to complete the audit. Some information was obtained during, and after the site visit on 25 May 2021 with the final set of documentation received via email on 8 July 2021.

2.8 Draft report

The results of the audit were documented in a draft audit report. The draft audit report was provided to Holcim on 8 June 2021 for review and comments prior to finalisation.

2.9 Report finalisation

The report was finalised with consideration of comments and additional information received from Holcim on 12 July 2021.

2.10 Closing meeting

A closing meeting (teleconference) was held with Holcim on 8 July 2021 following provision of the draft audit report on 8 June 2021. The meeting was attended by Amanda Weston (EMM), Shilpa Shashi (Holcim) and Adam Bertram (Holcim). The draft audit report findings and recommendations were discussed.

2.11 Assessment criteria and method of reporting

The compliance assessment criteria adopted for this audit is in accordance with the compliance status descriptors provided within the Independent Audit PAR 2020. The compliance status descriptors are summarised in Table 2.1.

Table 2.1 Compliance status descriptors

Assessment	Criteria
Compliant	Where the auditor has collected sufficient verifiable evidence to demonstrate that all elements of the requirement have been complied with within the scope of the audit.
Non-compliant	The auditor has determined that one or more specific elements of the conditions or requirements have not been complied with within the scope of the audit.
Not triggered	A requirement has an activation or timing trigger that has not been met at the time when the audit is undertaken, therefore an assessment of compliance is not relevant.

The content of this audit report and the method of reporting is consistent with the Independent Audit PAR 2020.

3 Audit context

3.1 Holcim environmental systems

Holcim operates a national event reporting system referred to as INX, which is linked to Holcim's head office in Switzerland. Holcim advised that the INX reporting system covers all aspects of Holcim's operations, including environmental incidences, community feedback and complaints, near exceedance events and any other matters relating to operations across all Holcim sites. Incidences are allocated a rating based on the level of severity, and tracked through the INX system from the date of the incident to the action taken to remedy the incident.

An 'energy dashboard' is circulated internally at a national level which provides a monthly summary of diesel and electricity cost and consumption from Holcim's profit and loss accounts.

Emissions resulting from machinery and truck use are monitored online through a database named 'Visionlink', which provides reporting back to its manufacturer (eg Caterpillar). Emissions for Cooma Road Quarry are also reported via the EPA's National Pollutant Inventory (NPI) Report.

U-Manage is a reporting system provided by the blasting contractor, Maxam, and is accessible to site personnel, who undertake and manage blasting at Cooma Road Quarry.

A review of Holcim environmental systems indicates that internal processes are generally adequate for reporting purposes. The environmental management plans were also reviewed as part of this audit. They are generally high quality documents addressing all of the relevant matters. There does however seem to be a lack of site oversight of submitted plans and reports to regulatory bodies.

3.2 Site management

The Cooma Road Quarry is an operational quarry which commenced in 1959. The quarry is managed and operated by Holcim staff. Adam Bertram, Cooma Road Quarry Manager, is responsible for on-site environmental management.

3.3 Environmental management plans

The following environmental management plans for the site have been approved by the Secretary of the Department of Planning and Environment (the Secretary):

- Transport Management Plan (September 2019) (TMP 2019);
- Noise Management Plan (September 2019) (NMP 2019);
- Blast Management Plan (September 2019) (BMP 2019);
- Air Quality Management Plan (September 2019) (AQMP 2019);
- Heritage Management Plan (September 2019) (HMP 2019); and
- Rehabilitation Management Plan (September 2019) (RMP 2019).

The site's Water Management Plan (July 2019) (WMP 2019) has been updated as a result of MOD 2 but evidence of its approval was not supplied.

3.4 Land use

The primary land uses around Cooma Road Quarry include agriculture, environment protection, rural residential and residential uses. The rural residential area of Googong is approximately 0.5 km east of the quarry, and the residential area of Jerrabomberra is approximately 1 km west of the quarry. Other towns in the area include Karabar and Tralee.

Cuumbuen Nature Reserve is approximately 3.5 km to the north-east and Jerrabomberra Mountain Reserve is approximately 2 km to the north-west.

3.5 Environmental

The quarry area is characterised by undulating ridges and plains. Googong Dam is the largest water supply dam in the region and is approximately 4.5 km south-east of the quarry. The quarry is in the Molongolo River catchment which flows through Lake Burley Griffin. The surrounding watercourses include Jerrabomberra Creek to the west and north, Queanbeyan River to the east and Barracks Creek to the north.

The topography of the site has been modified by quarrying since 1959.

The site has a long history of quarrying activities and is largely clear of vegetation. However, there are large areas of remnant vegetation adjacent the quarry to the north and west.

3.6 Social

The site is about 6 km from the Queanbeyan town centre. Queanbeyan is a Statistical Local Area under the Australian Standard Geographical Classification (ASGC) defined area, with a population of 37,991 (ABS 2011). The population was 35,973 in 2006, which is an increase of 2018 or 1.06% (ABS 2011).

3.7 Approved quarry operations

Table 1.1 provides an overview of audited quarry operations, as approved under Development Consent SSD 5109 MOD 2. The quarry was operating during the audit site inspection on 25 May 2021.

4 Previous audit findings

4.1 Previous audit findings

A summary of the conditions where a non-compliance or an administrative non-compliance was recorded during the Independent Environmental Audit Cooma Road Quarry, undertaken for the last audit period and dated 9 February 2018 (pitt&sherry 2018), is provided in Table 4.1. A summary of recommendations that were not associated with a non-compliance is provided in Table 4.2.

Table 4.1 Previous audit non-compliance summary as per 2018 audit

Schedule	Condition	Compliance status	Comments and recommendations from the 2018 audit	Status update (2021)
State Significant Development Consent SSD-5109				
DC_SSD_5109, Schedule 3, Condition 6	<p>The Applicant must:</p> <ul style="list-style-type: none"> a) implement best management practice to minimise the construction, operational and traffic noise of the development; b) minimise the noise impacts of the development during meteorological conditions when the noise limits in this consent do not apply; c) maintain the effectiveness of any noise attenuation on equipment to ensure consistency with the benchmark sound power levels presented in the EIS; and d) regularly assess the results of noise monitoring to ensure compliance with the relevant conditions of this consent, to the satisfaction of the Secretary. 	Non-compliant	<ul style="list-style-type: none"> a) The Noise Management Plan (2014) describes best management practice to minimise the construction and operational traffic noise. Earth bunds have been constructed in accordance with the plan. Night / evening work are not undertaken. The 2014 and 2015 Annual Reports stated that no noise monitoring was being undertaken and planned to commence quarterly noise monitoring in 2016. b) As per c) The Noise Management Plan (2014) states that “the three-yearly sound power level testing program will commence within the first year of operations following Development Consent”. This has not occurred. Other than noting that there have been no noise-related complaints, it cannot be assessed whether this condition has been met. d) Attended noise monitoring of operations are being undertaken (see Appendix 9, Condition 3). The AEMR 2016 includes detailed noise report. <p>Conclusion: Noise monitoring data is not available for the entire audit period however it is to be included in the annual report as of 2016.</p>	<p>Refer to response for Schedule 3, Condition 6 in Table 4.2 and Appendix C. Section 5.3.3 Sound Power Level Maintenance Testing section of the NMP 2019 states that a Sound Power Level (SWL) testing program will be implemented to ensure compliance with the sound power levels for equipment outlined in the EIS. This is currently not undertaken although regular maintenance of plant and equipment is undertaken to ensure effective controls are maintained.</p>
DC_SSD_5109, Schedule 3, Condition 7	<p>The Applicant must prepare and implement a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:</p> <ul style="list-style-type: none"> a) be prepared in consultation with Council and the EPA, and submitted to the Secretary for approval within 6 months of this consent; 	Administrative non-compliance	<ul style="list-style-type: none"> a) The Noise Management Plan has been prepared and submitted as required. b) and (c) The plan includes details of how to address the relevant requirements including attended noise monitoring. 	<p>Refer to response for Schedule 3, Condition 7 in Table 4.2. Section 5.3.3 Sound Power Level Maintenance Testing section of the Noise Management Plan 2019 states</p>

Table 4.1 Previous audit non-compliance summary as per 2018 audit

Schedule	Condition	Compliance status	Comments and recommendations from the 2018 audit	Status update (2021)												
	<ul style="list-style-type: none"> describe the measures that would be implemented to comply with the: noise criteria in Table 1; hours of operation in Table 2; and operating conditions in Condition 7 above; <p>e) include a monitoring program that:</p> <ul style="list-style-type: none"> incorporates quarterly (or as otherwise agreed by the Secretary) attended noise monitoring to evaluate the performance of the development against the noise criteria in Table 1; includes a protocol for determining exceedances of the noise criteria in Table 1; and assesses the sound power levels of the equipment on site, compares it with the benchmark levels used in the EIS, and evaluates the effectiveness of any attenuation. <p>The Applicant must implement the approved management plan as approved from time to time by the Secretary</p>		<p>Table 2.1 in the Noise Management Plan refers to section 2.1.3 of the plan on addressing condition 7 (a). there is no section 2.1.3 in the plan (2014).</p> <p>The AEMR contains the reports of quarterly noise monitoring in the appendix (December 2016 report by WSP/PB indicating the noise levels are likely to have been within Development Consent conditions).</p> <p>However, implementation of the plan is inadequate in terms of noise monitoring and reporting.</p> <p>Conclusion: Section 6.1 of the plan (2014) refers to quarterly attended noise monitoring however this was not implemented until June 2016. This is now being implemented.</p>	that a SPL testing program will be implemented to ensure compliance with the sound power levels for equipment outlined in the EIS. This has not been implemented												
DC_SSD_5109, Schedule 3, Condition 9	<p>The Applicant must ensure that the blasting on the site does not cause exceedances of the criteria in Table 3. Table 3: Blasting Criteria</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Airblast overpressure (dB(Lin Peak))</th> <th>Ground vibration (mm/s)</th> <th>Allois excee</th> </tr> </thead> <tbody> <tr> <td></td> <td>120</td> <td>10</td> <td>0</td> </tr> <tr> <td>Any residence on privately-owned land</td> <td>115</td> <td>5</td> <td>5% of the total of blasts on of 12</td> </tr> </tbody> </table> <p>However, these criteria do not apply if the Applicant has a written agreement with the relevant owner or infrastructure provider/owner, and the Applicant has advised the Department in writing of the terms of this agreement.</p>	Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allois excee		120	10	0	Any residence on privately-owned land	115	5	5% of the total of blasts on of 12	Non-compliant	<p>One blast event logged in INX breach of blasting limit on 14/12/16. The Auditor understands that this exceedance is an isolated event.</p> <p>Recommendation: Continue to monitor blasts. If exceedances occur in the future, undertake a review of blasting procedures.</p>	<p>Blast Monitoring Result of the Annual Review reports for 2018, 2019 and 2020 show that there were no non-compliances during the audit period.</p> <p>Section 9.3 Complaints notes 2 blasting related complaints reported on 30 November 2018 and 3 October 2018. Holcim's records indicate that</p>
Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allois excee													
	120	10	0													
Any residence on privately-owned land	115	5	5% of the total of blasts on of 12													

Table 4.1 Previous audit non-compliance summary as per 2018 audit

Schedule	Condition	Compliance status	Comments and recommendations from the 2018 audit	Status update (2021)
DC_SSD_5109, Schedule 3, Condition 24	<p>The Applicant must prepare and implement a Rehabilitation Management Plan for the development to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with DRE, DPI, DPI Water and Council;</p> <p>(b) be submitted to the Secretary for approval within 12 months of the date of this consent;</p> <p>(c) describe the short, medium and long term measures that would be implemented to:</p> <ul style="list-style-type: none"> • manage remnant vegetation and habitat on site; • ensure compliance with the rehabilitation objective and progressive rehabilitation obligations in this consent; <p>(d) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, including triggering remedial action (if necessary);</p> <p>(e) include a detailed description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for:</p> <ul style="list-style-type: none"> • ensuring compliance with the rehabilitation objectives and progressive rehabilitation obligations in this consent; • enhancing the quality of remnant vegetation and fauna habitat; • establishing vegetation screening to minimise the visual impacts of the site on surrounding receivers; • restoring native endemic vegetation and fauna habitat within the rehabilitation area; 	Administrative non-compliance	<p>The Rehabilitation Management Plan has been submitted to DPI, NOW and Council but not yet approved.</p> <p>Observation: Follow up as required to get Rehabilitation Management Plan approved.</p> <p>Weed management – weed spraying records sighted.</p> <p>Holcim undertakes informal inspections of the activity.</p> <p>Green Angle Investments has been engaged to undertake weed spraying.</p>	<p>the blast was within the consent level</p> <p>Department of Planning, Industry & Environmental approval letter for Noise, Blast, Air Quality, Heritage & Rehabilitation Management Plans dated 31/10/19 provided.</p>

Table 4.1 Previous audit non-compliance summary as per 2018 audit

Schedule	Condition	Compliance status	Comments and recommendations from the 2018 audit	Status update (2021)
	<ul style="list-style-type: none"> • maximising the salvage of environmental resources within the approved disturbance area – including tree hollows, vegetative and soil resources – for beneficial reuse in the enhancement of the biodiversity areas or rehabilitation area; • collecting and propagating seed; • minimising the impacts on native fauna on site; • controlling weeds and feral pests; • controlling erosion; • controlling access; and • bushfire management; <p>f) include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria;</p> <p>g) include details of who would be responsible for monitoring, reviewing, and implementing the plan;</p> <p>h) provide details of the conceptual final landform and associated land uses; and</p> <p>i) provide details of water management requirements and details of the final void in relation to water storage.</p> <p>The Applicant must implement the approved management plan as approved from time to time by the Secretary.</p>			
DC_SSD_5109, Schedule 3, Condition 30	<p>Prior to importing onto the site any recycled concrete or any other material that may be classified as a waste under the EPA Waste Classification Guidelines 2009 (or its latest version), the Applicant must obtain a 'resource recovery exemption' under the POEO Act and provide evidence of this exemption to the Department.</p>	Non-compliant	<p>Concrete waste (from a concrete batching plant) is processed at the site.</p> <p>A Resource Recovery Exemption for that material has not been obtained.</p> <p>Recommendation: Apply for a Resource Recovery Exemption for the concrete wastes processed at the site.</p>	<p>Concrete received as spadable (ie wet cement - not free flowing) and stockpiled on site. Concrete (non spadable) waste was not received or processed on site during the audit period therefore no</p>

Table 4.1 Previous audit non-compliance summary as per 2018 audit

Schedule	Condition	Compliance status	Comments and recommendations from the 2018 audit	Status update (2021)
	Note: This condition does not apply to routine deliveries to the site.			Resource Recovery Exemption required.
DC_SSD_5109, Schedule 3, Condition 31	The Applicant shall: (a) minimise the waste generated by the development; and (b) ensure that the waste generated by the development is appropriately stored, handled, and disposed of, to the satisfaction of the Director-General.	Non-compliant	No waste stockpile was observed during site inspection. Waste materials are sorted into 3m ³ bins. Waste management service by contractors – waste receipts were inspected – eg Remondis 30 June 2017, 31 Aug 2017; Southern Oil (waste oil) on 11 Nov 2017; Southern Oil (waste filter) on 11 Oct 2017. Waste oil is managed in a bunded area. One open waste oil drum for temporary storage was sighted outside the bund. The auditees mentioned that this area is served by a oil/grease separator with hardstand sloping towards a capture drain. However, the area is not protected by any bunds and stormwater or surface water contamination is possible during storm events. Recommendation: It is recommended that this waste oil drum be kept in a drip tray or other suitable mechanism to avoid any leaks affecting stormwater runoff.	All waste oil and oil soaked filters stored in designated bunded areas (Site Inspection 25/05/21). One temporary oil collection tray was located outside of the bunded area during the site inspection but it did not contain any liquid waste. When in use and containing liquids, the oil collection tray is moved to the bunded area.
DC_SSD_5109, Schedule 5, Condition 4	Within 3 months of the submission of an: (a) incident report under condition 7 below; (b) Annual Review under condition 9 below; (c) audit report under condition 10 below; and (d) any modifications to this consent. the Applicant must review, and if necessary revise, the strategies, plans, and programs required under this consent, to the satisfaction of the Secretary. Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended	Non-compliant	The Environmental Management Strategy has not been revised since March 2014, as per the Strategy available on the Holcim website Annual Review report for 2016 mentions the Modifications to SSD_5109 (page 6). Evidence for review of the Strategy following modifications to the consent SSD_5109 as per the August 2016 Modification was not provided to the Auditor. Recommendation: Prepare and save minutes of meetings where documentation Management Reviews and / or procedural document reviews are undertaken.	All site Management Plans have been updated post MOD 2 approval. Department of Planning, Industry & Environmental approval letter for Noise, Blast, Air Quality, Heritage & Rehabilitation Management Plans dated 31/10/19 provided. No evidence of Water Management Plan approved

Table 4.1 Previous audit non-compliance summary as per 2018 audit

Schedule	Condition	Compliance status	Comments and recommendations from the 2018 audit	Status update (2021)
	measures to improve the environmental performance of the development.			
Environment Protection Licence 1453				
EPL_1453, Condition O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Non-compliant	No waste stockpile was observed during site inspection. Waste materials are sorted into 3m ³ bins. Waste management service by contractors – waste receipts were inspected– eg Remondis 30 June 2017, 31 Aug 2017; Southern Oil (waste oil) on 11 Nov 2017; Southern Oil (waste filter) on 11 Oct 2017. Waste oil is managed in a bunded area. One open waste oil drum for temporary storage was sighted outside the bund. The auditees mentioned that this area is served by a oil/grease separator with hardstand sloping towards a capture drain. However, the area is not protected by any bunds and stormwater or surface water contamination is possible during storm events. Recommendation: Refer to MCoA Schedule 3 Condition 31 above	
EPL_1453, Condition R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: a) a Statement of Compliance; and b) Monitoring and Complaints Summary.	Non-compliant	The 2017 (1 May 2016 – 30 Apr 2017) Annual Return Form G Statement of Compliance is incomplete. The blasting complaint of March 2017 (as noted in the INX extract) is not noted in the 2017 Annual Return (a similar complaint in 2014 was noted in the 2014 Annual Return).	EPL Annual Returns for 2018, 2019 & 2020 not sighted
EPL_1453, Condition R1.7	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the licence holder; or b) by a person approved in writing by the EPA to sign on behalf of the licenceholder.	Administrative non-compliance	Annual Returns for 2014, 2015 and 2016 are signed by Director and Secretary. Observation: Annual Return for 2017 is not signed on form H.	EPL Annual Returns for 2018, 2019 & 2020 not sighted

Table 4.1 Previous audit non-compliance summary as per 2018 audit

Schedule	Condition	Compliance status	Comments and recommendations from the 2018 audit	Status update (2021)
EPL_1453, Condition R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred. Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.	Non-compliant	There have been no serious environmental harm incidents occurred on site. Any environmental incidents should be included in the Annual Returns; However, Annual Return 2017 (01/5/16 – 30/4/17) form C did not include the one instance of lower than limits pH (6.3 against lower limit of 6.5) as noted on 1 Sept 2016 (AEMR 2016 and Attachment 4.1H Environmental Monitoring Worksheet for 1/9/16 – 15/9/16). Recommendation: Make sure Annual Reports are complete and include all relevant information.	EPL Annual Returns for 2018, 2019 & 2020 not sighted
Water Licence No. 40SL27690 (including Water Access Licences as converted under Water Management Act 2000)				
Condition 1	A logbook must be kept and maintained at the authorised work site or on the property for each water supply work authorised by this approval, unless the work is metered and fitted with a data logger. A logbook is a document, electronic or hard copy, that records specific required information. A metered water supply work is a water supply work fitted with a data logger and a meter that complies with Australian standard as 4747: meters for non-urban water supply.	Non-compliant	Two spreadsheets are maintained for plant water usage and water usage vs rainfall. Such information for past years could not be verified as only 2017 logbooks were available at the audit. The plant water usage spreadsheet for 2017 indicates process water usage and total water usage as per meter reading. Data is available January to November 2017 at the time of this audit. The Water Licence number and other specific details on the logged meter/water source are not noted in the logbooks. Recommendation: update the logbook with required specific details.	Plant Water Usage spreadsheets updated to contain relevant information
Condition 2	The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting, must be recorded in the logbook each time water is taken.	Non-compliant	Water metering reading for general use and process water use at plant are noted in the spreadsheet. Only total water usage per month for quarry water usage is available. Recommendation: update the logbook with required specific details.	Plant Water Usage spreadsheets updated to contain relevant information

