

Response to Submissions

Cooma Road Quarry Continued Operations Project

January 2013





COOMA ROAD QUARRY CONTINUED OPERATIONS PROJECT

Response to Submissions

January 2013

Prepared by
Umwelt (Australia) Pty Limited

on behalf of
Holcim Australia Pty Limited

Project Director: John Merrell
Project Manager: Kirsty Davies
Report No. 2992/R08/Final
Date: January 2013



Newcastle

PO Box 3024
75 York Street
Teralba NSW 2284

Ph. 02 4950 5322

www.umwelt.com.au

TABLE OF CONTENTS

1.0	Introduction	1.1
1.1	Cooma Road Quarry Continued Operations Project	1.1
1.2	Summary of Issues Raised in Submissions	1.3
1.3	Report Structure	1.4
2.0	Response to Agency Submissions	2.1
2.1	Office of Environment and Heritage	2.1
2.2	Environmental Protection Agency	2.1
2.2.1	Operational Noise	2.1
2.2.2	Hours of Operation	2.12
2.2.3	Construction Noise	2.13
2.2.4	Blasting Limits	2.14
2.2.5	Air Quality Impact Assessment	2.14
2.2.6	Surface and Groundwater Assessment	2.15
2.2.7	Waste Processing	2.15
2.3	Heritage Council of NSW	2.17
2.4	NSW Resources and Energy (Mineral Resource Branch)	2.17
2.5	Murrumbidgee Catchment Management Authority	2.17
2.6	Roads and Maritime Service	2.19
2.7	Department of Primary Industries	2.21
2.7.1	Agriculture NSW	2.21
2.7.2	Fisheries NSW	2.21
2.7.3	NSW Office of Water	2.21
2.7.4	Catchment and Lands - Crown Lands	2.25
2.8	Queanbeyan City Council	2.25
2.8.1	Quarrying Techniques	2.25
2.8.2	Hours of Operation	2.25
2.8.3	Surface Water Resources	2.27
2.8.4	Air Quality	2.28
2.8.5	Biodiversity	2.29
2.8.6	Traffic	2.29
2.8.7	Noise and Blasting	2.32
2.8.8	Visual	2.34
2.8.9	Waste	2.35
2.8.10	Hazards	2.36
2.8.11	Proposed Rehabilitation Monitoring and Maintenance	2.36
2.8.12	Statement of Commitments	2.37
2.8.13	Environmental Management Plan	2.37
2.8.14	Traffic Impact Assessment	2.38
2.8.15	Recommendations	2.39
3.0	Response to Community Submissions	3.1

FIGURES

1.1	Cooma Road Quarry Existing Operations	1.1
1.2	Cooma Road Quarry Continued Operations Project.....	1.2
1.3	Conceptual Proposed Infrastructure Area.....	1.2
2.1	Day, Evening and Night-time Wind Roses for Summer	2.4
2.2	Day, Evening and Night-time Wind Roses for Autumn.....	2.5
2.3	Day, Evening and Night-time Wind Roses for Winter	2.6
2.4	Day, Evening and Night-time Wind Roses for Spring	2.7
2.5	Wind Roses for 6am to 7am period of the Night-time.....	2.8
2.6	Potential Visibility of the Proposed Infrastructure Area.....	2.34

PLATES

2.1	View of Cooma Road Quarry – Intersection of Kings Highway and Hills Lane.....	2.34
2.2	View of Cooma Road Quarry – Intersection of Kings Highway and Thurrallilly Street	2.34

APPENDICES

1	Revised Statement of Commitments
---	----------------------------------

1.0 Introduction

This document has been prepared in response to a request from the Director-General of the Department of Planning and Infrastructure in accordance with section 89G(e) of the *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) that Holcim (Australia) Pty Limited (Holcim Australia) prepare a response to the submissions raised during the public exhibition period of the Environmental Impact Statement (EIS) for the Cooma Road Quarry Continued Operations Project (the Project). The EIS for the Project was exhibited from 1 November 2012 to 10 December 2012. This report outlines Holcim Australia's response to the submissions made on the Project.

1.1 Cooma Road Quarry Continued Operations Project

The Project will involve extending the life of the Cooma Road Quarry to enable the extraction of the remaining hard rock resources within the currently approved extraction area over a period of 20 years. In addition, the extraction boundary will be extended to the north to provide access to approximately 4.5 million tonnes (Mt) of additional fresh and weathered granite resources (refer to **Figure 1.1**). Holcim Australia also propose to increase the production capacity of the quarry from 1 Mtpa to 1.5 Mtpa to allow the quarry to meet predicted future peak market demands to support the planned future growth and development of the Canberra and Queanbeyan regions.