Table 4.1 Previous audit non-compliance summary as per 2018 audit

Schedule	Condition	Compliance status	Comments and recommendations from the 2018 audit	Status update (2021)
Condition 3	<p>Where a water meter is installed on a water supply work authorised by this approval, the meter reading must be recorded in the logbook before taking water. this reading must be recorded every time water is to be taken.</p> <p>A water meter is a device that measures the volume of water that is extracted over a known period of time. examples of a water meter may include a mechanical meter, electromagnetic meter, channel meter with mobile phone, or an authorised meter equivalent.</p>	Non-compliant	<p>Logbook entries are per monthly water consumption, not per water extraction. Reading is not recorded every time water is taken.</p> <p>Recommendation: update the logbook with required specific details.</p>	Plant Water Usage spreadsheets updated to contain relevant information
Condition 4	<p>Before water is taken through the water supply work authorised by this approval, confirmation must be recorded in the logbook that cease to take conditions do not apply and water may be taken.</p> <p>The method of confirming that water may be taken, such as visual inspection or internet search, must also be recorded in the logbook.</p> <p>If water may be taken, the:</p> <ol style="list-style-type: none"> date, and time of the confirmation, and flow rate or water level at the reference point in the water source must be recorded in the logbook. <p>Visual inspection means to physically inspect the gauge (or reference point) and confirm flow rate or water level by eye. internet search means to confirm the flow rate or water level at the appropriate gauge by checking the correct website. cease to take conditions means any condition on this approval, or on the access licence under which water is proposed to be taken, that prohibits the taking of water in a particular circumstance.</p>	Non-compliant	<p>Date, time and licence or approval number is not recorded in the logbook.</p> <p>Recommendation: Logbooks for WAL 413082 include all required information, including date, time and licence or approval number.</p>	Plant Water Usage spreadsheets updated to contain relevant information

Table 4.1 Previous audit non-compliance summary as per 2018 audit

Schedule	Condition	Compliance status	Comments and recommendations from the 2018 audit	Status update (2021)
Condition 8	<p>The following information must be recorded in the logbook for each period of time that water is taken:</p> <ul style="list-style-type: none"> a) date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and b) the access licence number under which the water is taken, and c) the approval number under which the water is taken, and d) the volume of water taken for domestic consumption and/or stock watering. a logbook is a document, electronic or hard copy, that records specific required information. 	Non-compliant	<p>The logbook contains monthly total water usage only. It doesn't have date, time, volume of each water draw, access licence number, etc.</p> <p>Recommendation: update the logbook with required information.</p>	

Table 4.2 Additional recommendations

Schedule	Condition	Compliance status	Comments and recommendations	Status update (2021)
State Significant Development Consent SSD-5109				
DC_SSD_5109, Schedule 3, Condition 1	<p>The Applicant must keep accurate records of:</p> <ul style="list-style-type: none"> • the amount of quarry products transported from the site (monthly and annually) and publish these records on its website on a quarterly basis; and • the quantity, destination and source of all laden truck movements to and from the site (hourly, daily, weekly, monthly and annually). 	Observation	<p>(a) Production data is commercially sensitive. Annual production data is provided in the Annual Review (see Schedule 2, Condition 17) to confirm that the quarry's production limits are not exceeded.</p> <p>The data is captured in weigh bridge records and in Annual Review documents.</p> <p>(b) Weighbridge records record the quantity, destination of all laden truck movements to and from the site (hourly). This information can be used to determine daily, weekly, monthly and annually dispatches.</p>	

Table 4.2 Additional recommendations

Schedule	Condition	Compliance status	Comments and recommendations	Status update (2021)
			Observation: AEMR 2016 for the calendar year is signed by NSW Planning and Environment Coordinator on 31 March 2016 – Recommendation: this typographical error should be corrected.	
DC_SSD_5109, Schedule 3, Condition 20	The Applicant must prepare and implement a Water Management Plan for the development to the satisfaction of the Secretary. This plan must be prepared in consultation with the EPA and DPI Water by suitably qualified and experienced person/s whose appointment has been approved by the Secretary, and be submitted to the Secretary for approval within 6 months of the date of this consent. This plan must include a: <ul style="list-style-type: none"> a) Site Water Balance that includes details of: <ul style="list-style-type: none"> • sources and security of water supply, including contingency planning; • water use on site; and • measures that would be implemented to minimise use of clean water and maximise recycling of dirty water on the site; b) Surface Water Management Plan that includes: <ul style="list-style-type: none"> • baseline data on surface water flows and quality in the watercourses that could be affected by the development; • a detailed description of the surface water management system on site, including the design objectives and performance criteria for the: <ul style="list-style-type: none"> - clean water diversions; - erosion and sediment controls; 	Observation	The Water Management Plan has been submitted but approval from the Secretary/Director-General has not been received as at the time of the audit (01 Dec 2017) Water data monitoring is included in the Annual Reviews/AEMR Recommendation: DPI Water be contacted regarding finalisation of the Water Management Plan.	Secretary approval of the updated 2019 Water Management Plan not sighted

Table 4.2 Additional recommendations

Schedule	Condition	Compliance status	Comments and recommendations	Status update (2021)
	<ul style="list-style-type: none"> - water storages (including Maximum Harvestable Rights requirements); and - control of water pollution from areas of the site that have been rehabilitated. <ul style="list-style-type: none"> • performance criteria, including trigger levels for investigating any potentially adverse surface water quality impacts; • a program to monitor; <ul style="list-style-type: none"> - any surface water discharges; - the effectiveness of the water management system; - surface water flows and quality in local watercourses; and - ecosystem health of local watercourses; <p>(c) Groundwater Monitoring Program that includes:</p> <ul style="list-style-type: none"> • baseline data of groundwater levels surrounding the development; • groundwater assessment criteria based upon analysis of baseline data for groundwater, including trigger levels for investigating any potentially adverse groundwater impacts; and • a program to monitor and/or validate the impacts of the development on groundwater resources; <p>(d) Surface and Ground Water Response Plan that describes the measures and/or procedures that would be implemented to:</p> <ul style="list-style-type: none"> • respond to any exceedances of the surface water and groundwater assessment criteria; and 			

Table 4.2 Additional recommendations

Schedule	Condition	Compliance status	Comments and recommendations	Status update (2021)
	<ul style="list-style-type: none"> mitigate and/or offset any adverse impacts on surface water and groundwater resources located within and adjacent to the site. <p>The Applicant must implement the approved management plan as approved from time to time by the Secretary.</p>			
Environment Protection Licence 1453				
Concentration limits				
EPL_1453, Condition M1.3	<p>The following records must be kept in respect of any samples required to be collected for the purposes of this licence:</p> <ul style="list-style-type: none"> a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and d) the name of the person who collected the sample. 	Compliant	<p>Water data as reported in the Annual Review:</p> <ul style="list-style-type: none"> a) Monitoring summary records provide a 'Sampling Date' – Compliant. b) Times are provided on the monitoring summary records c) Compliant d) Initials of the field samplers are given on field sheets (no names are clear) <p>Holcim representatives answered that the records provided by ALS are kept in a folder called ALS Monitoring Folder. This folder was not sighted.</p> <p>Recommendation: Monitoring records should provide the name of the sampler as required, not just initials.</p>	<p>Sampling undertaken by Ramboll (contractor). All sampling information is provided to the Quarry Manager via a web portal by the laboratory.</p>
Monitoring records				
EPL_1453, Condition M2.2	<p>The record must include details of the following:</p> <p>...</p> <ul style="list-style-type: none"> d) the nature of the complaint; 	Compliant	<p>Recommendation: all required details should be noted on the forms</p>	<p>EPL Annual returns for 2018, 2019 & 202 not sighted</p>

Table 4.2 Additional recommendations

Schedule	Condition	Compliance status	Comments and recommendations	Status update (2021)
	e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and			
Water Licence No. 40SL27690 (including Water Access Licences as converted under Water Management Act 2000)				
Condition 5	Once the approval holder becomes aware of a breach of any condition on this approval, the approval holder must notify the minister as soon as practicable. the minister must be notified by: a. email: or b. telephone: 1800 353 104. any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call	Observation	Recommendation: <i>The water approval related Non-Compliances described in this audit should be reported as per this condition.</i>	No non-compliances related to the WAL or works approval during the audit period.

5 2021 audit results

5.1 Overview

Compliance of the quarry with the conditions listed in Development Consent SSD 5109 (MOD2), EPL 1453, as amended, Water Supply works approval 40WA413082 and Water Access Licence (WAL) WAL33412. As per the Independent Audit PAR 2018 requirement, the audit table provides:

- the approval or licence name;
- a unique identification number;
- the schedule and condition number for each item;
- the exact wording of the compliance requirement;
- the evidence used to assess and determine whether each requirement has been complied with; and
- commentary on findings and recommendations; and the compliance status based on the criteria provided in Table 2.1.

5.2 Audit results

A summary of the conditions where a non-compliance was recorded is provided in Table 5.1. A summary of recommendations is provided in Table 5.2. Photographs illustrating the condition of the site during the site inspection are provided in Appendix B.

The detailed assessment against compliance obligations associated with Development Consent SSD 5109 (MOD 2) and the EIS statement of commitments for the Cooma Road Quarry is provided in Appendix C.

The detailed assessment against compliance obligations associated with EPL 1453 for the Cooma Road Quarry is provided in Appendix D.

The detailed assessment against compliance obligations associated with the Water Access Licence (WAL33412) and Works Approval (40WA413082) for the Cooma Road Quarry is provided in Appendix E.

Table 5.1 Audit non-compliances

Requirement	Evidence	Comments	Audit Finding	
<i>State Significant Development Consent SSD-5109</i>				
Schedule 2, Condition 17	The Applicant must: <ul style="list-style-type: none"> a) provide annual quarry production data to DRG using the standard form for that purpose; and b) include a copy of this data in the Annual Review (see condition 4 of schedule 5). 	email/letter showing submission of Annual Production data provided to DRG (form for reporting used) Annual Review 2018, 2019 and 2020	<ul style="list-style-type: none"> a) No evidence of information provided to Division of Resources and Geoscience provided b) Total product distributed provided in Annual Review 2018, 2019 and 2020. 	Non-compliant
Schedule 2, Condition 23	By 31 December 2013, the Applicant must: <ul style="list-style-type: none"> • engage a registered surveyor to mark out the boundaries of the approved limits of extraction within the development area; and • submit a survey plan of these boundaries with applicable GPS coordinates to the Secretary. 	Survey plan – Limits of extraction Site inspection of boundary pegs	<ul style="list-style-type: none"> a) Sighted survey plan showing site boundary and limits of extraction dated May 2021. b) evidence has not been provided to indicate that the survey plan has been submitted to the Secretary. 	Non-compliant
Schedule 5, Condition 9	By the end of March each year, or other timing as may be agreed by the Secretary, the Applicant must submit a report to the Department reviewing the environmental performance of the development to the satisfaction of the Secretary. This review must: <ul style="list-style-type: none"> a) describe the development (including rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year; b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against: <ul style="list-style-type: none"> • the relevant statutory requirements, limits or performance measures/criteria; • requirements of any plan or program required under this consent; • the monitoring results of previous years; and • the relevant predictions in the documents listed in condition 2(a) of Schedule 2; c) identify any Non-Compliance over the last year, and describe what actions were (or are being) taken to ensure compliance; d) identify any trends in the monitoring data over the life of the development; 	Department and Council documentation	Department letters providing feedback of Annual Review sighted for 2018 (23/04/19), 2019 (01/06/20) & 2020 (10/06/21). No evidence Annual reviews submitted to council as requested by the Department	Non-compliant

Table 5.1 **Audit non-compliances**

	Requirement	Evidence	Comments	Audit Finding
	<p>e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the Potential cause of any significant discrepancies; and</p> <p>f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the development.</p> <p>The Applicant must ensure that copies of the Annual Review are submitted to Council and are available to the Community Consultative Committee (see condition 6 of Schedule 5) and any interested person upon request.</p>			
EPL 1453				
Condition M5.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Holcim Website	Holcim website does not advertise for an easily accessible 'Complaints' telephone number for complaints associated with the Cooma Road Quarry site	Non-compliant
Condition M5.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Holcim Website	Holcim website does not advertise for an easily accessible 'Complaints' telephone number for complaints associated with the Cooma Road Quarry site	Non-compliant
Condition M5.3	The preceding two conditions do not apply until 3 months after: the date of the issue of this licence	Holcim Website	Holcim website does not advertise for an easily accessible 'Complaints' telephone number for complaints associated with the Cooma Road Quarry site	Non-compliant

Table 5.2 Audit recommendations

Requirement	Evidence	Comments	Recommendations
State Significant Development Consent SSD-5109			
Schedule 2, Condition 8	Prior to the commissioning of Stage 1 of the Old Cooma Road re-alignment, the Applicant must not transport more than 1 million tonnes of quarry products, ENM or VENM to or from the site in a calendar year.	<p>2018, 2019 and 2020 Annual Reviews</p> <p>Holcim truck tonnage records for 2018, 2019 and 2020</p> <p>All products inc. ENM, VENM and imported material 2018 – 2020 spreadsheet</p> <p>Site interviews</p> <p>This condition was amended within the audit period, in accordance with Condition 6, Schedule 2 of Notice of Modification issued by the delegate of the Minister for Planning and Public Spaces on 30 April 2019: “In condition 8 of Schedule 2, delete “extractive materials”, and insert “quarry products, ENM and VENM to or”. Thus, the reworded condition is only applicable from the date of enforcement.</p> <p>Old Cooma Road re-alignment was completed in June 2020. Prior to June 2020, the following amount of product was recorded on the Holcim truck tonnage records made available on Holcim’s website:</p> <ul style="list-style-type: none"> • 735,978 tonnes in 2018; • 947,885 tonnes in 2019; and • 599,958 tonnes from January to June 2020 inclusive, and 1,105,376 for 2020. <p>However, some of this data did not align with the data provided in the All products inc. ENM, VENM and imported material 2018 – 2020 spreadsheet:</p> <ul style="list-style-type: none"> • 967,227.47 tonnes in 2018; • 946,283.89 tonnes in 2019; and • 1,138,256.78 tonnes in 2020. 	<p>In accordance with the new condition, Holcim should:</p> <ul style="list-style-type: none"> • amend truck tonnage records to include all quarry products, ENM and VENM transported to and from the site in a year; and • keep clear and consistent records of all quarry product, ENM and VENM for easy provision during audits, whereby the figures should align across all documentation.

Table 5.2 Audit recommendations

Requirement	Evidence	Comments	Recommendations	
		Nevertheless, there is no reason to believe that this condition has not been met.		
Schedule 2, Condition 9	<p>Following the commissioning of Stage 1 of the Old Cooma Road re-alignment, the Applicant must not transport more than a total of 1.5 million tonnes of quarry products, ENM or VENM to or from the site in a calendar year.</p> <p>Note: Stage 1 of the Old Cooma Road re-alignment is a 1.5km section of Old Cooma Road between Wickerslack Lane and Heights Road. Stage 2 is a 4.5km section of Old Cooma Road from Edwin Land Parkway south towards Googong Dam Road.</p>	<p>Annual Review 2020</p> <p>Holcim truck tonnage records for 2020</p> <p>All products inc. ENM, VENM and imported material 2018 – 2020 spreadsheet</p>	<p>Old Comma Road re-alignment was completed in June 2020. Holcim’s truck tonnage records for 2020 shows that a total of 1,138,256.78 tonnes of quarry products, ENM or VENM was transported to or from the site in the calendar year.</p>	<p>Refer to response and recommendation for Schedule 2, Condition 8.</p>
Schedule 2, Condition 10	<p>Prior to the commissioning of the Ellerton Drive Extension, the Applicant must not exceed 50 heavy vehicle movements a day on the section of Cooma Street north of Edwin Land Parkway.</p>	<p>Transport Management Plan 2019</p> <p>Holcim’s email dated 10/05/2021 (From H. Staier)</p> <p>Vehicle tracking register</p> <p>Site interviews</p>	<p>Ellerton drive extension opened July 2020.</p> <p>Holcim uses a system called ‘Cortex’ which uses GPS tracking to monitor truck movements. Cortex uses live tracking that displays the route that the trucks take to and from site, ensuring they are abiding with Conditions 10, 11 and 12 of Schedule 2.</p> <p>Additionally, a monthly report is run through the Command ticketing system which outlines the total truck movements and their respective times.</p> <p>There is no reason to believe this condition has not been met.</p>	<p>Figure 4.1 Haul Routes of the TMP 2019 should be updated given the completion of Ellerton Drive extension.</p>
Schedule 2, Condition 20	<p>The Applicant must:</p> <p>a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and</p>	<p>INX Event register from 1 January 2017 – 30 April 2021</p>	<p>Six incidents reported under ‘Asset damage’ within audit period, however they all seem to have affected private assets.</p>	<p>INX Event register could have another category for Asset damage to public infrastructure to make it easier to report on this condition.</p>

Table 5.2 Audit recommendations

Requirement	Evidence	Comments	Recommendations	
<p>b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.</p>				
<p>Schedule 3, Condition 1</p>	<p>The Applicant must prepare and implement a Transport Management Plan for the development to the satisfaction of the Secretary. This plan must:</p> <ul style="list-style-type: none"> a) be prepared in consultation with the RMS and Council, and submitted to the Secretary for approval within 6 months of the date of this consent; b) include a drivers' code of conduct for the development; c) identify and prioritise the haul routes to be used by heavy vehicles, including those roads which are planned but not yet constructed; d) describe the measures that would be implemented to ensure drivers of development-related vehicles comply with the drivers' code of conduct; e) include a program to monitor the effectiveness of the implementation of these measures; and f) be updated within 3 months of the Applicant identifying a new importation source of ENM or VENM that requires the use of alternate transport route to those identified in Appendix 6. <p>The Applicant must implement the approved management plan as approved from time to time by the Secretary.</p>	<p>Cooma Road Quarry Transport Management Plan (TMP) dated September 2019 DPIE letter dated 7/08/2019. Sighted Cooma Road Quarry Drivers Code of Conduct (located in TMP) Holcim's emails dated 28/04/2021 & 10/05/21</p>	<ul style="list-style-type: none"> (a) As per DPIE's correspondence dated 7/08/2019, consultation with RMS is not required. Transport Plan approved by Department (letter dated 19/08/2020) (b) The TMP includes a Cooma Road Quarry Drivers Code of Conduct (c) Figure 4.1 Haul Routes in the TMP identifies and prioritises haul routes. The figure will need to be updated following the completion of Cooma Road re-alignment and Ellerton Drive Extension, which occurred in June 2020. (d) Measures outlined in Section 4.3.2 of the TMP. (e) Monitoring of truck movement via monthly report from 'Cortex' system. (f) Holcim email dated 28/04/2021 noted that there has been no new importation source of ENM or VENM that requires the use of alternative transport route therefore, this has not been completed as it is not relevant for the reporting years 2018-2020. 	<p>Figure 4.1 Haul Routes should be updated to reflect the priority of current haul routes; and in all other relevant training/induction records and documentation.</p>

Table 5.2 Audit recommendations

Requirement	Evidence	Comments	Recommendations
<p>Schedule 3, Condition 10</p> <p>The Applicant must:</p> <p>a) not carry out blasting on site on weekends or public holidays; and</p> <p>b) only carry out blasting on site between 9 am and 3 pm Monday to Friday.</p>	<p>Annual Review 2018, 2019 and 2020 Environmental Monitoring Worksheets provided on Holcim’s website</p> <p>Samples of 2020 Blast reports Blast Management Plan (2019)</p>	<p>(a) Dates of each blast are recorded in the Annual Review reports and Environmental Monitoring Worksheets. A review of randomly selected dates indicates that blasts are not occurring on weekends or public holidays.</p> <p>(b) Holcim’s Environmental Monitoring Worksheets provided on Holcim’s website have a ‘time of blast’ section which was left blank for most blasting reports, with the exception of a few which were compliant.</p> <p>Samples of blast reports sighted 17/04/20 Blast Time 12:17 & 19/05/20 Blast Time 14:50. 2018 and 2019 Blast reports (hard copies) have been archived. Quarry Manager is aware of process required to apply for consent outside of consent time in the event of a misfire.</p>	<p>Update Table 20 "Blast Monitoring Results" in the Annual Reports to include Blast Time</p>
<p>Schedule 5, Condition 8</p> <p>The Applicant must provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.</p>	<p>Holcim’s website https://www.holcim.com.au/</p>	<p>Website http://www.holcim.com.au/sustainability/environment/pollution-monitoring-data.html has Pollution Monitoring Data reports for all Holcim quarries. Recent Pollution Monitoring sheets have been streamlined to be specific to each Holcim site. For Cooma Road Quarry, 20/21 data is missing and most blasting data does not include time of blasts.</p>	<p>Update environmental pollution monitoring data in a timely manner and make available online.</p> <p>Data for the Cooma Road Quarry site is quite difficult to find - suggest linking the data to the website's Cooma Road Quarry page</p>

Table 5.2 Audit recommendations

Requirement	Evidence	Comments	Recommendations	
		Website http://www.holcim.com.au/aboutus/community-link/cooma-road/planning-approvals.html has environmental management plans, PIRMP, incident and complaints reports, truck movement data and independent audit reports. Annual Review reports area also available on website.		
EPL 1453				
Condition P1.1	P1 Location of monitoring/discharge points and areas: The following points referred to in the table are identified in the licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to air from the point.	Annual Reviews for 2018, 2019 & 2020	Monitoring Results included in Annual Reports however is not consistent with EPL monitoring points (as per EPL monitoring locations map July 2020).	Update Section 6.3 - Air Quality of Annual Report to reflect EPL monitoring points.
Condition L2.1	For each monitoring/discharge point or utilisation area specified in the table/s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	Annual Reviews for 2018, 2019 & 2020	Water monitoring results provided in Section 7 - Water Management in the Annual Reports. As there has been no discharge from site since 2010, water monitoring sampling and results reported in Annual Review are from within the creek (ie not at discharge point as no discharge).	Investigate with EPA if instream monitoring is required if there is no discharge from site
Condition L5.3	To determine compliance with condition(s) L3.1 and L3.2: a) air blast overpressure and ground vibration levels must be measured at the "New Blast Monitor" location as shown on the map titled "Cooma Road Quarry Resource Definition Work Program" dated 12 August 2004 for all blasts carried out in or on the premises; and b) instrumentation used to measure the air blast overpressure and ground vibration levels must meet the requirements of Australian Standard 2187.2 of 1993.	Blast Management Plan (2019) Instrumentation certification certificate	Ramboll results include calibration dates undertaken of instrumentation. Calibration certificate sighted (CTM Calibration Certificate #301320200611). Undertaken on the 11/06/2020	Investigate with supplier (TEXCEL) if calibrated conducted as per AS 2187.2

Table 5.2 Audit recommendations

Requirement	Evidence	Comments	Recommendations	
Condition M5.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Holcim Website	Holcim website does not advertise for an easily accessible 'Complaints' telephone number for complaints associated with the Cooma Road Quarry site	Holcim to display a number on their website that is easily identifiable as a number for the public to register complaints associated with Holcim's activities
Condition R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: 1. a Statement of Compliance, 2. a Monitoring and Complaints Summary, 3. a Statement of Compliance - Licence Conditions, 4. a Statement of Compliance - Load based Fee, 5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan, 6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and 7. a Statement of Compliance - Environmental Management Systems and Practices. At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.	Site Interview (A Bertram) EPL Annual Returns	EPL Annual Returns are submitted by the Planning & Environment Team sing data provided by the site Quarry Manager does not have access to submitted annual returns and was not able to provide for review	Holcim's Planning & Environment Team to store submitted EPL Annual Returns in a location accessible by site staff

5.3 Agency consultation and comments

As noted in Section 2.4., consultation letters were sent to three agencies including the EPA, Council and NRAR. Only a response from the EPA was received. Consultation comments from the EPA and auditor responses are summarised in Table 5.3. An example of the letter requesting input to the Holcim's quarry Independent Environmental Audit along with EPA response letter is provided in Appendix F.

Table 5.3 Summary of agency consultation

Agency and contact	Method/ correspondence date	Agency comments	Auditor response
Queanbeyan-Palerang City Council (Council) G. Harlor	Letter attached to email sent on 12 April 2021	No response received	N/A
Natural Resource Access Regulator (NRAR) via general enquiries email (nrar.enquiries@nrar.nsw.gov.au)	Letter attached to email sent on 12 April 2021	No response received	N/A
NSW Environment Protection Authority (EPA) J. Goodwin/ Matthew Rizzuto	Letter attached to email sent on 12 April 2021	<p>Holcim Australia holds EPL No. 1453 issued under the POEO Act. The EPL contains limits, monitoring and reporting conditions for air, water, waste, noise, blasting and vibration at the premises. Specific information concerning compliance with the licence is available by searching for EPL 1453 via the POEO Public Register.</p> <p>The EPA has reviewed the performance of Holcim Australia at the Cooma Road Quarry and provides the following comments:</p> <ul style="list-style-type: none"> • During the reporting period Holcim has not reported any significant environmental incidents to the EPA under licence condition R2 – Notification of Environmental Harm. The condition requires immediate reporting of incidents causing or threatening material harm to the environment under Part 5.7 of the POEO Act. • There have been no reported non-compliances with licence conditions within the audit’s timeframe including air, water, waste, noise, blasting or vibration conditions. • Dust monitoring is conducted monthly from dust gauges positioned around the premises. Within the audit’s timeframe, dust has been within acceptable limits. On the 18 May 2020, Holcim advised the EPA that dust monitoring at the premises was elevated on one occasion, however, as compliance is based on a twelve-monthly average this one result did not cause a non-compliance. • The EPA has not received any complaints concerning the operation of the premises since the last audit was conducted in February 2018. 	EPL annual Returns were submitted in accordance with EPL 1453 requirements. The site is generally managed in accordance with conditions of consent.

6 Audit summary

An independent environmental audit of the Cooma Quarry was undertaken to meet Schedule 5, Condition 9 of State Significant Development Consent SSD-5109 issued on the 27 September 2013. Audit evidence was collected during a site inspection on 25 May 2021 with documents provided by Holcim prior to, during and after the inspection. The audit period was taken to be 1 January 2018 to 31 December 2020.

The quarry site is generally well managed with appropriate environmental controls in place. Staff are aware the site has a number of environmental obligations and ensure that information regarding these obligations are discussed in the site-specific induction as well as made available in the site office. Holcim have a range of recording and reporting systems in place that generally include a range of internal checks regarding day-to-day operation of the quarry, along with calendar notifications relating to environmental sampling and reporting obligations.

The non-compliances related to evidence supporting the submission of documentation for review and approval by the Department and local Council. The submission of most of this documentation is handled by Holcim's Planning and Environment (P&E) team with site staff unable to produce the required documentation during the site visit. As the quarry manager is responsible for not only the operation of the site, but also compliance obligations associated with its operation, it would be beneficial for the P&E team to ensure the quarry manager is aware of and provided access to documentation submitted to relevant authorities.

Overall, the quarry operation is generally being undertaken in a responsible manner and, with the exceptions noted above, in accordance with SSD-5109 (including the attached Statement of Commitments), EPL 1453, Water Supply works approval 40WA413082 and WAL33412. The quarry personnel interviewed generally have a good appreciation of the quarry's compliance obligations, with the management requirements of these obligations being applied in a manner that considers protection of the environment within the context of the site.



Appendix A

DPIE Auditor approval letter





Ms Shilpa Shashi
Holcim (Australia) Pty Ltd
Level 7
799 Pacific Highway
CHATSWOOD, NSW 2067

16/02/2021

Dear Ms Shashi

**Cooma Road Quarry (SSD 5109)
Independent Environmental Audit 2021**

I refer to your request of 8 February 2021 seeking approval of Ms Amanda Weston and Mr Allan Young of EMM Consulting as the auditors for the upcoming Independent Environmental Audit of Cooma Road Quarry (the development), in accordance with Schedule 5, Condition 10 of State significant development SSD 5109, as modified (the consent).

Having considered the qualifications and experience of Ms Weston and Mr Young, the Secretary endorses the appointment of Ms Weston and Mr Young to undertake the audit in accordance with Schedule 5, Condition 10 of the consent. This approval is conditional on Ms Weston and Mr Young being independent of the development.

The audit is to be conducted in accordance with AS/NZS ISO 19011 Australian/New Zealand Standard: Guidelines for quality and/or environmental management systems auditing and you may wish to consider the Independent Audit Guideline dated October 2015. A copy of this guideline can be located at <http://planning.nsw.gov.au/Policy-and-Legislation/Mining-and-Resources/Integrated-Mining-Policy>.

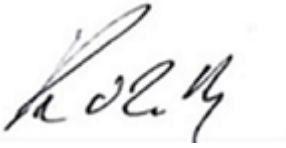
The audit report is to include the following:

1. consultation with the relevant agencies;
2. a compliance table indicating the compliance status of each condition of approval and any relevant EPL;
3. not use the term “partial compliance”;
4. recommend actions in response to non-compliances;
5. review the adequacy of plans and programs required under this consent; and
6. identify opportunities for improved environmental management and performance.

Within 10 weeks of commissioning of this audit, Holcim is to submit a copy of the audit report to the Secretary and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report and a timetable to implement the recommendations. Prior to submitting the audit report to the Secretary, it is recommended that Holcim review the report to ensure it complies with the relevant consent condition.

Should you have any enquiries in relation to this matter, please contact Georgia Dragicevic, Senior Compliance Officer, on (02) 4247 1852 or by email to Georgia.Dragicevic@planning.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read 'K. O'Reilly', enclosed in a thin black rectangular border.

Katrina O'Reilly
Team Leader - Compliance
Compliance
As nominee of the Planning Secretary



Appendix B

Site inspection photographs



Cooma Road Quarry Site Inspection 25/05/21

Overview of Cooma Road Quarry site



Overview of Cooma Road Quarry site



Weather Station with visual screen planting and designated car parking area in the background



Waste storage area



Waste Oil storage area within shed



Chemical Storage cabinets within locked, bunded shed



Oil Storage within
bunded locked shed



Example of Spill Kits
located around site



Quarry Boundary area
survey markers



Cement stockpile area



Bywash Dam



Site discharge dam for EPL Point 1



Moses Morley Kiln Site



Groundwater monitoring bore





Appendix C

Development consent and SoC compliance register



Development Consent SSD 5109 (MOD2)

CoA #	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)
Schedule 2 - Obligation to minimise harm to the environment					
1	In addition to meeting the specific performance criteria established under this consent, the Applicant must implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the development.	Noted	Site Walkaround – general due diligence and housekeeping practices observed.		Compliant
Terms of consent					
2	The Applicant must carry out the development: a)generally in accordance with the EIS, SEE (MOD 2) and the Development Layout Plan; and b)in accordance with the conditions of this consent and Statement of Commitments.	Noted	Site Inspection Staff Interviews	Based on the site inspection and interviews, there is no reason to believe that the development is not generally in accordance with the EIS and SEE. Non Compliances with individual consent conditions have been noted	Noted
3	If there is any inconsistency between the documents in condition 2(a), the most recent document must prevail to the extent of the inconsistency. However, the conditions of this consent must prevail to the extent of any inconsistency.	Noted	Mod 2 of consent SSD_5109 is most recent (30 April 2019)	-	Noted
4	The Applicant must comply with any reasonable requirement/s of the Secretary arising from the Department’s assessment of: a)any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent (including any stages of these documents); b)any reviews, reports or audits commissioned by the Department regarding compliance with this consent; and c)the implementation of any actions or measures contained in these documents.	Noted	-	-	Noted
Limits on Consent					
5	The Applicant may carry out quarrying operations on the site until 31 October 2035. Note: Under this consent, the Applicant is required to rehabilitate the site and carry out additional undertakings to the satisfaction of the Secretary. Consequently, this consent will continue to apply in all other respects other than the right to conduct quarrying operations until the rehabilitation of the site and those undertakings have been carried out to a satisfactory standard.	Noted	-	-	Noted
6	The Applicant must not produce more than 1.5 million tonnes of quarry products at the site in a calendar year.	Y	Product usage and sales spreadsheet 2018 – 2020 Annual Review 2018, 2019 and 2020	Records indicate a total production of: •939,671 tonnes in 2018; •803,272 tonnes in 2019; and •988,840 tonnes in 2020.	Compliant
7	The Applicant must not carry out quarrying operations below 635 m AHD.	Y	12 monthly aerial surveys / plans for 2018, 2019 and 2020	Plans sighted. The two areas currently sit at 646.8m and 673.1m. There has been no change to the depth of either of these since 2015.	Compliant
8	Prior to the commissioning of Stage 1 of the Old Cooma Road re-alignment, the Applicant must not transport more than 1 million tonnes of quarry products, ENM or VENM to or from the site in a calendar year.	Y	2018, 2019 and 2020 Annual Reviews Holcim truck tonnage records for 2018, 2019 and 2020 All products inc. ENM, VENM and imported material 2018 – 2020 spreadsheet Site interviews	This condition was amended within the audit period, in accordance with Condition 6, Schedule 2 of Notice of Modification issued by the delegate of the Minister for Planning on 30 April 2019: “In condition 8 of Schedule 2, delete “extractive materials”, and insert “quarry products, ENM and VENM to or”. Thus, the reworded condition is only applicable from the date of enforcement. Old Cooma Road re-alignment was completed in June 2020. Prior to June 2020, the following amount of product was recorded on the Holcim truck tonnage records made available on Holcim’s website: •735,978 tonnes in 2018; •947,885 tonnes in 2019; and •599,958 tonnes from January to June 2020 inclusive, and 1,105,376 for 2020. However, some of this data did not align with the data provided in the All products inc. ENM, VENM and imported material 2018 – 2020 spreadsheet: •967,227.47 tonnes in 2018; •946,283.89 tonnes in 2019; and •1,138,256.78 tonnes in 2020. Nevertheless, there is no reason to believe that this condition has not been met. Recommendation: In accordance with the new condition, Holcim should: •amend truck tonnage records to include all quarry products, ENM and VENM transported to and from the site in a year; and •keep clear and consistent records of all quarry product ENM and VENM for easy provision	Compliant
9	Following the commissioning of Stage 1 of the Old Cooma Road re-alignment, the Applicant must not transport more than a total of 1.5 million tonnes of quarry products, ENM or VENM to or from the site in a calendar year. Note: Stage 1 of the Old Cooma Road re-alignment is a 1.5km section of Old Cooma Road between Wickerslack Lane and Heights Road. Stage 2 is a 4.5km section of Old Cooma Road from Edwin Land Parkway south towards Googong Dam Road.	Y	Annual Review 2020 Holcim truck tonnage records for 2020 All products inc. ENM, VENM and imported material 2018 – 2020 spreadsheet	Old Cooma Road re-alignment was completed in June 2020. Holcim’s truck tonnage records for 2020 shows that a total of 1,138,256.78 tonnes of quarry products, ENM or VENM was transported to or from the site in the calendar year. Refer to response and recommendation for Condition 8, Schedule 2.	Compliant
10	Prior to the commissioning of the Ellerton Drive Extension, the Applicant must not exceed 50 heavy vehicle movements a day on the section of Cooma Street north of Edwin Land Parkway.	Y	Transport Management Plan 2019 Holcim’s email dated 10/05/2021 (From H. Staier) Vehicle tracking register Site interviews	Ellerton drive extension opened July 2020. Holcim uses a system called ‘Cortex’ which uses GPS tracking to monitor truck movements. Cortex uses live tracking that displays the route that the trucks take to and from site, ensuring they are abiding with Conditions 10, 11 and 12 of Schedule 2. Additionally, a monthly report is run through the Command ticketing system which outlines the total truck movements and their respective times. There is no reason to believe this condition has not been met. Recommendation: Figure 4.1 Haul Routes of the TMP 2019 should be updated given the completion of Ellerton Drive extension	Compliant
11	Following the commissioning of the Ellerton Drive Extension, the Applicant must not use Cooma Street north of the Edwin Land Parkway as a heavy vehicle transport route to/from the site except for local deliveries to Queanbeyan. Notes: •Ellerton Drive Extension is shown as “Proposed Primary Haulage Route” in Appendix 6. •Other heavy vehicle haulage routes to/from the site are also shown in Appendix 6.	Y	Transport Management Plan 2019 Holcim’s email dated 10/05/2021 (From H. Staier) Vehicle tracking register post July 2020. Site interviews	Ellerton drive extension opened July 2020. Holcim uses a system called ‘Cortex’ which uses GPS tracking to monitor truck movements. Cortex uses live tracking that displays the route that the trucks take to and from site, ensuring they are abiding with Conditions 10, 11 and 12 of Schedule 2. Additionally, a monthly report is run through the Command ticketing system which outlines the total truck movements and their respective times. There is no reason to believe this condition has not been met.	Compliant

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CoA #	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)
12	The Applicant must not use the section of Crawford Street from Monaro Street to Morrisset Street as a heavy vehicle transport route except with the written permission of Council.	Y	Transport Management Plan 2019 Holcim's email dated 10/05/2021 (From H. Staier) Vehicle tracking register post July 2020. Site interviews	Ellerton drive extension opened July 2020. Holcim uses a system called 'Cortex' which uses GPS tracking to monitor truck movements. Cortex uses live tracking that displays the route that the trucks take to and from site, ensuring they are abiding with Conditions 10, 11 and 12 of Schedule 2. Additionally, a monthly report is run through the Command ticketing system which outlines the total truck movements and their respective times. There is no reason to believe this condition has not been met	Compliant
13	For the life of the development, the Applicant must ensure that: a) no more than an average of 48 truck movements per hour occur collectively to and from the site on any day; and b) no more than 30 laden trucks per hour are dispatched from or received at the site collectively.	Y	Transport Management Plan 2019 Holcim's email dated 10/05/2021 (From H. Staier) Vehicle tracking register post July 2020. Site Interview (A. Bertram)	Aggregate ticket reports for randomly selected dates during the audit period show that truck movements have not exceeded the number of movements per hour, as specified by this condition (a) and (b). Section 6.5.3 of Annual Review 2018, 2019 and 2020 note that the site maintained compliance with the conditions for truck movements throughout 2018/2019/2020, with the total monthly truck movements for each year provided in Table 22. Refer to response for Condition 12, Schedule 2	Compliant
14	The Applicant may receive and process up to 10,000 tonnes of recycled concrete on the site in a calendar year. No other materials classified as waste under the EPA Waste Classification Guidelines 2009 (or its latest version) may be received and processed on the site. Note: This condition does not apply to ENM, VENM or to routine deliveries of other materials to the site.	Y	Site interview Annual Reviews for 2018, 2019 & 2020 Concrete waste 2018, 2019 & 2020 spreadsheets with monthly and yearly cement received data	Concrete waste spreadsheets includes a monthly totals for cement received and indicate total received for 2018 was 5395.89 T, 2019 was 6778.39 T & 2020 was 7,735.54 T. Concrete received as spadable (ie wet cement - not free flowing) and stockpiled on site. At present, concrete (non spadable) waste was not received or processed on site during the audit period.	Compliant
Surrender of existing development consent					
15	By the end of June 2014 or as otherwise agreed by the Secretary, the Applicant must surrender the development consent (DA 371/94) for existing operations on the site in accordance with Section 104A of the EP&A Act.	Y	Letter to Council surrendering development consent from Holcim (20/06/14) and J. Heffernan (29/05/14)	Compliant as per the previous audit.	Compliant
16	Prior to the surrender of the existing development consent, the conditions of this consent (including any notes) must prevail to the extent of any inconsistency with the conditions of the existing development consent (DA 371/94). Notes: •This requirement does not extend to the surrender of construction and occupation certificates for existing and proposed building works under Part 4A of the EP&A Act. Surrender of a consent or approval should not be understood as implying that works legally constructed under a valid consent or approval can no longer be legally maintained or used. •The conditions or other requirements of this development consent do not prevent the continued carrying out of development which may be undertaken pursuant to DA 371/94, prior to the surrender of that consent	Y	Letter to Council surrendering development consent from Holcim (20/06/14) and J. Heffernan (29/05/14)	Compliant as per the previous audit.	Compliant
Production Data					
17	The Applicant must: a) provide annual quarry production data to DRG using the standard form for that purpose; and b) include a copy of this data in the Annual Review (see condition 4 of schedule 5).	Y	email/letter showing submission of Annual Production data provided to DRG (form for reporting used) Annual Review 2018, 2019 and 2020	a) No evidence of information provided to Division of Resources and Geoscience provided b) Total product distributed provided in Annual Review 2018, 2019 and 2020.	Non-compliant
Structural adequacy					
18	The Applicant must ensure that any new buildings and structures and any alterations, or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA. Notes: •Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works. Part 3 of the EP&A Regulation sets out the requirements for the certification of the development	Not Triggered	Annual Review 2018, 2019, and 2020 site inspection (25/05/21) site interviews	Section 4.3 of Annual Review 2018, 2019 and 2020 reports noted that no construction activities occurred at the Comma Road Quarry during the audit reporting periods.	
Demolition					
19	The Applicant must ensure that all demolition work on site is carried out in accordance with Australian Standard AS 2601-2001: The Demolition of Structures, or its latest version.	Not Triggered	Site Interview (A. Bertram)	No structures demolished during audit period	
Protection of public infrastructure					
20	The Applicant must: a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development	Not Triggered	INX Event register from 1 January 2017 – 30 April 2021	Six incidents reported under 'Asset damage' within audit period, however they all seem to have affected private assets. Recommendation: INX Event register should have another category for Asset damage to public infrastructure to make it easier to report on this condition.	Compliant
Operation of plant and equipment					
21	The Applicant must ensure that all plant and equipment used at the site is: a) maintained in a proper and efficient condition; and b) operated in a proper and efficient manner.	Y	Equipment and plant maintenance work orders Operator Competency/Qualifications Matrix Site Interview (A. Bertram)	Maintenance is contracted out to third party. Morning prestart check on plant records running hours, fuel usage and general check such as oil leaks. This information is reviewed by supervisors and entered into plant run hours spreadsheet. This spreadsheet then triggers maintenance requirement. For fixed plant, PM02 system notifies when maintenance required and generates Work Order. Work Orders for lube change and tyre inspections sighted for current month	Compliant
22	Deleted				
Identification of approved limits of extraction					
23	By 31 December 2013, the Applicant must: •engage a registered surveyor to mark out the boundaries of the approved limits of extraction within the development area; and •submit a survey plan of these boundaries with applicable GPS coordinates to the Secretary.	Y	Survey plan – Limits of extraction Site inspection of boundary pegs	a) Sighted survey plan showing site boundary and limits of extraction dated May 2021. b) evidence has not been provided to indicate that the survey plan has been submitted to the Secretary.	Non-compliant
24	While quarrying operations are being carried out, the Applicant must ensure that these boundaries are clearly marked at all times that allows operating staff and inspecting officers to clearly identify the approved limits of extraction.	Y	Site inspection	Clearly visible tall white marker posts installed showing boundary	Compliant
Developer contributions					
25	The Applicant must pay Council \$50,400 (indexed to CPI) for road/intersection upgrade works, in accordance with Council's Section 94 Contributions Plan and the payment schedule in Appendix 4.	Y	Payment documentation	Production did not exceed the 1 mpta for 2018 and 2019, thus only becoming applicable for 2020 Payment documentation sighted (11/08/20)	Compliant