Approval is also sought for the following:

- relocation of the existing workshop, truck parking and temporary stockpiles;
- addition of a mobile pug mill;
- allowance to receive quarry materials from other sites for crushing and screening (as required) and then sale. Total product (including from both material quarried from the site and from materials imported to the site) will be maintained within the total production limit of 1.5 Mtpa;
- construction of surface water management system components (including the proposed Eastern Dam); and
- recycling of concrete on site for re-use as product.

The Project represents a continuation of the existing quarry operations, with quarry operations remaining substantially the same as those currently undertaken at Cooma Road Quarry. A summary of the key components of the Project compared to the existing operations is provided in **Table 1.1**. A detailed description of the proposed changes is provided in the EIS.



Legend

- Proposed Project Area
- Approved Extraction Area
- Approved Disturbance Area - Workshop Boundary
- Approved Disturbance Area - Overburden Emplacement

FIGURE 1.1

Cooma Road Quarry
Existing Operations

Table 1.1 – Comparison of Approved Cooma Road Quarry Components and the Proposed Project

Major Project Components	Currently Approved Cooma Road Quarry	Proposed Project
Quarry Life	Quarry operations to cease October 2015.	Based on current quarry plans and market forecasts, an additional 20 years of quarry life until 2035.
Limits on Production	1 Mtpa	1.5 Mtpa.
Quarry Footprint	As shown on Figure 1.1 .	Extension of quarry pit to include the existing disturbed quarry infrastructure area as shown on Figure 1.2 .
Overburden Emplacement Areas	As shown on Figure 1.1 .	No change. Existing and approved overburden emplacement areas contain sufficient capacity for continued operations.
Hours of Operation	Full operations 6.00 am–6.00 pm Monday to Saturday. General maintenance permitted until 10.00 pm Monday to Saturday. Return of delivery trucks to site permitted until 8.00 pm Monday to Saturday. Blasting restricted to 9.00 am–3.00 pm Monday to Friday. No operations are undertaken on a Sunday or public holidays.	6.00 am–10.00 pm Monday to Friday and 6.00 am–6.00 pm Saturday. Primary crushing restricted to 6.00 am–6.00 pm Monday to Saturday (no change). Return of delivery trucks to site permitted until 8.00 pm Monday to Saturday (no change). Blasting restricted to 9.00 am–3.00 pm Monday to Friday (no change). No operations are undertaken on a Sunday or public holidays (no change).
Transport	Road transportation of 1 Mtpa.	Road transportation of 1.5 Mtpa.
Site Access	Old Cooma Road access point.	No change. Continued use of existing Old Cooma Road access point.
Employment	20 operational employees, plus 13 full time road transport drivers and up to 30 road transport contractors.	24-26 operational employees, plus up to 17 full time road transport drivers and 45 road transport contractors during peak production.
Infrastructure	As shown on Figure 1.1 .	Relocate workshop, truck parking and temporary stockpiles to accommodate extension of extraction boundary (refer to Figure 1.3). Addition of mobile pug mill.
Receipt of Quarry Materials for Processing and Delivery	Not currently undertaken.	Receipt of hard rock material for processing, stockpiling and distribution. Total product (including from both material quarried from the site and from materials imported to the site) will be maintained within the total production limit of 1.5 Mtpa.
Concrete Recycling for re-use as Product	Not currently undertaken.	Commence recycling of clean surplus concrete material on site using the existing processing infrastructure for re-use as product.



Source: Holcim (2012), Google Earth (2011)

0 0.25 0.50 0.75km
1:15 000

Legend

- Proposed Project Area
- Approved Extraction Area
- Proposed Additional Extraction Area
- Approved Disturbance Area - Workshop
- Approved Disturbance Area - Overburden Emplacement
- Proposed Dam
- Clean Drain

File Name (A4): R08/2992_114.dgn
20130109 9.27

FIGURE 1.2

Cooma Road Quarry
Continued Operations Project



Legend

- Proposed Project Area
- Proposed Infrastructure Area

FIGURE 1.3
Conceptual Proposed Infrastructure Area

As outlined in the EIS, the Project area has been highly disturbed by approved quarry operations and historical land uses. The project components have been designed sympathetically to be located within previously disturbed areas or within currently approved disturbance areas to avoid the potential for increased impacts.