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CoA #	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)
26	The Applicant must pay Council road maintenance contributions of \$0.2911 per tonne for every tonne of quarry product, ENM, VENM or recycled concrete transported to and from the site in accordance with Council's Section 94 Contributions Plan – No 2 Extractive Industry. Each payment must be: a) paid to Council at the end of each calendar year; and b) based on weighbridge records of the quantity of quarry products, ENM, VENM and recycled concrete transported to and from the site. Note: If the parties are not able to agree on any aspect of the road upgrade and maintenance contributions, either party may refer the matter to the Secretary for resolution	Y	Payment documentation	Payment documentation sighted (11/08/20)	Compliant
Evidence of consultation					
27	Where conditions of this consent require consultation with an identified party, the Applicant must: (a) consult with the relevant party prior to submitting the subject document to the Secretary for approval; and (b) provide details of the consultation undertaken including: • the outcome of that consultation, matters resolved and unresolved; and • details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.	Y	DPIE letters dated 07/08/2019 and 01/06/2020 Emails to Queanbeyan Palerang Council	Numerous emails (25/09/19, 18/02/20, 06/05/20, 29/06/20, 30/06/20 & 30/07/20) from Holcim sent to Queanbeyan Palerang Council for comment/feedback on Transport Management Plan. No response from council received.	Compliant
Compliance					
28	The Applicant must ensure that all employees, contractors and sub-contractors are made aware of, and instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the project.	Y	Training/Induction material Site interviews	Holcim Environmental Awareness training/assessment sighted. Site specific Induction mentions Environmental obligations along with specific details on Historic and Aboriginal heritage obligations. Memo outlining Transport Routes is located in the window of the weighbridge for drivers to review while waiting for weighbridge docket prior to leaving site.	Compliant
Applicability of guidelines					
29	References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, standards or policies in the form they are in as at the date of this consent.	Noted			Noted
30	However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Secretary may, when issuing directions under this consent in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, standard or policy	Noted			Noted
Schedule 3 - Transport					
Transport Management Plan					
1	The Applicant must prepare and implement a Transport Management Plan for the development to the satisfaction of the Secretary. This plan must: a) be prepared in consultation with the RMS and Council, and submitted to the Secretary for approval within 6 months of the date of this consent; b) include a drivers' code of conduct for the development; c) identify and prioritise the haul routes to be used by heavy vehicles, including those roads which are planned but not yet constructed; d) describe the measures that would be implemented to ensure drivers of development-related vehicles comply with the drivers' code of conduct; e) include a program to monitor the effectiveness of the implementation of these measures; and f) be updated within 3 months of the Applicant identifying a new importation source of ENM or VENM that requires the use of alternate transport route to those identified in Appendix 6. The Applicant must implement the approved management plan as approved from time to time by the Secretary.	Y	Cooma Road Quarry Transport Management Plan (TMP) dated September 2019 DPIE letter dated 7/08/2019. Sighted Cooma Road Quarry Drivers Code of Conduct (located in TMP) Holcim's email dated 28/04/2021	(a) As per DPIE's correspondence dated 7/08/2019, consultation with RMS is not required. Transport Plan approved by Department (letter dated 19/08/2020) (b) The TMP includes a Cooma Road Quarry Drivers Code of Conduct (c) Figure 4.1 Haul Routes in the TMP identifies and prioritises haul routes. The figure will need to be updated following the completion of Cooma Road re-alignment and Ellerton Drive Extension, which occurred in June 2020. (d) Measures outlined in Section 4.3.2 of the TMP. (e) Monitoring of truck movement via monthly report from 'Cortex' system. (f) Holcim email dated 28/04/2021 noted that there has been no new importation source of ENM or VENM that requires the use of alternative transport route therefore, this has not been completed as it is not relevant for the reporting years 2018-2020. Recommendation: Figure 4.1 Haul Routes should be updated to reflect the priority of current haul routes; and in all other relevant training / induction records and documentation.	Compliant
2	The Applicant must prepare and implement a Transport Management Plan for the development to the satisfaction of the Secretary. This plan must: a) be prepared in consultation with the RMS and Council, and submitted to the Secretary for approval within 6 months of the date of this consent; b) include a drivers' code of conduct for the development; c) identify and prioritise the haul routes to be used by heavy vehicles, including those roads which are planned but not yet constructed; d) describe the measures that would be implemented to ensure drivers of development-related vehicles comply with the drivers' code of conduct; e) include a program to monitor the effectiveness of the implementation of these measures; and f) be updated within 3 months of the Applicant identifying a new importation source of ENM or VENM that requires the use of alternate transport route to those identified in Appendix 6. The Applicant must implement the approved management plan as approved from time to time by the Secretary.	Y	Sighted the most recent Cooma Road Quarry Transport Management Plan (TMP) dated September 2019 DPIE letter dated 7/08/2019. Sighted Cooma Road Quarry Drivers Code of Conduct (located in TMP) Holcim's email dated 28/04/2021 (f)	(a) As per DPIE's correspondence dated 7/08/2019, consultation with RMS is not required. Transport Plan approved by Department (letter dated 19/08/2020) (b) The TMP includes a Cooma Road Quarry Drivers Code of Conduct (c) Figure 4.1 Haul Routes in the TMP identifies and prioritises haul routes. The figure will need to be updated following the completion of Cooma Road re-alignment and Ellerton Drive Extension, which occurred in June 2020. (d) Measures outlined in Section 4.3.2 of the TMP. (e) Review of INX register of incidents and complaints in relation to transport management. No incidents recorded during audit period. (f) Holcim email dated 28/04/2021 noted that there has been no new importation source of ENM or VENM that requires the use of alternative transport route therefore, this has not been completed as it is not relevant for the reporting years 2018-2020. Recommendation: • Latest Transport Management Plan should be sent to Queanbeyan Council for consultation, as per DPIE's instructions. • Figure 4.1 Haul Routes should be updated to reflect the priority of current haul routes; and in all other relevant training / induction records and documentation.	Compliant
Independent traffic audit					

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CoA #	Requirement	Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)																							
3	<p>If the Ellerton Drive Extension has not been commissioned within 5 years from the date of this consent, unless the Secretary directs otherwise, the Applicant must commission a suitably qualified person, to conduct an Independent Traffic Audit of the heavy vehicle routes associated with the development. This audit must:</p> <p>a) be undertaken in consultation with RMS and Council;</p> <p>b) assess the impact of the development on the performance and safety of the road network, including key intersections compared to the predictions made in the EIS; and</p> <p>c) assess whether an alternative distribution of heavy vehicles and/or additional measures to reduce or mitigate any adverse (or potentially adverse) impacts on the local and regional road network is warranted, to the satisfaction of the Secretary.</p> <p>Within 2 months of receiving the audit report, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the report to the Secretary, with a detailed response to any of the recommendations contained in the audit report, including a timetable for the implementation of any reasonable and feasible measures proposed to address the recommendations in the audit report. The Applicant must then implement the measures identified by the Secretary, to</p>	N/A	Ellerton Drive Extension commissioned (June 2020)	Not Triggered																							
Noise																											
4	<p>The Applicant must ensure that the noise generated by the development does not exceed the criteria in Table 1 at any residence on privately-owned land</p> <p>Table 1: Noise criteria dB(A)</p> <table border="1"> <thead> <tr> <th rowspan="2">Receiver</th> <th>Day Shoulder 6 – 7 am</th> <th>Day 7 am – 6 pm</th> <th>Evening 6 – 10 pm</th> </tr> <tr> <th>L_{Aeq}(15 min)</th> <th>L_{Aeq}(15 min)</th> <th>L_{Aeq}(15 min)</th> </tr> </thead> <tbody> <tr> <td>N1, N7, N8, N56, N57, N59, N63, N64, N65</td> <td>40</td> <td>44</td> <td>39</td> </tr> <tr> <td>N67</td> <td>36</td> <td>41</td> <td>35</td> </tr> <tr> <td>All other receivers between N9 and N71 inclusive</td> <td>36</td> <td>38</td> <td>35</td> </tr> <tr> <td>All other receivers</td> <td>35</td> <td>35</td> <td>35</td> </tr> </tbody> </table> <p>Notes: To locate the receivers referred to in Table 1 refer to Appendix 5. After the first review on any EPL granted for this development under Section 78 of the POEO Act, nothing in this approval prevents the EPA from imposing stricter noise limits on the quarrying operations on site under the EPL. Appendix 9 sets out the metrological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria. However, these criteria do not apply if the Applicant has a written agreement with the relevant landowner/s to generate</p>	Receiver	Day Shoulder 6 – 7 am	Day 7 am – 6 pm	Evening 6 – 10 pm	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{Aeq} (15 min)	N1, N7, N8, N56, N57, N59, N63, N64, N65	40	44	39	N67	36	41	35	All other receivers between N9 and N71 inclusive	36	38	35	All other receivers	35	35	35	<p>Noise Monitoring Assessment Comma Road Quarry for Quarters 1– 4 2000 (Muller Acoustic Consulting (MAC)) INX Event register from 1 January 2017 – 30 April 2021</p>	<p>2019 and 2020. Noise monitoring results showed no exceedances of the specific criteria in Table 1. Two blast vibration and noise complaints were received in 2018 (3 October and 30 November 2018); which were resolved by meeting with the complainant (a quarry neighbour). Holcim noted that a review of the blasting criteria indicated the blast was within the consent level. There were no other recorded noise complaints.</p>	Compliant
Receiver	Day Shoulder 6 – 7 am		Day 7 am – 6 pm	Evening 6 – 10 pm																							
	L _{Aeq} (15 min)	L _{Aeq} (15 min)	L _{Aeq} (15 min)																								
N1, N7, N8, N56, N57, N59, N63, N64, N65	40	44	39																								
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5	<p>The Applicant must comply with the operating hours set out in Table 2.</p> <p>Table 2: Operating Hours</p> <table border="1"> <thead> <tr> <th rowspan="2">Activity</th> <th colspan="3">Operating Hours</th> </tr> <tr> <th>Monday – Friday</th> <th>Saturday</th> <th>Sundays and Public Holidays</th> </tr> </thead> <tbody> <tr> <td>Primary Crushing, Truck Departures</td> <td>6 am – 6 pm</td> <td>6 am – 6 pm</td> <td rowspan="5">None</td> </tr> <tr> <td>Construction Operations</td> <td>7 am – 6 pm</td> <td>8 am – 1 pm</td> </tr> <tr> <td>Return Truck Movements</td> <td>6 am – 8 pm</td> <td>6 am – 8 pm</td> </tr> <tr> <td>Other Operations</td> <td>6 am – 10 pm</td> <td>6 am – 10 pm</td> </tr> </tbody> </table> <p>Note: Maintenance activities may occur at any time provided they are inaudible at privately-owned residences.</p>	Activity	Operating Hours			Monday – Friday	Saturday	Sundays and Public Holidays	Primary Crushing, Truck Departures	6 am – 6 pm	6 am – 6 pm	None	Construction Operations	7 am – 6 pm	8 am – 1 pm	Return Truck Movements	6 am – 8 pm	6 am – 8 pm	Other Operations	6 am – 10 pm	6 am – 10 pm	<p>INX Events register from 1 January 2017 – 30 April 2021 Cortex system as per Holcim's email dated 10/05/2021 (From H. Staier) Site Interview (A Bertram)</p>	<p>No complaints have been received regarding truck movements outside of operating hours. Quarry manager is aware of operating Hours limits and there is no reason to believe that there have been operations outside of these hours.</p>	Compliant			
Activity	Operating Hours																										
	Monday – Friday	Saturday	Sundays and Public Holidays																								
Primary Crushing, Truck Departures	6 am – 6 pm	6 am – 6 pm	None																								
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6	<p>The Applicant must:</p> <p>a) implement best management practice to minimise the construction, operational and traffic noise of the development;</p> <p>b) minimise the noise impacts of the development during meteorological conditions when the noise limits in this consent do not apply;</p> <p>c) maintain the effectiveness of any noise attenuation on equipment to ensure consistency with the benchmark sound power levels presented in the EIS; and</p> <p>d) regularly assess the results of noise monitoring to ensure compliance with the relevant conditions of this consent, to the satisfaction of the Secretary</p>	<p>Sighted the latest Cooma Road Quarry Noise Management Plan (September 2019) Sighted quarterly noise monitoring reports for audit period (2018, 2019, 2020) Sound Power Audit Report (MAC 4/12/18)</p>		<p>The Noise Management Plan (2019) describes best management practice to minimise the construction, operational and traffic noise. (b) As per (a) (c) Section 5.3.3 Sound Power Level Maintenance Testing section of the NMP 2019 states that a Sound Power Level (SWL) testing program will be implemented to ensure compliance with the sound power levels for equipment outlined in the EIS. In addition to regular maintenance of plant and equipment to ensure effective controls are maintained, a Sound Power Audit was undertaken by Muller Acoustic Consulting in December 2018. Next Audit due December 2021. (d) Quarterly noise monitoring of operations is undertaken. Annual Review 2018, 2019 and 2020 include noise monitoring reports prepared by MAC. Noise monitoring reports prepared by MAC were also provided separately for 2020.</p>	Compliant																						
7	<p>The Applicant must prepare and implement a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:</p> <p>a) be prepared in consultation with Council and the EPA, and submitted to the Secretary for approval within 6 months of this consent;</p> <p>b) describe the measures that would be implemented to comply with the:</p> <ul style="list-style-type: none"> noise criteria in Table 1; hours of operation in Table 2; and operating conditions in Condition 7 above; <p>c) include a monitoring program that:</p> <ul style="list-style-type: none"> incorporates quarterly (or as otherwise agreed by the Secretary) attended noise monitoring to evaluate the performance of the development against the noise criteria in Table 1; includes a protocol for determining exceedances of the noise criteria in Table 1; and assesses the sound power levels of the equipment on site, compares it with the benchmark levels used in the EIS, and evaluates the effectiveness of any attenuation. <p>The Applicant must implement the approved management plan as approved from time to time by the Secretary.</p>	<p>Noise Management Plan 2019 DPIE's consultation letter dated 07/08/2019. Annual Review 2018, 2019 and 2020</p>	<p>(a) Sighted consultation letters in Appendix 4 – Stakeholder Consultation of Noise Management Plan 2019. DPIE's consultation letter dated 07/08/2019 notes that the Secretary has agreed that the company's revision of management plans, triggered by the approval of Mod 2, may occur without consulting the agencies nominated in the relevant conditions of consent, with one exception which is not relevant to this condition. Department letter dated 31/10/19 approved update Noise Management Plan. (b) Sighted relevant section of the Noise Management Plan 2019. (c) Sighted relevant section of the Noise Management Plan 2019. • Quarterly noise monitoring has been implemented and is compliant for the audit period. • Section 6.0 of Noise Management Plan 2019 includes the details of the noise monitoring program including the management of exceedances (Section 6.3). • Section 5.3.3 Sound Power Level Maintenance Testing section of the Noise Management Plan 2019 states that a SWL testing program will be implemented to ensure compliance with the sound power levels for equipment outlined in the EIS. Sound Power Audit undertaken by Muller Acoustic Consulting in December 2018. Next audit due December 2021.</p>	Compliant																							

Development Consent SSD 5109 (MOD2)

CoA #	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)												
8	<p>Within 6 months from the date of this consent, the Applicant must commission a suitably qualified person, to conduct an Independent Road Noise Audit of the Edwin Land Parkway. This audit must:</p> <p>a) be undertaken in consultation with Council and the EPA;</p> <p>b) assess the noise generated by heavy vehicles generated by the development on the Edwin Land Parkway against the relevant criteria under the NSW Road Noise Policy; and</p> <p>c) consider whether additional mitigation measures are required to address any potential exceedances under the criteria specified in the NSW Road Noise Policy, to the satisfaction of the Secretary.</p> <p>Within 2 months of receiving the audit report, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the report to the Secretary, with a detailed response to any of the recommendations contained in the audit report, including a timetable for the implementation of any reasonable and feasible measures proposed to address the recommendations in the audit report. The Applicant shall then implement the measures identified by the Secretary, to the</p>	Y	Found to be compliant as per previous IEA - Independent Road Noise Audit of the Edwin Lane Parkway (Rudds 2014).		Compliant												
Blasting																	
9	<p>The Applicant must ensure that the blasting on the site does not cause exceedances of the criteria in Table 3.</p> <p>Table 3: Blasting Criteria</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Airblast overpressure (dB(Lin Peak))</th> <th>Ground vibration (mm/s)</th> <th>Allowable exceedance</th> </tr> </thead> <tbody> <tr> <td></td> <td>120</td> <td>10</td> <td>0%</td> </tr> <tr> <td>Any residence on privately-owned land</td> <td>115</td> <td>5</td> <td>5% of the total number of blasts over a period of 12 months</td> </tr> </tbody> </table> <p>However, these criteria do not apply if the Applicant has a written agreement with the relevant owner or infrastructure provider/owner, and the Applicant has advised the Department in writing of the terms of this agreement.</p>	Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance		120	10	0%	Any residence on privately-owned land	115	5	5% of the total number of blasts over a period of 12 months	Y	<p>Annual Review 2018, 2019 and 2020</p> <p>Monitoring Data reports</p> <p>INX Events register from 1 January 2017 – 30 April 2021</p>	<p>Blast Monitoring Result of the Annual Review reports for 2018, 2019 and 2020 show that there were no non-compliances during the audit period.</p> <p>Section 9.3 Complaints notes 2 blasting related complaints reported on 30 November 2018 and 3 October 2018. Holcim's records indicate that the blast was within the consent level</p>	Compliant
Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance														
	120	10	0%														
Any residence on privately-owned land	115	5	5% of the total number of blasts over a period of 12 months														
10	<p>The Applicant must:</p> <p>a) not carry out blasting on site on weekends or public holidays; and</p> <p>b) only carry out blasting on site between 9 am and 3 pm Monday to Friday.</p>	Y	<p>Annual Review 2018, 2019 and 2020</p> <p>Environmental Monitoring Worksheets provided on Holcim's website</p> <p>Samples of 2020 Blast reports</p> <p>Blast Management Plan (2019)</p>	<p>(a) Dates of each blast are recorded in the Annual Review reports and Environmental Monitoring Worksheets. A review of randomly selected dates indicates that blasts are not occurring on weekends or public holidays.</p> <p>(b) Holcim's Environmental Monitoring Worksheets provided on Holcim's website have a 'time of blast' section which was left blank for most blasting reports, with the exception of a few which were compliant.</p> <p>Samples of blast reports sighted 17/04/20 Blast Time 12:17 & 19/05/20 Blast Time 14:50. 2018 and 2019 Blast reports (hard copies) have been archived. Quarry Manager is aware of process required to apply for consent outside of consent time in the event of a misfire.</p> <p>Recommendation:</p> <p>Update Table 20 "Blast Monitoring Results" in the Annual Reports to include Blast Time</p>	Compliant												
11	<p>The Applicant may carry out a maximum of 1 blast a day unless an additional blast is required following a blast misfire.</p> <p>Note: For the purposes of this condition, a blast refers to a single blast event, which may involve a number of individual blasts fired in quick succession in a discrete area of the mine.</p>	Y	<p>Annual Review 2018, 2019 and 2020</p> <p>Environmental Monitoring Worksheets provided on Holcim's website</p>	Blasting records indicate compliance.	Compliant												
12	<p>During blasting operations, the Applicant must:</p> <p>a) not cause any adverse blasting impacts on the Moses Morley Kiln Site;</p> <p>b) implement best management practice to:</p> <ul style="list-style-type: none"> protect the safety of people and livestock in the surrounding area; protect public or private infrastructure/property in the surrounding area from any damage; and minimise the dust and fume emissions of any blasting; and <p>c) operate a suitable system to enable the public to get up-to-date information on the proposed blasting schedule on</p>	Y	<p>Blast Management Plan</p> <p>Annual Review 2018, 2019 and 2020</p> <p>Environmental Monitoring Worksheets provided on Holcim's website</p>	<p>Blasting records indicate compliance.</p> <p>Annual Review reports state that a text message is sent to neighbouring properties 24 hours before a blast.</p> <p>Two blasting related complaints received during the audit period were not related to any non-compliance, and have been closed out.</p>	Compliant												
13	<p>The Applicant must prepare and implement a Blast Management Plan for the development to the satisfaction of the Secretary. This plan must:</p> <p>a) be prepared in consultation with Council and the EPA, and submitted to the Secretary for approval within 6 months of the date of this consent;</p> <p>b) describe the measures that would be implemented to ensure:</p> <ul style="list-style-type: none"> best management practice is being employed; the protection of road users and infrastructure when blasting within 500 metres of Old Cooma Road; and compliance with the relevant conditions of this consent; <p>c) include a specific blast fume management protocol to demonstrate how emissions will be minimised including risk management strategies if blast fumes are generated; and</p> <p>d) include a monitoring program for evaluating the performance of the development including:</p> <ul style="list-style-type: none"> compliance with the blasting criteria; and minimising blasting fume emissions from the site. <p>The Applicant must implement the approved management plan as approved from time to time by the Secretary.</p>	Y	<p>Blast Management Plan 2019</p> <p>DPIE's consultation letter dated 07/08/2019</p> <p>Annual Review 2018, 2019 and 2020</p>	<p>(a) Sighted consultation letters in Appendix 2 – Stakeholder Consultation of Blast Management Plan 2019. DPIE's consultation letter dated 07/08/2019 notes that the Secretary has agreed that the company's revision of management plans, triggered by the approval of Mod 2, may occur without consulting the agencies nominated in the relevant conditions of consent, with the exception of one plan not relevant to this condition. DPIE's approval of the Blast Management plan - letter dated 31/10/2019.</p> <p>(b), (c) and (d) are addressed on Blast Management Plan 2019.</p> <p>(d) There were no overpressure or vibration exceedances, as per Table 20: Blast Monitoring Results of Annual Review 2018 and Annual Review 2019 reports, and Table 19 of Annual Review 2020.</p> <p>There are no complaints regarding blasting safety and damage from blasting and there is no reason to believe that this condition was not met.</p>	Compliant												
Air Quality																	

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CoA #	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)																							
14	<p>The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not exceed the criteria in Tables 4 to 6 at any residence on privately-owned land.</p> <p>Table 4: Long-Term Impact Assessment Criteria for Particulate Matter</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Criterion</th> </tr> </thead> <tbody> <tr> <td>Total suspended particulates (TSP)</td> <td>Annual</td> <td>≤ 90 µg/m³</td> </tr> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>Annual</td> <td>≤ 30 µg/m³</td> </tr> </tbody> </table> <p>Table 5: Short-Term Impact Assessment Criteria for Particulate Matter</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Criterion</th> </tr> </thead> <tbody> <tr> <td>Particulate matter < 10 µm (PM₁₀)</td> <td>24 hour</td> <td>≤ 50 µg/m³</td> </tr> </tbody> </table> <p>Table 6: Maximum Increase in Deposited Dust Level</p> <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Averaging period</th> <th>Maximum increase in deposited dust level</th> <th>Maximum total deposited dust level</th> </tr> </thead> <tbody> <tr> <td>Deposited dust</td> <td>Annual</td> <td>≤ 2 g/m²/month</td> <td>≤ 4 g/m²/month</td> </tr> </tbody> </table>	Pollutant	Averaging period	Criterion	Total suspended particulates (TSP)	Annual	≤ 90 µg/m ³	Particulate matter < 10 µm (PM ₁₀)	Annual	≤ 30 µg/m ³	Pollutant	Averaging period	Criterion	Particulate matter < 10 µm (PM ₁₀)	24 hour	≤ 50 µg/m ³	Pollutant	Averaging period	Maximum increase in deposited dust level	Maximum total deposited dust level	Deposited dust	Annual	≤ 2 g/m ² /month	≤ 4 g/m ² /month		<p>Air Quality Management Plan 2019 EPA's response to EMM's audit letter dated 23/04/2021 Annual Review 2018, 2019 and 2020 Site Audit interviews Audit site inspection</p>	<p>The site installed a High Volume Sampling Unit (HVAS) in late 2016 to monitor PM10 in accordance with the criteria stipulated in this condition. Air quality monitoring at the site has been undertaken throughout 2018, 2019 and 2020. • Deposition dust monitoring was undertaken at five depositional dust gauges in 2018, showing compliance at every location with the exception of DDG4 which was just over the development consent criteria of 4g/m²/month. • 2019 dust deposition monitoring data showed compliance at every location with the exception of DDG1 which was over the development consent criteria of 4g/m²/month. • The results for 2019 PM10 monitoring showed two occasions in January 2019 where the sample total was above the short-term impact assessment criteria for PM10, which is 50 ug/m³. • Holcim noted that a review of the current location of DDG4 and possibly DDG1 will be undertaken during the next reporting period to determine if these gauges should be relocated to a more suitable position, as the dust levels have likely been affected by contamination (eg bird droppings and insects) (Annual Review 2019). • Apart from exceedances resulting from significant bushfire smoke in January 2020, all other air quality parameters were within compliance limits. Annual Review 2020 notes that a review of the current dust gauge locations will be undertaken in 2021 to decrease the potential for contamination of air quality morning results. • EPA's response to this audit noted the audit's timeframe, dust has been within acceptable limits. On 18 May 2020 Holcim advised the EPA that dust monitoring at the premises was elevated on one occasion, however, as compliance is based on a twelve-month average this one result did not cause a non-compliance. (a) Dust control measures are applied at the site and progressive rehabilitation appears to have been maximised with topsoil application and revegetation of non-operational areas. (b) Ramboll Laboratory sends Quarry manager email notification when results are available. Quarry manager downloads results for review and entering into a spreadsheet which is sent to Holcim's Planning and Environment Team. EPA's response to this audit noted that Holcim has not reported any significant environmental incidents to the EPA under licence condition R2 – Notification of Environmental Harm. Within the audit's timeframe, dust has been within acceptable limits. On 18 May 2020 Holcim advised the EPA that dust monitoring at the premises was elevated on one occasion, however, as compliance is based on a twelve-month average this one result did not cause a non-compliance. (c) Dust stockpile is misted to form a 'crust' which minimised generation of airborne dust during adverse conditions (d) Section 6.3 of the Annual Reports detail air quality monitoring conducted consistent with the Air Quality Management Plan (2019) (e) Quarry Manager aware of consent obligations and manages quarry production to ensure compliance is continued.</p>	Compliant
Pollutant	Averaging period	Criterion																										
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Deposited dust	Annual	≤ 2 g/m ² /month	≤ 4 g/m ² /month																									
15	<p>The Applicant must:</p> <p>(a) take all reasonable steps to:</p> <p>(i) minimise odour, fume, greenhouse gas and dust (including PM10 and PM2.5) emissions generated by the development;</p> <p>(ii) minimise any visible off-site air pollution generated by the development; and</p> <p>(iii) minimise the extent of potential dust generating surfaces exposed on the site at any given point in time;</p> <p>(b) operate an air quality management system to guide the day to day planning of quarrying operations and implementation of both proactive and reactive air quality mitigation measures to ensure compliance with the relevant conditions of this consent;</p> <p>(c) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see Note d for Tables 4 – 6 above);</p> <p>(d) carry out regular air quality monitoring to determine whether the development is complying with the relevant conditions in this consent; and</p> <p>(e) regularly assess meteorological and air quality monitoring data and relocate, modify or stop operations on the site to ensure compliance with the relevant conditions of this consent.</p>	Y	<p>Air Quality Management Plan 2019 (AQMP 2019) Annual Review 2018, 2019 and 2020 EPA's response to EMM's audit letter dated 23/04/2021 Site inspection Site interviews (A Bertram) INX Event register from 1 January 2017 – 30 April 2021</p>	<p>(a) Dust control measures are applied at the site and progressive rehabilitation appears to have been maximised with topsoil application and revegetation of non-operational areas. (b) Ramboll Laboratory sends Quarry manager email notification when results are available. Quarry manager downloads results for review and entering into a spreadsheet which is sent to Holcim's Planning and Environment Team. EPA's response to this audit noted that Holcim has not reported any significant environmental incidents to the EPA under licence condition R2 – Notification of Environmental Harm. Within the audit's timeframe, dust has been within acceptable limits. On 18 May 2020 Holcim advised the EPA that dust monitoring at the premises was elevated on one occasion, however, as compliance is based on a twelve-month average this one result did not cause a non-compliance. (c) Dust stockpile is misted to form a 'crust' which minimised generation of airborne dust during adverse conditions (d) Section 6.3 of the Annual Reports detail air quality monitoring conducted consistent with the Air Quality Management Plan (2019) (e) Quarry Manager aware of consent obligations and manages quarry production to ensure compliance is continued.</p>	Compliant																							
16	<p>Within 3 months of the determination of Modification 2, the Applicant must prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;</p> <p>(b) be prepared in consultation with the EPA;</p> <p>(c) describe the measures to be implemented to ensure:</p> <p>(i) compliance with the air quality criteria and operating conditions in this consent;</p> <p>(ii) best practice management is being employed; and</p> <p>(iii) air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events;</p> <p>(d) describe the air quality management system; and</p> <p>(e) include an air quality monitoring program that:</p> <p>(i) is capable of evaluating the performance of the development against the air quality criteria;</p> <p>(ii) adequately supports the air quality management system; and</p> <p>(iii) includes a protocol for identifying any air quality-related exceedance, incident or noncompliance and for notifying the</p>	Y	<p>Air Quality Management Plan 2019 DPIE's consultation letter dated 07/08/2019.</p>	<p>Department of Planning, Industry & Environmental approval letter for Noise, Blast, Air Quality, Heritage & Rehabilitation Management Plans dated 31/10/19 provided.</p>	Compliant																							
Meteorological Monitoring																												
17	<p>For the life of the development, the Applicant must ensure that there is a suitable meteorological monitoring station operating in the vicinity of the site that:</p> <ul style="list-style-type: none"> • complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline; and • is capable of continuous measurement of stability class, in accordance with the NSW Industrial Noise Policy, or as otherwise approved by EPA. 	Y	<p>Air Quality Management Plan (2019)</p>	<p>Section 6.4 of the Air Quality Management Plan 2019 notes that a meteorological station has been installed at Cooma Road Quarry as detailed in Figure 6-1 of the plan. The meteorological monitoring data is obtained from the station in accordance with this condition.</p>	Compliant																							
Soil & Water																												
<p>Note: The Applicant is required to obtain the necessary water licences for the development under the Water Act 1912 and/or the Water Management Act 2000.</p>			<p>Water Access Licence: WAL33412 Water supply works approval: 40WA413082 Site inspection of Dam (25/05/21)</p>	<p>Water license issued under Water Management Act 2000, sighted on site as extract from NSW Water Register.</p>	Compliant																							
18	<p>The Applicant must ensure it has sufficient water during all stages of the development, and if necessary, adjust the scale of quarrying operations on site to match its available supply and licensed water entitlements.</p>	Y		<p>Discussion with Quarry manager (A Bertram) indicated that daily inspections of bywash dam are undertaken to ensure sufficient water levels are maintained (inspection sheets sighted). Un-used water from processing activities is returned to Bywash dam for re-use.</p>	Compliant																							

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19	The Applicant must comply with the discharge limits in any EPL or with Section 120 of the POEO Act.	Y	Annual Review 2018, 2019 and 2020 Site Inspection (25/05/21)	Annual reviews for 2018, 2019 and 2020 include monthly water quality test data, with two instances in 2020 showing high TSS results (440 TSP on 05/03/2020 and 160 TSS on 02/11/2020). The TSS results were elevated in November 2020 due to the site receiving 160 mm of water in a rainfall event in this period. What about March 2020? All Annual Review reports for the audit period indicated that there has been no direct water discharge from the site during the audit period. Department of Planning, Industry & Environmental approval letter for Noise, Blast, Air Quality, Heritage & Rehabilitation Management Plans dated 31/10/19 provided. Water Management Plan approved 12/08/19.	Compliant															
20	The Applicant shall prepare and implement a Water Management Plan for the development to the satisfaction of the Secretary. This plan must be prepared in consultation with the EPA and DoI -- Water by suitably qualified and experienced person/s whose appointment has been approved by the Secretary and be submitted to the Secretary for approval within 6 months of the date of this consent. This plan must include a: a)Site Water Balance that includes details of: •sources and security of water supply, including contingency planning; •water use on site; and •measures that would be implemented to minimise use of clean water and maximise recycling of dirty water on the site; b)Surface Water Management Plan that includes: •baseline data on surface water flows and quality in the watercourses that could be affected by the development; •a detailed description of the surface water management system on site, including the design objectives and performance criteria for the: –clean water diversions; –erosion and sediment controls; –water storages (including Maximum Harvestable Rights requirements); and –control of water pollution from areas of the site that have been rehabilitated; •performance criteria, including trigger levels for investigating any potentially adverse surface water quality impacts; •a program to monitor: –any surface water discharges; –the effectiveness of the water management system; –surface water flows and quality in local watercourses; and –ecosystem health of local watercourses; c)Groundwater Monitoring Program that includes: •baseline data of groundwater levels surrounding the development; •groundwater assessment criteria based upon analysis of baseline data for groundwater, including trigger levels for investigating any potentially adverse groundwater impacts; and •a program to monitor and/or validate the impacts of the development on groundwater resources; d)Surface and Ground Water Response Plan that describes the measures and/or procedures that would be implemented to: •respond to any exceedances of the surface water and groundwater assessment criteria; and	Y	Water Management Plan 2019 Department correspondence (07/08/19, 12/08/19 & 31/10/19)		Compliant															
Heritage																				
21	The Applicant must prepare and implement a Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must: a)be prepared in consultation with Aboriginal stakeholders for matters relating to Aboriginal heritage values and Council for matters relating to non-Aboriginal heritage; b)be submitted to the Secretary for approval within 6 months of the date of this consent; c)describe the measures that would be implemented for: •monitoring, maintaining and protecting the Moses Morley Lime Kiln site; •managing the discovery of any human remains or previously unidentified heritage objects on site; •ensuring ongoing consultation with Aboriginal stakeholders in the conservation and management of any Aboriginal cultural heritage values on site; and •protecting sites identified adjacent to the development. The Applicant must implement the approved management plan as approved from time to time by the Secretary.	Y	Heritage Management Plan (2019) Annual Review 2018, 2019 and 2020 Site inspection (25/05/21)	Department of Planning, Industry & Environmental approval letter for Noise, Blast, Air Quality, Heritage & Rehabilitation Management Plans dated 31/10/19 provided. (a) & (b) & (c) Within the scope of past audits; these conditions were compliant. All Annual Review reports for the audit period note that Monitoring of Heritage infrastructure was undertaken in 2018, 2019 and 2020 by Holcim with this involving taking before and after photos at the time of the blast. No significant observations were observed from base surveys conducted in 2014.	Compliant															
Rehabilitation																				
22	The Applicant must rehabilitate the site to the satisfaction of the Secretary. This rehabilitation must be generally consistent with the proposed rehabilitation strategy in the EIS and Appendix 7, and comply with the objectives in Table 7: Rehabilitation Objectives	N/A	Rehabilitation strategy in EIS Rehabilitation Management Plan 2019	See Schedule 2, Condition 23 regarding progressive rehabilitation																
	<table border="1"> <thead> <tr> <th>Feature</th> <th>Objective</th> </tr> </thead> <tbody> <tr> <td>Site (as a whole)</td> <td>Safe, stable and non-polluting</td> </tr> <tr> <td>Surface Infrastructure</td> <td>To be decommissioned and removed (unless otherwise agreed with the Secretary)</td> </tr> <tr> <td>Benched Quarry Walls</td> <td>Landscaped and revegetated utilising native tree and understorey species, ensuring that the tree canopy is restored and integrated with the surrounding canopy to minimise visual impacts</td> </tr> <tr> <td>Quarry Pit Floors</td> <td>Landscaped and revegetated utilising native flora species, above the anticipated final void water level</td> </tr> <tr> <td>Other land affected by the development</td> <td>Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of: - native endemic species; and - a landform consistent with Appendix 7 and the surrounding environment.</td> </tr> <tr> <td>Community</td> <td> <ul style="list-style-type: none"> Ensure public safety Minimise the adverse socio-economic effects associated with the closure of the development </td> </tr> </tbody> </table> <p>Note: Revegetation of existing and proposed industrial areas is not required.</p>	Feature	Objective	Site (as a whole)	Safe, stable and non-polluting	Surface Infrastructure	To be decommissioned and removed (unless otherwise agreed with the Secretary)	Benched Quarry Walls	Landscaped and revegetated utilising native tree and understorey species, ensuring that the tree canopy is restored and integrated with the surrounding canopy to minimise visual impacts	Quarry Pit Floors	Landscaped and revegetated utilising native flora species, above the anticipated final void water level	Other land affected by the development	Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of: - native endemic species; and - a landform consistent with Appendix 7 and the surrounding environment.	Community	<ul style="list-style-type: none"> Ensure public safety Minimise the adverse socio-economic effects associated with the closure of the development 					Not Triggered
Feature	Objective																			
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23	The Applicant must rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation.	Y	Rehabilitation Management Plan 2019 Site Inspection	Inspection of rehabilitated areas indicate stabilisation. Topsoil is stockpiled in designated areas for use in rehabilitation.	Compliant															
24	The Applicant must prepare and implement a Rehabilitation Management Plan for the development to the satisfaction of the Secretary		Rehabilitation Management Plan 2019 Email from Holcim to DP&E, NOW, QCC and DPI submitting the plan, letter from DPI (22 Oct 2014)	Department of Planning, Industry & Environmental approval letter for Noise, Blast, Air Quality, Heritage & Rehabilitation Management Plans dated 31/10/19 provided.	Compliant															