The proposed quarry pit extension area and proposed water management system components are located almost entirely within areas that have been historically disturbed by approved quarry activities or previous land uses. The only additional disturbance is associated with the proposed Eastern Dam (refer to Section 5.3 of the EIS). The disturbance footprint of the dam is approximately 0.2 hectare.

The proposed new infrastructure area has previously been approved for disturbance in the existing development consent held by Holcim Australia for Cooma Road Quarry (DA 371/94) as indicated on **Figure 1.1**. While the area has been approved for disturbance, the area has not yet been cleared.

1.2 Summary of Issues Raised in Submissions

The Department of Planning and Infrastructure (DP&I) advised that a total of ten submissions were received during the EIS exhibition period. Eight of the submissions were from government agencies including:

- Office of Environment and Heritage (OEH) - Conservation and Regulation Division;
- Environmental Protection Agency (EPA);
- Heritage Council of NSW;
- NSW Resources and Energy (R&E);
- Department of Primary Industries, including:
 - NSW Office of Water (NOW);
 - Agriculture NSW;
 - Fisheries NSW; and
 - Crown Lands;
- Murrumbidgee Catchment Management Authority (CMA);
- Roads and Maritime Service (RMS); and
- Queanbeyan City Council (QCC).

Issues raised in these submissions are addressed in detail in **Sections 2.1 to 2.8** of this report. In addition to the submissions received from government agencies, two submissions were received from community members. One community submission was in support of the Project, the other recommended conditions of consent for the Project. Issues raised in these community submissions are addressed in detail in **Section 3.0**.

1.3 Report Structure

This Response to Submissions report has been prepared by Umwelt (Australia) Pty Limited (Umwelt) on behalf of Holcim Australia to address the key issues raised by submissions received on the EIS through the public exhibition period. For each issue, the theme of the issue raised is noted in bold, followed by a response in normal type.

A revised Statement of Commitments for the Project, addressing the issues raised in the submissions as discussed in the following sections, is included in **Appendix 1**. The changes made to the Statement of Commitments in response to the submissions received are highlighted in **Appendix 1** as tracked changes.

2.0 Response to Agency Submissions

2.1 Office of Environment and Heritage

The Office of Environment and Heritage (OEH) supports the assessment and has no matters to raise in relation to the project.

However, the proponents should send 'site cards' for the two archaeological sites described on the subject lands...

Site cards for these two sites have been sent to OEH for registration on the AHIMS database.

2.2 Environmental Protection Agency

2.2.1 Operational Noise

The Noise and Blasting Impact Assessment (NBIA) as provided does not comply with the Industrial Noise Policy (INP, 2000) in its prediction of operations noise impacts of the proposal:

- (a) The NBIA appears to incorrectly apply gradient winds from the north east rather than adverse meteorological conditions which are a feature of the area (including but not limited to gradient winds from north-west), and does not consider the occurrence of temperature inversions.
- (b) The NBIA also appears to include insufficient background monitoring data, and the provided data includes significant seasonal or intermittent noise including aircraft, insects and birds.

These deficiencies may mean that potential noise impacts occur which might not be accurately predicted in the NBIA.

The NBIA was undertaken in accordance with the process outlined in the Industrial Noise Policy (INP) including consideration of meteorological conditions. It is considered that assessment approach taken in the NBIA was conservative and therefore appropriately assesses the potential noise and blasting impacts of the Project.

In regard to consideration of temperature inversions, it is noted the quarry will not operate for the majority of the night time period (10.00 pm to 7.00 am) with operations only occurring in the shoulder period between 6.00 am and 7.00 am. The meteorological data available for the assessment (Canberra Airport) did not include any data that could be used to assess the probability of inversion conditions, however, the NBIA was conservative in its assessment of adverse meteorological conditions in that it assessed gradient winds (refer to further detailed discussion below). It was considered that the potential inversion conditions that could occur in the very limited portion of the night-time period in which quarry operations occur would not create impacts greater than that predicted for the gradient winds. Therefore the NBIA is considered to have appropriately assessed potentially occurring adverse meteorological conditions.

The background noise monitoring undertaken for the Project to inform the NBIA meets the requirements of the INP and is considered sufficient for the purposes of the NBIA.

Further details on points (a) and (b) are provided in the following sections.

Detailed Response to EPA Point (a)

With respect to point (a) above, the NBIA states that default wind conditions as specified in the INP were used for the assessment where there was potential for these wind to occur. That is, 3 m/s source-to-receiver gradient winds with the greatest potential to propagate the noise from the Project. Further justification for this approach is discussed below.