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CoA #	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)
25	Within 12 months of the approval of the Rehabilitation Management Plan, the Applicant must lodge a Rehabilitation Bond with the Department to ensure that the rehabilitation of the site is implemented in accordance with the performance and completion criteria set out in the Rehabilitation Management Plan.	Y	Rehabilitation Management Plan 2019 DPIE Letter 29/07/20	Rehabilitation Plan approved by DPIE 29/07/20. Rehabilitation Bond lodged and approved (DPIE	Compliant
26	Within 3 months of each independent Environmental Audit (see Condition 3 of Schedule 3), the Applicant must review, and if necessary revise, the sum of the Rehabilitation Bond to the satisfaction of the Secretary. This review must consider the: a) effects of inflation; b) likely cost of rehabilitating the site (taking into account the likely surface disturbance over the next 3 years of the development); and c) performance of the implementation of the rehabilitation of the site to date.	Y	DPIE Rehabilitation Bond letter 21/06/21 DPIE letter 29/07/20	-	Not Triggered
27	Within 12 months of the date of this consent, the Applicant must establish a vegetation screen to minimise visibility of site infrastructure from outside the development area. Following establishment, the Applicant must maintain the vegetation screen, to the satisfaction of the Secretary.	Y	Site inspection (25/05/21)	Vegetation Screen established. Lights are timer-controlled and directional.	Compliant
28	The Applicant must implement all reasonable and feasible measures to minimise the off-site lighting impacts of the development.	Y	Site inspection (25/05/21)	Minimal night-time operations Vegetation screen established. Lights are timer-controlled and directional.	Compliant
29	The Applicant must: a) ensure that the development is suitably equipped to respond to any fires on site; and b) assist the Rural Fire Service, emergency services and National Parks and Wildlife Service as much as practicable if there is a fire in the surrounding area.	Y	Site inspection (25/05/21) Site specific induction discusses process to be followed in the event of a fire	Minimal night-time operations Water cart equipped with hose for fire fighting Standpipe compatible with RFS is available on site	Compliant
30	Prior to importing onto the site any recycled concrete or any other material that may be classified as a waste under the EPA Waste Classification Guidelines 2009 (or its latest version), the Applicant must obtain a 'resource recovery exemption' under the POEO Act and provide evidence of this exemption to the Department. Note: This condition does not apply to routine deliveries to the site		Site Audit Interviews (A Bertram) Concrete waste records Resource recovery exemption	Concrete received as spadable (ie wet cement - not free flowing) and stockpiled on site. Concrete (non spadable) waste was not received or processed on site during the audit period.	Compliant
31	The Applicant must: a) minimise the waste generated by the development; and b) ensure that the waste generated by the development is appropriately stored, handled, and disposed of, to the satisfaction of the Secretary.	Y	Site inspection Waste management procedures	General waste is managed by Southern Oil. The site uses red and yellow containers. Waste oil and oil soaked filter are stored in a bunded designated area and collected by Southern Oil (licenced contractor). Waste receipts sighted (#246686 28/08/20 700L waste oil, #0628 30/04/21 1100L waste oil). One temporary oil collection tray was located outside of the bunded area during the site inspection but it did not contain any liquid waste. Quarry manager discussed when in use and containing liquids, the oil collection tray is moved to the bunded area. The site is free of general litter and all waste types are stored in designated areas (ie oil waste, scrap metal and general waste)	Compliant
Schedule 4					
1	As soon as practicable after obtaining monitoring results showing an: a) exceedance of any relevant criteria in schedule 3, the Applicant must notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with relevant criteria; and b) an exceedance of the relevant air quality criteria in schedule 3, the Applicant must send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and/or existing tenants of the land.	Y	Site interviews (A Bertram)	Ramboll Laboratory sends Quarry manager email notification when results are available (notification email sighted). Quarry manager downloads results for review and enter into a spreadsheet which is sent to Holcim's Planning and Environment Team. If results are non-compliant, incident is lodged in INX Event Reporting System. No records of exceedance during audit period requiring notification to landowners.	Compliant
2	If an owner of privately-owned land considers the development to be exceeding the relevant criteria in schedule 3, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land. If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary decision the Applicant must: a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Secretary, to: • consult with the landowner to determine his/her concerns; • conduct monitoring to determine whether the development is complying with the relevant criteria in schedule 3; and • if the development is not complying with these criteria, then identify the measures that could be implemented to ensure compliance with the relevant criteria; and b) give the Secretary and landowner a copy of the independent review.	N/A			Not Triggered
Schedule 5					
Environmental Management					
1	If the Secretary requires, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must: a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Applicant; b) provide the strategic framework for the environmental management of the development; c) identify the statutory approvals that apply to the development; d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development; e) describe the procedures that would be implemented to: • keep the local community and relevant agencies informed about the operation and environmental performance of the development; • receive, handle, respond to, and record complaints; • resolve any disputes that may arise during the course of the development; • respond to any non-compliance; and • respond to emergencies; and f) include: • copies of any strategies, plans and programs approved under the conditions of this development consent; and • a clear plan depicting all the monitoring required to be carried out under the conditions of this consent. The Applicant must implement any Environmental Management Strategy as approved from time to time by the Secretary		Letter from DP&E dated 08/10/14 DPIE's consultation letter dated 07/08/2019. Environmental Management Strategy	Found to be compliant at last Audit.	Compliant

Development Consent SSD 5109 (MOD2)

CoA #	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)
2	The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include: a) detailed baseline data; b) a description of: • 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 development or any management measures; c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria; d) a program to monitor and report on the: • impacts and environmental performance of the development; and • effectiveness of any management measures (see (c) above); e) a contingency plan to manage any unpredicted impacts and their consequences; f) a program to investigate and implement ways to improve the environmental performance of the development over time; g) a protocol for managing and reporting any: • incidents; • complaints; • Non Compliance with statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria; and h) a protocol for periodic review of the plan. i) a document control table that includes version numbers, dates when the management plan was prepared and reviewed, names and positions of people who prepared and reviewed the management plan, a description of any revisions made and the date of the Secretary's approval. <i>Note: The Secretary may waive some of these requirements if they are unnecessary or unnecessary for particular circumstances.</i>	Y	Management plans DPIE's consultation letters dated 07/08/2019 and 31/10/19	Department of Planning, Industry & Environmental approval letter for Noise, Blast, Air Quality, Heritage & Rehabilitation Management Plans dated 31/10/19 provided.	Compliant
3	To ensure the strategies, plans or programs under this consent are updated on a regular basis, and that they incorporate any appropriate mitigation measures to improve the environmental performance of the development, the Applicant may at any time submit revised strategies, plans or programs to the Secretary for approval. With the agreement of the Secretary, the Applicant may also submit any strategy, plan or program required by this consent on a staged basis. With the agreement of the Secretary, the Applicant may revise any strategy, plan or program approved under this consent without consulting with all the parties nominated under the applicable conditions of consent. <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>	Y	Department letters	DPIE's consultation letter dated 07/08/2019. Department of Planning, Industry & Environmental approval letter for Noise, Blast, Air Quality, Heritage & Rehabilitation Management Plans dated 31/10/19 provided.	Compliant
4	a) incident report under condition 7 below; b) Annual Review under condition 9 below; c) audit report under condition 10 below; and d) any modifications to this consent, the Applicant must review, and if necessary revise, the strategies, plans, and programs required under this consent, to the satisfaction 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 development.</i>	Y	Department Letters (07/08/19, 12/08/19 & 31/10/19)	DPIE's consultation letter dated 07/08/2019. Department of Planning, Industry & Environmental approval letter for Noise, Blast, Air Quality, Heritage & Rehabilitation Management Plans dated 31/10/19 provided. Water Management Plan approved 12/08/19	Compliant
5	The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation. Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity: a) take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur; b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and c) implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary.	Y	Annual Review 2018, 2019 and 2020 EPA letter dated 23/04/2021 (received during the IEA process) CCC meeting minutes are on the website - http://www.holcim.com.au/about-us/communitylink/cooma-road/our-community.html	The EPA notified that during the reporting period Holcim has not reported any significant environmental incidents to the EPA under licence condition R2 – Notification of Environmental Harm. There have been no reported non-compliances with licence conditions within the audit's timeframe including air, water, waste, noise, blasting or vibration conditions. Within the audit's timeframe, dust has been within acceptable limits. On the 18 May 2020 Holcim advised the EPA that dust monitoring at the premises was elevated on one occasion, however, as compliance is based on a twelve-monthly average this one result did not cause a non-compliance.	Compliant
6	The Applicant must establish and operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. This CCC must be operated in general accordance with the Community Consultative Committee Guidelines: State Significant Projects (2019), and be operating within 6 months of the date of this consent. <i>Notes:</i> • The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent. • In accordance with the guideline, the Committee should comprise an independent chair and appropriate representation from the Applicant, Council, recognised environmental groups and the local community.	Y	Email from DP&E endorsing appointment of CCC (27/05/14) sighted during past audit Community Consultative Committee website page includes meeting minutes from June 2020 and May 2018 https://www.holcim.com.au/about-us/community-link/cooma-road/our-community	CCC meeting minutes are on the website - http://www.holcim.com.au/about-us/communitylink/cooma-road/our-community.html	Compliant
Incident notification					
7	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.	Y	INX Event Register Site Interview (A Bertram)	There have been no reported non-compliances with licence conditions within the audit's timeframe including air, water, waste, noise, blasting or vibration conditions.	Compliant
7A	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 non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance. <i>Note: A non-compliance which has been notified as an incident does not need to also be notified as a noncompliance</i>	Y	INX Event Register Site Interview (A Bertram)	There have been no reported non-compliances with licence conditions within the audit's timeframe including air, water, waste, noise, blasting or vibration conditions.	Compliant
Reporting					

Development Consent SSD 5109 (MOD2)

CoA #	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)
8	The Applicant must provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.	Y	Holcim's website https://www.holcim.com.au/	<p>Website http://www.holcim.com.au/sustainability/environment/pollution-monitoring-data.html has Pollution Monitoring Data reports for all Holcim quarries. Recent Pollution Monitoring sheets have been streamlined to be specific to each Holcim site. For Cooma Road Quarry, 20/21 data is missing and most blasting data does not include time of blasts.</p> <p>Website http://www.holcim.com.au/aboutus/community-link/cooma-road/planning-approvals.html has environmental management plans, PIRMP, incident and complaints reports, truck movement data and independent audit reports. Annual Review reports area also available on website.</p> <p>Recommendation: Update environmental pollution monitoring data in a timely manner and make available online.</p> <p>Data for the Cooma Road Quarry site is quite difficult to find - suggest linking the data to the website's Cooma Road Quarry page</p> <p>Department letters providing feedback of Annual Review sighted for 2018 (23/04/19), 2019 (01/06/20) & 2020 (10/06/21).</p> <p>No evidence Annual reviews submitted to council as requested by the Department</p>	Compliant
9	<p>By the end of March each year, or other timing as may be agreed by the Secretary, the Applicant must submit a report to the Department reviewing the environmental performance of the development to the satisfaction of the Secretary. This review must:</p> <p>a) describe the development (including rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;</p> <p>b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against:</p> <ul style="list-style-type: none"> the relevant statutory requirements, limits or performance measures/criteria; requirements of any plan or program required under this consent; the monitoring results of previous years; and the relevant predictions in the documents listed in condition 2(a) of Schedule 2; <p>c) identify any Non-Compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;</p> <p>d) identify any trends in the monitoring data over the life of the development;</p> <p>e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the Potential cause of any significant discrepancies; and</p> <p>f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the development.</p> <p>The Applicant must ensure that copies of the Annual Review are submitted to Council and are available to the Community</p>	Y	Department Letters Council correspondence	<p>Department letters providing feedback of Annual Review sighted for 2018 (23/04/19), 2019 (01/06/20) & 2020 (10/06/21).</p> <p>No evidence Annual reviews submitted to council as requested by the Department</p>	Non-compliant
Independent environmental audit					
10	<p>Within a year of the date of this consent, and every 3 years thereafter, unless the Secretary directs otherwise, The Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:</p> <p>(a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;</p> <p>(b) include consultation with the relevant agencies;</p> <p>(c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL and/or Water Licence (including any assessment, plan or program required under these approvals);</p> <p>(d) review the adequacy of any approved strategy, plan or program required under these approvals;</p> <p>(e) recommend measures or actions to improve the environmental performance of the development, and/or any assessment, plan or program required under these approvals; and</p> <p>(f) be conducted and reported to the satisfaction of the Secretary.</p>	Y	Previous IEA carried out February 2018. Submission of audit to Planning Current audit is the third IEA.	Department Approval letter dated 16/02/21	Compliant
11	<p><i>Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the</i></p> <p>Within 10 weeks of commissioning this audit, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report.</p>	Noted			Noted
11A	<p>Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4 of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification, compliance report and independent audit.</p> <p><i>Note: For the purposes of this condition, as set out in the EP&A Act, "monitoring" is monitoring of the development to provide data on compliance with the consent or on the environmental impact of the development, and an "environmental audit" is a periodic or particular documented evaluation of the development to provide information on compliance with the consent or the environmental management or impact of the development.</i></p>	Noted			Noted
12	<p>By 30 September 2016, unless otherwise agreed by the Secretary, the Applicant must:</p> <p>a) make the following information publicly available on its website:</p> <ul style="list-style-type: none"> the documents listed in condition 2(a) of Schedule 2; current statutory approvals for the development; approved strategies, plans or programs; a summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent; a complaints register, which is to be updated on a quarterly basis; the Annual Reviews (over the last 5 years); any independent environmental audit, and the Applicant's response to the recommendations in any audit; any other matter required by the Secretary; and 		http://www.holcim.com.au/about-us/communitylink/cooma-road/planning-approvals.html	<p>http://www.holcim.com.au/about-us/communitylink/cooma-road/planning-approvals.html contains:</p> <ul style="list-style-type: none"> Development Consent EPL EIS Environmental Management Strategy and various plans Complaint Registers and Environmental Reports Independent Audit Report and Responses Truck Movement Data 	Compliant
Statement of commitments (EIS)				Development Consent	

Development Consent SSD 5109 (MOD2)

CoA #	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)
1	The receipt and processing of clean excess concrete from approved suppliers for recycling as product. Proof of origin of the concrete and validation of recycled concrete material received (to confirm it is free of general waste materials, wood, paper and metals) will apply to the concrete recycling process. No demolition wastes, or similar, will be accepted.	Y	Interview with site staff (A Bertram) 'Cement Received' spreadsheet	Cement Received spreadsheets include a monthly and yearly totals for cement received and indicate total received for 2018 was 5395.89 T, 2019 was 6778.39 T & 2020 was 7,735.54 T. Origin of cement waste recorded on Cement Received spreadsheet	Compliant
2	Holcim Australia will visibly delineate the northern boundary of Lot 1 DP 808393 to identify the location of the adjacent Crown land road reserve	Y	Site inspection (25/05/21)	Site survey map (May 2021) showing boundaries sighted.	Compliant
3	No overburden associated with the Development will be placed within the previously approved overburden emplacement area to the west of the extraction area, identified as 'Approved Disturbance Area – Overburden Emplacement' on Figure 2.1 Cooma Road Quarry Existing Operations.	Y	Site inspection (25/05/21)	Overburden placed in designated area separate to the previously approved overburden emplacement area	Compliant
4	The walls of all water management dams will be inspected biennially (every two years) for their structural integrity and for any maintenance requirements. The walls of the water management dams will be grassed and kept free of any trees and shrubs.	Y	Site inspection (25/05/21)	Water storage main dam wall is rock and cannot be vegetated. Side walls are sufficiently vegetated and show minimal signs of erosion.	Compliant
5	All Holcim Australia employees and contractors accessing Cooma Road Quarry will be made aware of the presence of archaeological sites Cooma Quarry 1 and Cooma Quarry 2, and the need to avoid impacts on these sites.		Site Induction	Covered in Section 14. of Holcim's Standard 2.3 Induction – Site Specific Safety Rules and conditions: Cooma Road Quarry Employee & Contractor Site Rules.	Compliant
6	Cooma Quarry 2 will be fenced during the construction phase to avoid any unintended impacts to the site.			No longer relevant	Compliant
7	Consultation with local Aboriginal community representatives will be undertaken to develop a culturally appropriate ongoing management strategy to avoid unintended impacts to Cooma Quarry 1 and Cooma Quarry 2		Aboriginal Heritage Management Plans	Management plans are complete and in place	Compliant
8	An exclusion zone of at least 20 metres will be established around the Moses Morley's Lime Kiln site and associated buildings during the construction of the Eastern Dam.		Site inspection (25/05/21)	Fencing around the Moses Morley's Lime Kiln site and associated buildings is in place and in good condition	Compliant
9	The existing fence around the Moses Morley's Lime Kiln site and associated buildings will be maintained and the opportunity for extending the fencing out to include the exclusion zone will be investigated.	Y	Site inspection (25/05/21)	Independent Audit Report and Responses	Compliant
10	Vegetation within the existing fenced area of the Moses Morley's Lime Kiln site will be managed to limit adverse impacts on the kiln site associated with vegetation growth.	Y	Site inspection (25/05/21)	Truck Movement Data	Compliant
11	Holcim Australia will inspect the physical condition of the Moses Morley's Lime Kiln site on a 6-monthly basis and compare the condition with the photographs contained in this report. The results of these inspections will be reported in the site's Annual Review.	Y	Site inspection Site Interview (A Bertram)	Moses Morley's Lime Kiln site is surveyed every 6 months to check for movement. No movement recorded during audit period. Site inspected and is in good condition. Survey pegs visible. No damage has been reported in the Historic Heritage section of the Annual Review for 2018, 2019 and 2020	Compliant
12	Prior to any blasting or construction activities, photographic/archival recording of the Moses Morley's Lime Kiln site will be undertaken in accordance with Heritage Branch, OEH guidelines Photographic Recording of Heritage Items Using Film or Digital Capture (2006). The photographic/archival record will be updated every five years until the cessation of quarrying activities	Y	Blasting reports and photographic records Site interviews (A Bertram)	When firing in the granite pit, photographic records are taken of the Lime Kiln site. Records sighted back to 2014 indicate no movement recorded.	Compliant
13	Holcim Australia will make good/repair any damage to the Moses Morley Kiln site which occurs due to Cooma Road Quarry operations. Any repairs will be undertaken in a suitable manner using appropriate fabric and by an appropriately skilled heritage professional.	N/A	Monitoring Reports	Not Triggered	Not Triggered
14	The existing dust control measures will continue to be implemented on site, including: •minimisations of the total disturbed/working areas at any one time; •dust collection during drilling operations; •enclosure of the primary and secondary crushing plants and screening transfer points; •watering of unsealed roads, working areas and stockpiles; •water sprays on the conveyors; •dust extraction system within the secondary crushing plant; and •truck wheel wash facility.		Site inspection (25/05/21)	Water cart used on site and dedicated wash down area for the site. Other dust control measures implemented as per Air Quality management plan.	Compliant
15	As per Holcim's Environmental Management Plan (Corkery 2008), deposited dust levels will be monitored at five sensitive receiver locations on a monthly basis	Y	Monthly monitoring data provided in Annual Review 2018, 2019 and 2020	Monthly monitoring data provided in Annual Review reports for audit period includes data for five monitoring locations (DDG1 – DDG5).	Compliant
16	Holcim Australia will monitor diesel usage and seek opportunities for further efficiency, including consideration of fuel efficiency in equipment selection.	Y	Site interviews (A Bertram)	Fuel usage is recorded in daily pre-start checks (checklist sighted) Fuel is tracked via an internal spreadsheet used for NPI reporting purposes. All Plant and Equipment is maintained to ensure good working order.	Compliant
17	Holcim Australia is committed to managing the noise impact of the Development and will implement the following controls: •the attenuation of the primary crushing plant from a sound power level of 120 dB(A) to approximately 112 dB(A); •the management of loaders and road haulage trucks to minimise the number of machines running in exposed locations at any one point in time; •the management of the layout of the stockpiles and work areas to minimise the number of machines running in exposed locations; •the management of stockpiles to act as barriers between working machines and potential receiver areas (applicable to potential exposed areas higher within the quarry and product area); •not running the secondary crushing plant during the evenings (between 6.00 pm and 10.00 pm) if potentially adverse weather conditions aid in the propagation of noise to the receiver areas; and •the construction of an earth-berm situated along the eastern extent of the proposed infrastructure area.				
18	Built elements of the new infrastructure area will be sympathetically coloured to blend into the environment, where feasible (eg use of green and brown tones).	N/A	Built elements of the new infrastructure area will be sympathetically coloured to blend into the environment, where feasible (eg use of green and brown tones).	No new construction undertaken during the Audit Period.	Not Triggered
19	Holcim Australia will store all dangerous goods in accordance with dangerous goods storage requirements and relevant Australian Standards.	Y	Site Inspection (25/05/21)	Dangerous goods are stored in dedicated areas within the locked bunded dangerous goods area and managed as per Safety Data Sheets available on the Holcim website.	Compliant
20	Holcim Australia will continue to implement the appropriate measures to reduce the risk of fire ignition and the spread of bushfire across the site in consultation with the RFS.	Y	Site Inspection (25/05/21)	refer to Schedule 3, Condition 29	
21	All waste materials removed from the site shall only be directed to a waste management facility or premises lawfully permitted to accept the materials.	Y	Site Inspection (25/05/21)	Waste stored in designated areas. Latest Southern Oil Waste receipts sighted (20/08/20 & 30/04/21 Waste Oil).	Compliant



Appendix D

EPL compliance register



CoA #	Requirement	Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)																																	
Administrative Conditions																																					
A1.1	<p>The licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation. Unless otherwise further restricted by a condition of the licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.</p> <table border="1"> <thead> <tr> <th>Scheduled Activity</th> <th>Fee Based Activity</th> <th>Scale</th> </tr> </thead> <tbody> <tr> <td>Crushing, grinding or separating</td> <td>Crushing, grinding or separating</td> <td>> 500000 - 2000000 T annual processing capacity</td> </tr> <tr> <td>Extractive activities</td> <td>Extractive activities</td> <td>> 500000 - 2000000 T annually extracted or processed</td> </tr> <tr> <td>Resource recovery</td> <td>Recovery of general waste</td> <td>Any general waste recovered</td> </tr> </tbody> </table>	Scheduled Activity	Fee Based Activity	Scale	Crushing, grinding or separating	Crushing, grinding or separating	> 500000 - 2000000 T annual processing capacity	Extractive activities	Extractive activities	> 500000 - 2000000 T annually extracted or processed	Resource recovery	Recovery of general waste	Any general waste recovered	Y	Site Inspection (25/05/21) of works	Production records indicate a total production of: 939,671 tonnes in 2018; 803,272 tonnes in 2019; and 988,840 tonnes in 2020.	Compliant																				
Scheduled Activity	Fee Based Activity	Scale																																			
Crushing, grinding or separating	Crushing, grinding or separating	> 500000 - 2000000 T annual processing capacity																																			
Extractive activities	Extractive activities	> 500000 - 2000000 T annually extracted or processed																																			
Resource recovery	Recovery of general waste	Any general waste recovered																																			
A1.2	<p>Notwithstanding the fee scales noted above, the licensee must not:</p> <p>(a) produce more than 1.5 million tonnes of quarry products from the premises per calendar year; and</p> <p>(b) transport more than 1.5 million tonnes of quarry products, ENM or VENM to or from the premises per calendar year following the commissioning of Stage 1 of the Old Cooma Road re-alignment.</p> <p>Note: This condition has been added to be consistent with consolidated consent SSD-5109 (Cooma Road Quarry Continued Operations Project).</p>	Y	Product usage and sales spreadsheet 2018 – 2020 Annual Review 2018, 2019 and 2020 "All products inc. ENM, VENM and imported materials 2018-2020" spreadsheet.	Production records indicate a total production of: 939,671 tonnes in 2018; 803,272 tonnes in 2019; and 988,840 tonnes in 2020. Old Cooma Road re-alignment was completed in June 2020. A total of 505,413 tonnes of product was transported from July to December 2020.	Compliant																																
A2.1	<p>A2 Premises or plant to which the licence applies:</p> <p>Premises Details: COOMA ROAD QUARRY, COOMA ROAD, QUEANBEYAN NSW 2620 LOT 103 DP 754881, LOT 110 DP 754881, LOT 111 DP 754881, LOT 124 DP 754881, LOT 1 DP 808393 AND CROWN ROAD ADJACENT TO LOT 1 DP808393</p>	Noted			Noted																																
A3.1	<p>A3 Information supplied to the EPA:</p> <p>Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of the licence. In this condition the reference to "the licence application" includes a reference to:</p> <p>a)the applications for any licences (including former pollution control approvals) which the licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and</p> <p>b)the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.</p>	Y	Development Consent SSD_5109 - MOD2 EPL 1453 Site Inspection (25/05/21)	Works carried out in accordance with Development Consent SSD_5109 - MOD2	Compliant																																
Discharges to Air and Water and Applications to Land																																					
P1.1	<p>P1 Location of monitoring/discharge points and areas:</p> <p>The following points referred to in the table are identified in the licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to air from the point.</p> <table border="1"> <thead> <tr> <th>EPA Identification no.</th> <th>Type of Monitoring Point</th> <th>Type of Discharge Point</th> <th>Location Description</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>PM10 Dust Monitoring</td> <td></td> <td>The dust monitor is labelled "PM10" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).</td> </tr> <tr> <td>8</td> <td>Dust Monitoring</td> <td></td> <td>The dust deposition gauges as labelled "dg1" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).</td> </tr> <tr> <td>9</td> <td>Dust monitoring</td> <td></td> <td>The dust deposition gauge as labelled "dg2" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).</td> </tr> <tr> <td>10</td> <td>Dust Monitoring</td> <td></td> <td>The dust deposition gauge as labelled "dg3" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).</td> </tr> <tr> <td>11</td> <td>Dust Monitoring</td> <td></td> <td>The dust deposition gauge as labelled "dg4" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).</td> </tr> <tr> <td>12</td> <td>Dust Monitoring</td> <td></td> <td>The dust gauge as labelled "dg5" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).</td> </tr> <tr> <td>13</td> <td>Air blast overpressure & ground vibration peak particle velocity monitoring</td> <td></td> <td>Blast monitoring point as labelled "TBC" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).</td> </tr> </tbody> </table>	EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description	2	PM10 Dust Monitoring		The dust monitor is labelled "PM10" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).	8	Dust Monitoring		The dust deposition gauges as labelled "dg1" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).	9	Dust monitoring		The dust deposition gauge as labelled "dg2" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).	10	Dust Monitoring		The dust deposition gauge as labelled "dg3" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).	11	Dust Monitoring		The dust deposition gauge as labelled "dg4" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).	12	Dust Monitoring		The dust gauge as labelled "dg5" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).	13	Air blast overpressure & ground vibration peak particle velocity monitoring		Blast monitoring point as labelled "TBC" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).		Annual Reviews for 2018, 2019 & 2020	Monitoring Results included in Annual Reports however is not consistent with EPL monitoring points (as per EPL monitoring locations map July 2020). Recommendation: Update Section 6.3 - Air Quality of Annual Report to reflect EPL monitoring points.	Compliant
EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description																																		
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P1.2	<p>The following utilisation areas referred to in the table below are identified in the licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.</p>	Noted	-	-	Noted																																
P1.3	<p>The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.</p> <p>Water and land</p> <table border="1"> <thead> <tr> <th>EPA Identification no.</th> <th>Type of Monitoring Point</th> <th>Type of Discharge Point</th> <th>Location Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Discharge to waters Discharge quality monitoring Volume monitoring</td> <td>Discharge to waters Discharge quality monitoring Volume monitoring</td> <td>Outlet from sediment interception pond to Barracks Creek labelled as "SIP Dam Sample Point" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).</td> </tr> </tbody> </table>	EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description	1	Discharge to waters Discharge quality monitoring Volume monitoring	Discharge to waters Discharge quality monitoring Volume monitoring	Outlet from sediment interception pond to Barracks Creek labelled as "SIP Dam Sample Point" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).	Y	Annual Reviews for 2018, 2019 & 2020	Water Monitoring results for licence point 1 included in the Annual Reports (Table 25).	Compliant																								
EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description																																		
1	Discharge to waters Discharge quality monitoring Volume monitoring	Discharge to waters Discharge quality monitoring Volume monitoring	Outlet from sediment interception pond to Barracks Creek labelled as "SIP Dam Sample Point" on map titled "Cooma Road Quarry Monitoring Locations Map" provided to the EPA on 16 July 2020 (DOC20/568222-1).																																		
Limit Conditions																																					

EPL 1453 - Crushing, grinding separating; extractive industries; Resource recovery																													
CoA #	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)																								
L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the <i>Protection of the Environment Operations Act 1997</i> .	Y	Site Inspection (25/05/21)	Interviews with A Bertram and H Staier. Staff aware of environmental obligations and site is managed to ensure all site controls are maintained No water discharge from site since 2010	Compliant																								
L2.1	For each monitoring/discharge point or utilisation area specified in the table/s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.	Noted	See Condition L2.4	Water monitoring results provided in Section 7 - Water Management in the Annual Reports. As there has been no discharge from site since 2010, water monitoring sampling and results reported in Annual Review are from within the creek (ie not at discharge point as no discharge). Recommendation: Investigate with EPA if instream monitoring is required if there is no discharge from site.	Noted																								
L2.2	Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.	Noted	See Condition L2.4		Noted																								
L2.3	To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the tables.	Noted	See Condition L2.4		Noted																								
L2.4	Water and/or Land Concentration Limits POINT 1 <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of Measure</th> <th>50 percentile concentration limit</th> <th>90 percentile concentration limit</th> <th>3DGM concentration limit</th> <th>100 percentile concentration limit</th> </tr> </thead> <tbody> <tr> <td>Oil and Grease</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>10</td> </tr> <tr> <td>pH</td> <td>pH</td> <td></td> <td></td> <td></td> <td>6.5-8.5</td> </tr> <tr> <td>Total suspended solids</td> <td>milligrams per litre</td> <td></td> <td></td> <td></td> <td>50</td> </tr> </tbody> </table>	Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit	Oil and Grease	milligrams per litre				10	pH	pH				6.5-8.5	Total suspended solids	milligrams per litre				50	Y	Annual Reviews for 2018, 2019 & 2020	Water monitoring results provided in Section 7 - Water Management in the Annual Reports. As there has been no discharge from site since 2010, water monitoring sampling and results reported in Annual Review are from within the creek (ie not at discharge point as no discharge). Recommendation: Investigate with EPA if instream monitoring is required if there is no discharge from site.	Compliant
Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit																								
Oil and Grease	milligrams per litre				10																								
pH	pH				6.5-8.5																								
Total suspended solids	milligrams per litre				50																								
L3.1	Waste: The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below. Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below. Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below. <i>This condition does not limit any other conditions in this licence.</i> <table border="1"> <thead> <tr> <th>Code</th> <th>Waste</th> <th>Description</th> <th>Activity</th> <th>Other Limits</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>General or Specific exempted waste</td> <td>Waste that meets all the conditions of a resource recovery exemption under Clause 92 of the Protection of the Environment Operations (Waste) Regulation 2014</td> <td>As specified in each particular resource recovery exemption</td> <td></td> </tr> <tr> <td>NA</td> <td>Concrete</td> <td>Imported recycled concrete used for processing.</td> <td>Resource recovery</td> <td>10,000 tonnes per annum</td> </tr> </tbody> </table>	Code	Waste	Description	Activity	Other Limits	NA	General or Specific exempted waste	Waste that meets all the conditions of a resource recovery exemption under Clause 92 of the Protection of the Environment Operations (Waste) Regulation 2014	As specified in each particular resource recovery exemption		NA	Concrete	Imported recycled concrete used for processing.	Resource recovery	10,000 tonnes per annum		Site interview (A Bertram & H Staier) Annual Reviews for 2018, 2019 & 2020 Concrete waste 2018, 2019 & 2020 spreadsheets with monthly and yearly cement received data	Concrete waste spreadsheets includes a monthly totals for cement received and indicate total received for 2018 was 5395.89 T, 2019 was 6778.39 T & 2020 was 7,735.54 T. Concrete received as spadable (ie wet cement - not free flowing) and stockpiled on site. Concrete (non spadable) waste was not received or processed on site during the audit period.	Compliant									
Code	Waste	Description	Activity	Other Limits																									
NA	General or Specific exempted waste	Waste that meets all the conditions of a resource recovery exemption under Clause 92 of the Protection of the Environment Operations (Waste) Regulation 2014	As specified in each particular resource recovery exemption																										
NA	Concrete	Imported recycled concrete used for processing.	Resource recovery	10,000 tonnes per annum																									
L3.2	Concrete waste must be stockpiled on site in banded areas and can be processed and blended with quarry raw product to produce quarry product(s).	Y	Site Inspection (25/05/21)	Cement stockpiled in designated disturbed area. Concrete not processed during audit period	Compliant																								
L3.3	The licensee must not: •Process more than 10,000 tonnes of concrete waste per annum; •Store more than 10,000 tonnes of concrete waste on the premises at any one time.	Y	Annual Review for 2020	Annual Concrete waste processing applicable to 2020 onwards 2020: 7735.5 Tonnes received. Currently no concrete waste is processed - all cement received onsite is stockpiled in a designated area.	Compliant																								
L4.1	Noise Limits: <table border="1"> <thead> <tr> <th>Receiver</th> <th>Day Shoulder 6 - 7 am (LAeq(15 min))</th> <th>Day 7 am - 6 pm (LAeq (15 min))</th> <th>Evening 6 - 10 pm (LAeq (15 min))</th> </tr> </thead> <tbody> <tr> <td>N1, N7, N8, N56, N57, N59, N63, N64, N65</td> <td>40</td> <td>44</td> <td>39</td> </tr> <tr> <td>N67</td> <td>36</td> <td>41</td> <td>35</td> </tr> <tr> <td>All other receivers between N9 and N71 inclusive</td> <td>36</td> <td>38</td> <td>35</td> </tr> <tr> <td>All other receivers</td> <td>35</td> <td>35</td> <td>35</td> </tr> </tbody> </table> Note: The above locations refer to the respective noise assessment locations detailed in Appendix 5 of the Consolidated Consent - SSD 5109 (DOC19/541449). Note: The meteorological factors presented in Fact Sheet D of the NSW EPA Noise Policy for Industry 2017 shall also be applied to the measured noise level where applicable.	Receiver	Day Shoulder 6 - 7 am (LAeq(15 min))	Day 7 am - 6 pm (LAeq (15 min))	Evening 6 - 10 pm (LAeq (15 min))	N1, N7, N8, N56, N57, N59, N63, N64, N65	40	44	39	N67	36	41	35	All other receivers between N9 and N71 inclusive	36	38	35	All other receivers	35	35	35	Y	Annual reports for 2018, 2019 & 2020 which include Noise Monitoring Assessment Reports completed by Muller Acoustic Consulting	Noise monitoring results included in Annual Reports summarised in section 6.2 - Noise with full reports for the period provided as Appendices. All results for 2018, 2019 & 202 were within licence limits.	Compliant				
Receiver	Day Shoulder 6 - 7 am (LAeq(15 min))	Day 7 am - 6 pm (LAeq (15 min))	Evening 6 - 10 pm (LAeq (15 min))																										
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All other receivers between N9 and N71 inclusive	36	38	35																										
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L5.1	Blasting: The air blast overpressure level from blasting operations in or on the premises must not exceed: a)115 dB (Lin Peak) for more than 5% of the total number of blasts during each reporting period; and b)120 dB (Lin Peak) at any time. At any point within 1 metre of any affected residential boundary or other noise sensitive location such as a school or hospital.	Y	Annual reports for 2018, 2019 & 2020 2018, 2019 & 2020 EPL Annual Returns	Blast monitoring results provided in Section 6.4 - Blasting of the Annual Reports. All results for 2018, 2019 & 202 were within licence limits.	Compliant																								

EPL 1453 - Crushing, grinding separating; extractive industries; Resource recovery					
CoA #	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)
L5.2	The ground vibration peak particle velocity from blasting operations carried out in or on the premises must not exceed: a) 5 mm/s for more than 5% of the total number of blasts carried out on the premises during each reporting period; and b) 10mm/s at any time. At any point within 1 metre of any affected residential boundary or other noise sensitive location such as a school or hospital.	Y	Annual reports for 2018, 2019 & 2020 2018, 2019 & 2020 EPL Annual Returns	Blast monitoring results provided in Section 6.4. - Blasting of the Annual Reports. All results for 2018, 2019 & 2020 were within licence limits.	Compliant
L5.3	To determine compliance with condition(s) L3.1 and L3.2: a) air blast overpressure and ground vibration levels must be measured at the "New Blast Monitor" location as shown on the map titled "Cooma Road Quarry Resource Definition Work Program" dated 12 August 2004 for all blasts carried out in or on the premises; and b) instrumentation used to measure the air blast overpressure and ground vibration levels must meet the requirements of Australian Standard 2187.2 of 1993.		Blast Management Plan (2019) Instrumentation certification	Ramboll results include calibration dates undertaken of instrumentation. Calibration certificate sighted (CTM Calibration Certificate #301320200611). Undertaken on the 11/06/2020 Recommendation: Investigate with supplier (TEXCEL) if calibrated conducted as per AS 2187.2	Compliant
L5.4	Blasting operations at the premises may only take place between 9:00am-3:00pm Monday to Friday. Blasting is not permitted on weekends or public holidays	Y	Samples of 2020 and 2021 Blast reports Blast Management Plan (2019) Site interviews INX Event register	Samples of 2020 Blast reports sighted. 2018 and 2019 blast report have been archived and unable to access records. Samples of Blast reports for 2020 showed Blast times were within licenced times - 17/03/2020 14:50, 17/04/2020 12:17, 19/05/20 12:35. No incidents/complaints have been received relating to blasts outside of designated times. A Bertram aware of blast time restrictions and has not required to undertake blasts outside of the designated blast times during audit period. He is aware of the process to apply for undertaking blasts outside of designated times in the event of a misfire.	Compliant
L6.1	Hours of Operation: Standard construction hours Unless otherwise specified by any other condition of this licence, all construction activities are: a) restricted to between the hours of 7:00am and 6:00pm Monday to Friday; b) restricted to between the hours of 8:00am and 1:00pm Saturday; and c) not to be undertaken on Sundays or Public Holidays		Annual Reviews for 2018, 2019 & 2020	No construction activities were undertaken during 2018, 2019 & 2020	Compliant
L6.2	Operating Hours Unless otherwise specified by any other condition of this licence, operating hours are restricted to: a) Primary crushing, laden truck movements between the hours of 6:00am and 6:00pm Monday to Saturday; b) Unladen truck movements between the hours of 6:00am and 8:00pm Monday to Saturday; c) Other operations between the hours of 6:00am and 10:00pm Monday to Saturday; and d) No activities to be undertaken on Sundays and Public Holidays.		Annual Reviews for 2018, 2019 & 2020 Site interviews on truck movements (A Bertram & H Staier) INX Event Register	A Bertram and H Staier aware of operating times and truck movement restrictions. Truck movement maps are posted at weighbridge where drivers can review while waiting for weighbridge dockets. Weighbridge staff allocate truck movements and advise on route to be taken. No incidents have been recorded relating to truck movement during the audit period	Compliant
Operating Conditions					
O1.1	Licensed activities must be carried out in a competent manner. This includes: a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	Y	Site inspection Site interviews (A Bertram & H Staier)	The workshop area is nearing the end of its life and will be relocated to the new infrastructure area on site - this work has not yet commenced. Site Inspection showed environmental controls in place such as designated hardstand areas, purpose built wash down area where all runoff is collected and disposed of by licenced contractor. Designated areas for waste disposal, bunded areas for waste oil and chemical storage cabinets used. Site drainage exists to contain all water onsite with not offsite discharges. Site interviews with A Bertram and H Staier show an understanding of consents and licences and appropriate site management	Compliant
O2.1	All plant and equipment installed at the premises or used in connection with the licensed activity: a) must be maintained in a proper and efficient condition; and b) must be operated in a proper and efficient manner.	Y	PM02 Maintenance Work Orders Prestart checklists Site interviews Site Inspection	Morning pre-start checks are completed by operators (sighted) to record running hours and general checks such as oil leaks. Supervisors enter run hours into spreadsheet which then triggers maintenance required based on run hours. PM02 system notifies for Fixed plant maintenance - generates WO to be completed	Compliant
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	Y	Sight inspection Site interviews (A Bertram)	Water cart observed onsite but not in use at time of inspection Dust stockpiles are sprayed to create a 'crust' which contains dust from stockpiled material.	Compliant
O4.1	The licensee must maintain, and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises. The licensee must keep the incident response plan on the premises at all times. The incident response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment. The PIRMP must be tested at least annually or following a pollution incident. The licensee must develop the Pollution Incident Response Management Plan in accordance with the requirements in Part 5.7A of the Protection of the Environment Operations (POEO) Act 1997 and POEO regulations.	Y	PIRMP Site interview (A Bertram)	PIRMP Sighted - last updated September 2020 A Bertram discussed yearly Training/PIRMP testing undertaken - different incident scenario conducted each year.	Compliant
O5.1	All liquid chemicals, fuels and oils must be stored in tanks or containers inside suitable bund(s). Bunds are to be designed, constructed and maintained in accordance with AS1940-2004 Storage and Handling of Flammable and Combustible Liquids.	Y	Site Inspection (25/05/21) of storage areas	Site inspection of designated areas for waste disposal (oily waste & scrap metal). Oily waste areas were bunded and stored in tanks and drums clearly marked as oily waste. Chemical storage cabinets used and located within a locked shed. The shed was also bunded and ventilated to ensure any spill chemicals are fully contained and managed.	Compliant
O6.1	The licensee must comply with the conditions as specified in this licence or where no specific conditions outlined in this licence, this licensee must comply with the Protection of the Environment Operations (Waste) Regulation 2014.	Y	Site inspection Staff interviews (A Bertram & H Staier)	Interviews with A Bertram and H Staier. Staff aware of environmental obligations and site is managed to ensure all site controls are maintained	Compliant
Monitoring and Recording Conditions					