As a part of the NBIA the meteorological data from Canberra Airport (the closest available data) was assessed for meteorological conditions that could enhance the propagation of noise to sensitive receivers. The details of the meteorological data set are outlined in **Table 2.1**. The analysis of the meteorological data is presented in **Table 2.2** and **Figures 2.1 to 2.5**.

Table 2.1 - Meteorological Data Analysis

Location	Canberra Airport AWS 070351		
Monitoring Interval	15 mins		
Start Period	01 Mar 2010, 2:15 PM		
End Period	02 May 2012, 8:30 AM		
No. of Periods	76,111 intervals	=	793 days
No. of Missing Periods			0 days

Table 2.2 – Analysis of Vectored Wind Speeds up to 3m/s

Direction	Criteria	Day	Evening	Night
SUMMER				
N	3 m/s	13.0%	8.3%	13.1%
NNE	3 m/s	13.7%	10.1%	20.1%
NE	3 m/s	14.3%	11.8%	30.3%
ENE	3 m/s	15.3%	12.1%	37.9%
E	3 m/s	15.9%	11.6%	43.1%
ESE	3 m/s	15.9%	10.8%	45.1%
SE	3 m/s	15.1%	9.7%	43.2%
SSE	3 m/s	14.1%	8.3%	36.1%
S	3 m/s	12.0%	6.4%	26.0%
SSW	3 m/s	10.1%	4.9%	14.3%
SW	3 m/s	8.4%	4.6%	7.3%
WSW	3 m/s	7.9%	3.7%	3.7%
W	3 m/s	9.0%	3.9%	2.7%
WNW	3 m/s	10.7%	5.0%	4.4%
NW	3 m/s	12.1%	6.1%	6.6%
NNW	3 m/s	12.8%	7.3%	9.7%
AUTUMN				
N	3 m/s	15.7%	20.1%	15.1%
NNE	3 m/s	14.2%	23.1%	17.9%
NE	3 m/s	12.1%	26.1%	21.3%
ENE	3 m/s	11.5%	28.5%	25.2%
E	3 m/s	12.3%	27.0%	29.7%
ESE	3 m/s	13.6%	22.5%	31.3%
SE	3 m/s	13.9%	19.1%	31.4%
SSE	3 m/s	14.1%	15.6%	28.8%
S	3 m/s	13.5%	11.9%	22.9%
SSW	3 m/s	12.6%	8.2%	14.5%
SW	3 m/s	12.7%	5.3%	8.4%
WSW	3 m/s	13.7%	3.6%	4.6%
W	3 m/s	14.9%	3.8%	3.7%
WNW	3 m/s	16.5%	7.2%	6.7%
NW	3 m/s	17.6%	11.8%	11.0%
NNW	3 m/s	17.1%	15.9%	13.3%

Direction	Criteria	Day	Evening	Night	Eve & Night
WINTER					
N	3 m/s	3.4%	4.2%	3.7%	16.5%
NNE	3 m/s	3.1%	4.6%	3.8%	17.1%
NE	3 m/s	2.6%	5.1%	3.9%	17.7%
ENE	3 m/s	2.0%	5.2%	3.9%	17.9%
E	3 m/s	1.9%	4.6%	4.0%	17.1%
ESE	3 m/s	2.0%	4.2%	4.2%	16.6%
SE	3 m/s	2.1%	3.8%	4.3%	16.1%
SSE	3 m/s	2.2%	3.3%	4.0%	15.4%
S	3 m/s	2.3%	2.6%	3.5%	14.5%
SSW	3 m/s	2.4%	1.8%	2.4%	13.4%
SW	3 m/s	2.6%	1.2%	1.5%	12.7%
WSW	3 m/s	2.8%	1.0%	1.0%	12.3%
W	3 m/s	3.0%	1.0%	1.0%	12.4%
WNW	3 m/s	3.4%	1.9%	1.8%	13.5%
NW	3 m/s	3.8%	2.8%	2.9%	14.7%
NNW	3 m/s	3.7%	3.6%	3.4%	15.8%
SPRING					
N	3 m/s	12.7%	15.2%	15.3%	
NNE	3 m/s	11.6%	16.8%	19.3%	
NE	3 m/s	10.0%	18.3%	24.6%	
ENE	3 m/s	8.5%	18.0%	28.3%	
E	3 m/s	8.0%	15.9%	31.1%	
ESE	3 m/s	8.2%	12.4%	31.9%	
SE	3 m/s	8.5%	9.6%	31.7%	
SSE	3 m/s	8.9%	7.6%	27.8%	
S	3 m/s	8.7%	5.6%	21.3%	
SSW	3 m/s	8.2%	4.2%	14.2%	
SW	3 m/s	8.1%	3.6%	8.9%	
WSW	3 m/s	8.4%	3.8%	4.9%	
W	3 m/s	9.8%	4.5%	3.9%	
WNW	3 m/s	12.2%	6.7%	6.1%	
NW	3 m/s	13.1%	10.1%	9.8%	
NNW	3 m/s	13.1%	12.7%	12.7%	