EPL 1453 - Crushing, grinding separating; extractive industries; Resource recovery																					
CoA #	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)																
M1.1	The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.	Noted			Noted																
M1.2	All records required to be kept by this licence must be: a) in a legible form, or in a form that can readily be reduced to a legible form; b) kept for at least 4 years after the monitoring or event to which they relate took place; and c) produced in a legible form to any authorised officer of the EPA who asks to see them.	Y	Annual Reviews Holcim website	Annual Reviews containing monitoring data available on Holcim Cooma Road Quarry website dating back to 2013 https://www.holcim.com.au/about-us/community-link/cooma-road/planning-approvals	Compliant																
M1.3	The following records must be kept in respect of any samples required to be collected for the purposes of this licence: a) the date(s) on which the sample was taken; b) the time(s) at which the sample was collected; c) the point at which the sample was taken; and d) the name of the person who collected the sample.	Y	Site inspection Ramboll sampling results portal	Ramboll undertakes all site sampling with results displayed via their portal (sighted) NSW/ACT Monitoring Schedule spreadsheet sighted. This spreadsheet show upcoming sampling requirements for the site (Air, Surface & Ground Water, Meteorological)	Compliant																
M2.1	For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:	Y	Site Interview regarding sampling undertaken	Ramboll undertakes all site sampling with results displayed via their portal (sighted) NSW/ACT Monitoring Schedule spreadsheet sighted. This spreadsheet shows upcoming sampling requirements for the site (Air, Surface & Ground Water, Meteorological)	Compliant																
M2.2	Air Monitoring Requirements POINT 2 <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>PM10</td> <td>micrograms per cubic metre</td> <td>Continuous</td> <td>AM-18</td> </tr> </tbody> </table> POINT 8,9,10,11,12 <table border="1"> <thead> <tr> <th>Pollutant</th> <th>Units of measure</th> <th>Frequency</th> <th>Sampling Method</th> </tr> </thead> <tbody> <tr> <td>Particulates - Deposited Matter</td> <td>grams per square metre per month</td> <td>Monthly</td> <td>AM-19</td> </tr> </tbody> </table>	Pollutant	Units of measure	Frequency	Sampling Method	PM10	micrograms per cubic metre	Continuous	AM-18	Pollutant	Units of measure	Frequency	Sampling Method	Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19	Y	Air Quality Management Plan 2019 Annual Review 2018, 2019 and 2020	The site installed a High Volume Sampling Unit (HVAS) in late 2016 to monitor PM ₁₀ . Air quality monitoring at the site has been undertaken throughout 2018, 2019 and 2020.	Compliant
Pollutant	Units of measure	Frequency	Sampling Method																		
PM10	micrograms per cubic metre	Continuous	AM-18																		
Pollutant	Units of measure	Frequency	Sampling Method																		
Particulates - Deposited Matter	grams per square metre per month	Monthly	AM-19																		
M3.1	Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with: a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place. Note: The Protection of the Environment Operations (Clean Air) Regulation 2010 requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".	Y	Air Quality Management Plan 2019 Annual Review 2018, 2019 and 2020	The site installed a High Volume Sampling Unit (HVAS) in late 2016 to monitor PM ₁₀ . Air quality monitoring at the site has been undertaken throughout 2018, 2019 and 2020.	Compliant																
M4.1	The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.	Y	Site interview INX Events register	Holcim Website - There is a link to 'Incidents' which shows one blasting complaint in 2014. INX complaints/incidents register sighted for the reporting period. No EPL non compliances were recorded	Compliant																
M4.2	The record must include details of the following: a) the date and time of the complaint; b) the method by which the complaint was made; c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect; d) the nature of the complaint; e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and f) if no action was taken by the licensee, the reasons why no action was taken.	Y	Site interview INX Events register	INX complaints/incidents register sighted for the reporting period. No EPL non compliances were recorded. All incidents are logged with date, time, 'event type', Workgroup & Description of event. Events are given a reference number which can be reviewed to see details of outcomes and actions required.	Compliant																
M4.3	The record of a complaint must be kept for at least 4 years after the complaint was made.	Y	Holcim Website Annual Reviews for 2018, 2019 & 2020	There is one complaint noted on the Cooma Road Quarry section of Holcim website dated October 2014 Complaints registered and how they have been addressed are detailed in Section 9 of the Annual Reports	Compliant																
M4.4	The record must be produced to any authorised officer of the EPA who asks to see them.	Noted	-	-	Noted																
M5.1	The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.	Y	Holcim Website	Holcim website does not advertise for a easily accessible 'Complaints' telephone number for complaints associated with the Cooma Road Quarry site Recommendation: Holcim to display a number on their website that is easily identifiable as a number for the public to register complaints associated with Holcim's activities	Non-compliant																
M5.2	The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.	Y	Holcim Website	Holcim website does not advertise for a easily accessible 'Complaints' telephone number for complaints associated with the Cooma Road Quarry site Recommendation: as per M5.1 recommendation above	Non-compliant																
M5.3	The preceding two conditions do not apply until 3 months after: the date of the issue of this licence	Y	Holcim Website	Holcim website does not advertise for a easily accessible 'Complaints' telephone number for complaints associated with the Cooma Road Quarry site Recommendation: as per M5.1 recommendation above	Non-compliant																
Reporting Conditions																					

EPL 1453 - Crushing, grinding separating; extractive industries; Resource recovery					
CoA #	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)
R1.1	The licensee must complete and supply to the EPA an Annual Return in the approved form comprising: 1. a Statement of Compliance, 2. a Monitoring and Complaints Summary, 3. a Statement of Compliance - Licence Conditions, 4. a Statement of Compliance - Load based Fee, 5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan, 6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and 7. a Statement of Compliance - Environmental Management Systems and Practices. At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.	Y	Site Interview (A Bertram) EPL Annual Returns	EPL Annual returns sighted 18/19, 19/20 & 20/21 EPL Annual Returns are submitted by the Planning & Environment Team using data provided by the site Quarry Manager does not have access to submitted annual returns and was not able to provide for review. Planning and Environment Team supplied copies of submitted Annual Returns. Recommendation: Holcim's Planning & Environment Team to store submitted EPL Annual Returns in a location accessible by site staff	Compliant
R1.2	An Annual Return must be prepared in respect of each reporting period, except as provided below.	Y	Site Interview (A Bertram) EPL Annual Returns for 2018, 2019 & 2020 reporting periods	Quarry Manager (A Bertram) populates EPL results spreadsheet which is managed by the Planning and Environment Team. P & E Team submits EPL Annual returns. EPL Annual Returns for 2018, 2019 & 202 reporting periods sighted.	Compliant
R1.3	Where this licence is transferred from the licensee to a new licensee: a)the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and b)the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.	N/A			N/A
R1.4	Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on: a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.	N/A			N/A
R1.5	The Annual Return for the reporting period must be supplied to the EPA via eConnect EPA or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').	Y	EPL Annual Returns for 2018, 2019 & 2020	EPL Annual Returns for 2018, 2019 & 2020 reporting periods sighted.	Compliant
R1.6	The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.	Y	EPL Annual Returns for 2017, 2018, 2019 & 2020	Submission of EPL annual returns for 2017, 2018, 2019 & 2020 sighted	Compliant
R1.7	Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by: a) the licence holder; or b) by a person approved in writing by the EPA to sign on behalf of the licence holder.	Y	Site Inspection (25/05/21) Site Interview EPL Annual Returns for 2018, 2019 & 2020	EPL Annual Returns for 2018, 2019 & 2020 reporting period sighted	Compliant
R2.1	Notifications must be made by telephoning the Environment Line service on 131 555.	Noted			Noted
R2.2	The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred. Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act	Y	INX Event register	No events during audit period requiring notification to EPA. EPA advised notification from site regarding PM10 exceedance at one sampling point but no licence exceedance due to 12 month averaging period (refer to EPA correspondence)	Compliant
R3.1	Where an authorised officer of the EPA suspects on reasonable grounds that: a) where this licence applies to premises, an event has occurred at the premises; or b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.	Noted	No requests made during audit period	-	Noted
R3.2	The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.	Noted	No requests made during audit period	-	Noted
R3.3	The request may require a report which includes any or all of the following information: a) the cause, time and duration of the event; b) the type, volume and concentration of every pollutant discharged as a result of the event; c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event; d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort; e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants; f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and g) any other relevant matters.	Noted	No requests made during audit period	-	Noted
R3.4	The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.	Noted	-	-	Noted
R4.1	The licensee must report any exceedance of the licence blasting limits to the regional office of the EPA as soon as practicable, but no later than 48 hours, after the exceedance becomes known to the licensee or to one of the licensee's employees or agents.	Y	No blast exceedances during the audit period	No blast exceedances during the audit period Complaints were made during the audit period and blast records checked. Complaints did not correspond to any exceedances.	Compliant
General Conditions					
G1.1	A copy of this licence must be kept at the premises to which the licence applies.	Y	Site Inspection (25/05/21)	Copy of Licence kept in site office	Compliant
G1.2	The licence must be produced to any authorised officer of the EPA who asks to see it.	Noted	-	-	Noted
G1.3	The licence must be available for inspection by any employee or agent of the licensee working at the premises.	Y	Site Inspection (25/05/21)	Copy of Licence kept in site office and available to all staff	Compliant



Appendix E

Water access licence and works approval
compliance register



Water supply works approval: 40WA413082 (Work Type: Pump (80mm Centrifugal Pump) and Bywash Dam Lot 21, DP 1180981

	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)
	Take of Water				
1	Any water supply work authorised by this approval must take water in compliance with the conditions of the access licence under which water is being taken	Noted	Water Access Licence WAL33412 sighted		Noted
	Water Management Works				
2	When a water supply work authorised by this approval is to be abandoned or replaced, the approval holder must contact the relevant licensor in writing to verify whether the work must be decommissioned. The work is to be decommissioned unless the approval holder receives notice from the Minister not to do so. Within sixty days of decommissioning, the approval holder must notify the relevant licensor in writing that the work has been decommissioned.	Noted			Noted
	Monitoring and Recording				
3	Where a water meter is installed on a water supply work authorised by this approval, the meter reading must be recorded in the logbook before taking water. This reading must be recorded every time water is to be taken.	Y	Water Usage spreadsheets sighted for 2018, 2019 & 2020.	Water usage spreadsheets record end of month meter readings and monthly water usage totals for each water usage (ie. Standpipe, Plant or Water cart where applicable).	Compliant
4	Before water is taken through the water supply work authorised by this approval, confirmation must be recorded in the logbook that cease to take conditions do not apply and water may be taken. The method of confirming that water may be taken, such as visual inspection, internet search, must also be recorded in the logbook. If water may be taken, the: A. date, and B. time of the confirmation, and C. flow rate or water level at the reference point in the water source	Y	Water Usage spreadsheets sighted for 2018, 2019 & 2020 site walkaround/inspection (25/05/21) Site interview (A Bertram)	80mm pump located at bywash dam Discussion with Quarry manager (A Bertram) indicated that daily inspections of bywash dam are undertaken to ensure sufficient water levels are maintained (inspection sheets sighted). Flow rates are not recorded as dam is supplied by rainwater only - not linked to a stream. Unused water from processing is returned to bywash dam for re-use	Compliant
5	The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planning and harvesting, must be recorded in the logbook each time water is taken	Y	Water Usage and Rainfall spreadsheets for 2018, 2019 & 2020	Spreadsheets show water usage types with monthly total of meter readings & monthly usage amounts for Standpipe usage, Plant usage and Water cart usage where applicable	Compliant
6	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by the relevant licensor	Y	Water usage and Rainfall spreadsheet data - 2018, 2019 & 2020	Water meter installed and monthly meter readings captured along with monthly and yearly water usage totals.	Compliant
7	The completed logbook must be retained for five (5) years from the last date recorded in the logbook		Water usage and Rainfall spreadsheet data	5 years of spreadsheets sighted	Compliant
8	The following information must be recorded in the logbook for each period of time that water is taken: a) date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and b) the access licence number under which the water is taken, and c) the approval number under which the water is taken, and d) the volume of water taken for domestic consumption and/or stock watering.	Y	Water Usage and Rainfall spreadsheets for 2018, 2019 & 2020	Water meter installed and monthly meter readings captured along with monthly and yearly water usage totals. Spreadsheets show water usage types - Standpipe usage, Plant usage and Water cart usage where applicable	Compliant
	Reporting				
9	Once the approval holder becomes aware of a breach of any condition on this approval, the approval holder must notify the minister as soon as practicable. the minister must be notified by: A. email: water.enquiries@dpi.nsw.gov.au, or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call	Y	INX Event management system Site interview (A. Bertram)	No incidents relating to Water Supply works during the audit period	Compliant
	Other Conditions				
10	The approval holder must make all reasonable efforts not to allow any used water to discharge, by any means including surface or subsurface drains or pipes, into or onto: - any adjoining public or crown road; - any other person's land; - any Crown land; - any river, creek or watercourse or aquifer		Site Inspection (25/05/21) site staff interview (A Bertram & H. Staier)	All water is contained within the Bywash dam. Water levels are maintained between the onsite dams to ensure water levels do not discharge to other areas of the site. No water has been discharged from site since 2009/2010	Compliant
11	The location and specifications of the water supply work(s), as shown on the plan(s) held in the relevant licensor, Yanco Office, must not be altered	Y	Site inspection Site Induction	Copy of the Site map located in site office and training room Location map (including Bywash dam location) included in site specific induction	Compliant
12	Any water supply work authorised by this approval used for the purpose of conveying, diverting or storing water must be constructed or installed to allow free passage of floodwaters flowing into or from a river or lake.	N/A	Site Inspection (25/05/21)	Bywash Dam is not located within a stream channel. The water onsite obtained by rainfall only and pumped from low points on site to the Bywash dam for use in quarry processing	Compliant
13	The water supply work authorised by this approval must be constructed and maintained in a way that will: A. ensure the work's safe construction and operation, and B. prevent the possibility of damage being caused by the work, or resulting from the work, to any public or private interest.	Y	Site Inspection (25/05/21)	Bywash dam located within the boundary of the quarry site. Water from the Bywash dam does not discharge off site. (Site Photo)	Compliant

CoA #	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)
	Water Access Licence: WAL33412 - Allocation 98ML				
	Take of Water				
1	Water must only be taken if there is visible flow in the water source at the location where water is to be taken. This restriction does not apply if water is to be taken from an in-river pool, an off-river pool, a runoff harvesting dam, an in-river dam pool or an off-river dam pool	Noted	Water is extracted from a site dam		Noted
2	Water must not be taken from Queanbeyan Water Source when flows are in Very Low Flow Class, which means that the flow is 1 ML/day or less at Queanbeyan at the ACT Border gauge (No. 410770). The restriction does not apply if water is to be taken from an off-river pool, an off-river dam pool, a runoff harvesting dam or an in-river dam pool.	Noted			Noted

Water supply works approval: 40WA413082 (Work Type: Pump (80mm Centrifugal Pump) and Bywash Dam Lot 21, DP 1180981

	Requirement		Evidence collected	Audit findings and recommendations	EMM Compliance Status (Compliant/Non-compliant/ Not triggered)
3	The volume of water taken in any three consecutive years from 1 July 2013 must be recorded in the logbook at the end of those three water years. The maximum volume of water permitted to be taken in those years must also be recorded in the logbook.	Y	Water usage and Rainfall spreadsheet data - 2018, 2019 & 2020	(WAL33412 98ML) Total site water usage from dam 2018: 60.5 ML 2019: 70.8 ML 2020: 36.5ML	Compliant
4	If water is taken from an off-river pool, then water must only be taken from the pool when the volume of water in the pool exceeds 80% of the full capacity of that pool.	N/A			N/A
5	From 1 July 2013, the total volume of water taken in any three (3) consecutive water years under this access licence must not exceed a volume which is equal to the lesser of either: A. the sum of: i. water in the account from the available water determinations in those 3 consecutive water years, plus ii. water in the account carried over from the water year prior to those 3 consecutive water years, plus iii. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus iv. any water re-credited by the Minister to the account in those 3 consecutive water years, or B. the sum of: i. the share component of this licence at the beginning of the first year in those 3 consecutive water years, plus ii. the share component of this licence at the beginning of the second year in those 3 consecutive water years, plus iii. the share component of this licence at the beginning of the third year in those 3 consecutive water years, plus iv. any net amount of water assigned to or from this account under a water allocation assignment in those 3 consecutive water years, plus v. any water re-credited by the Minister to the account in those 3 consecutive water years.	Y	Water usage and Rainfall spreadsheet data - 2018, 2019 & 2020	(WAL33412 98ML) Total site water usage from dam 2018: 60.5 ML 2019: 70.8 ML 2020: 36.5ML	Compliant
6	The maximum water allocation that may be carried over in the account for this access licence from one water year to the next water year is 1 ML/unit share of the share component of the licence	Noted			Noted
Monitoring and Recording					
7	The purpose or purposes for which water is taken, as well as details of the type of crop, area cropped, and dates of planting and harvesting, must be recorded in the logbook each time water is taken	Y	Water Usage and Rainfall spreadsheets for 2018, 2019 & 2020	Spreadsheets show water usage types. Standpipe usage, Plant usage and Water cart usage where applicable	Compliant
8	A logbook must be kept, unless the work is metered and fitted with a data logger. The logbook must be produced for inspection when requested by the relevant licensor	Y	Water usage and Rainfall spreadsheet data - 2018, 2019 & 2020	Water meter installed and monthly meter readings captured along with monthly and yearly water usage totals.	Compliant
9	The completed logbook must be retained for five (5) years from the last date recorded in the logbook.	Y	Water usage and Rainfall spreadsheet data	5 years of spreadsheets sighted	Compliant
10	The following information must be recorded in the logbook for each period of time that water is taken: a) date, volume of water, start and end time when water was taken as well as the pump capacity per unit of time, and b) the access licence number under which the water is taken, and c) the approval number under which the water is taken, and d) the volume of water taken for domestic consumption and/or stock watering.	Y	Water Usage and Rainfall spreadsheets for 2018, 2019 & 2020	Water usage and rainfall spreadsheets contain usage type (ie. Standpipe or Plant usage), monthly start and end meter readings & monthly usage amounts. The spreadsheet also shows yearly totals for each item.	Compliant
Reporting					
11	Once the approval holder becomes aware of a breach of any condition on this approval, the approval holder must notify the minister as soon as practicable. the minister must be notified by: A. email: water.enquiries@dpi.nsw.gov.au, or B. telephone: 1800 353 104. Any notification by telephone must also be confirmed in writing within seven (7) business days of the telephone call	Y	INX Event System Report Site Interview (A Bertram)	No incidents relating to Water Access Licence during the audit period. Water extraction from Bywash dam has not exceeded 98ML during audit period	Compliant



Appendix F

Example consultation letter to agencies and response



12 April 2021

Janine Goodwin
Unit Head, South East Region
NSW Environment Protection Authority

Via email: Janine.goodwin@epa.nsw.gov.au

Re: Cooma Road Quarry - Independent Environmental Audit

Dear Janine,

EMM Consulting Pty Limited (EMM) has been engaged by Holcim Australia Pty Ltd to undertake an independent environmental audit of the Cooma Road Quarry located at located approximately 6 kilometres south of Queanbeyan, New South Wales (NSW) (the quarry). The appointment of the EMM audit team has been approved by the NSW Department of Planning and Environment (DPE).

The independent environmental audit is a requirement under Condition 10 of Schedule 5 of the Development Consent (SSD_5109) for the quarry. The audit will consider the quarry's compliance with:

- Development Consent (SSD_5109) – MOD 2;
- Statement of commitments as described in the environmental impact statement (EIS)
- Environmental Protection Licence (EPL) No. 1453;
- Water access licence WAL33412;
- Water supply works approval 40WA413082; and
- key environmental management plans, assessments or programs required under the approvals listed above.

Condition 10 (b) of the development consent states that the audit must include consultation with the relevant agencies, which we believe are:

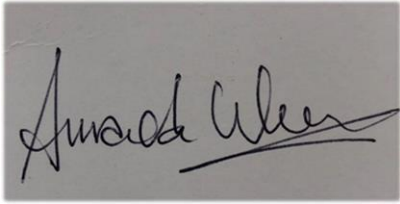
- NSW Environment Protection Authority (EPA);
- NSW Natural Resources Access Regulator (NRAR); and
- Queanbeyan-Palerang Regional Council.

We seek your comment on the involvement that your agency has had with the quarry since the last audit in February 2018, the compliance of the quarry with conditions relevant to your agency and any general comments you have on the quarry's general environmental performance.

We would appreciate any written comments by Friday 30 April. I am also available to discuss any matters that you believe are relevant to this audit. My contact details are provided below.

Should you have any questions, please do not hesitate to contact me.

Yours sincerely

A rectangular box containing a handwritten signature in black ink. The signature appears to read "Amanda Weston" in a cursive style.

Amanda Weston

Associate

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