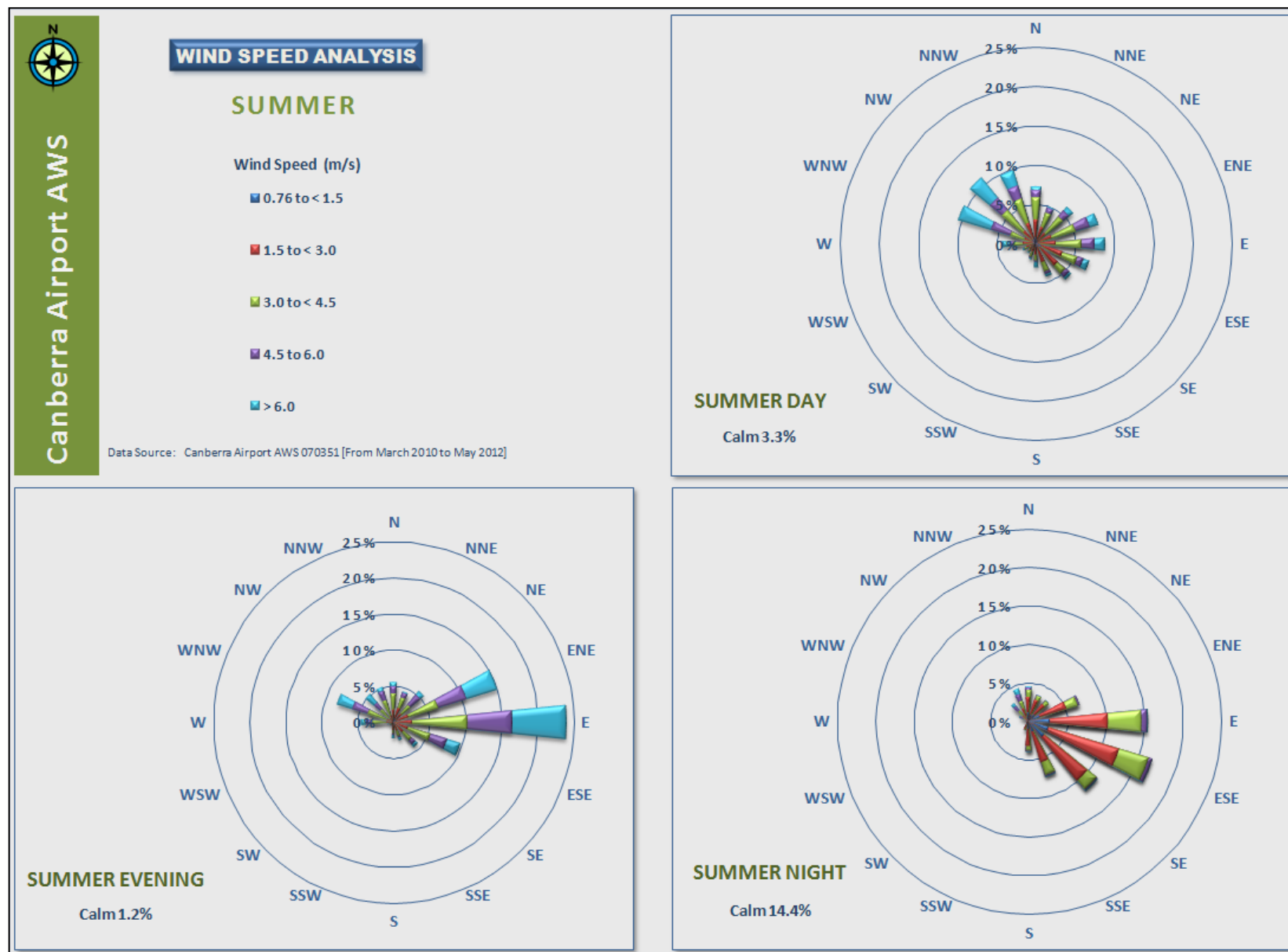


Figure 2.1 – Day, Evening and Night-time Wind Roses for Summer



Figure 2.2 – Day, Evening and Night-time Wind Roses for Autumn

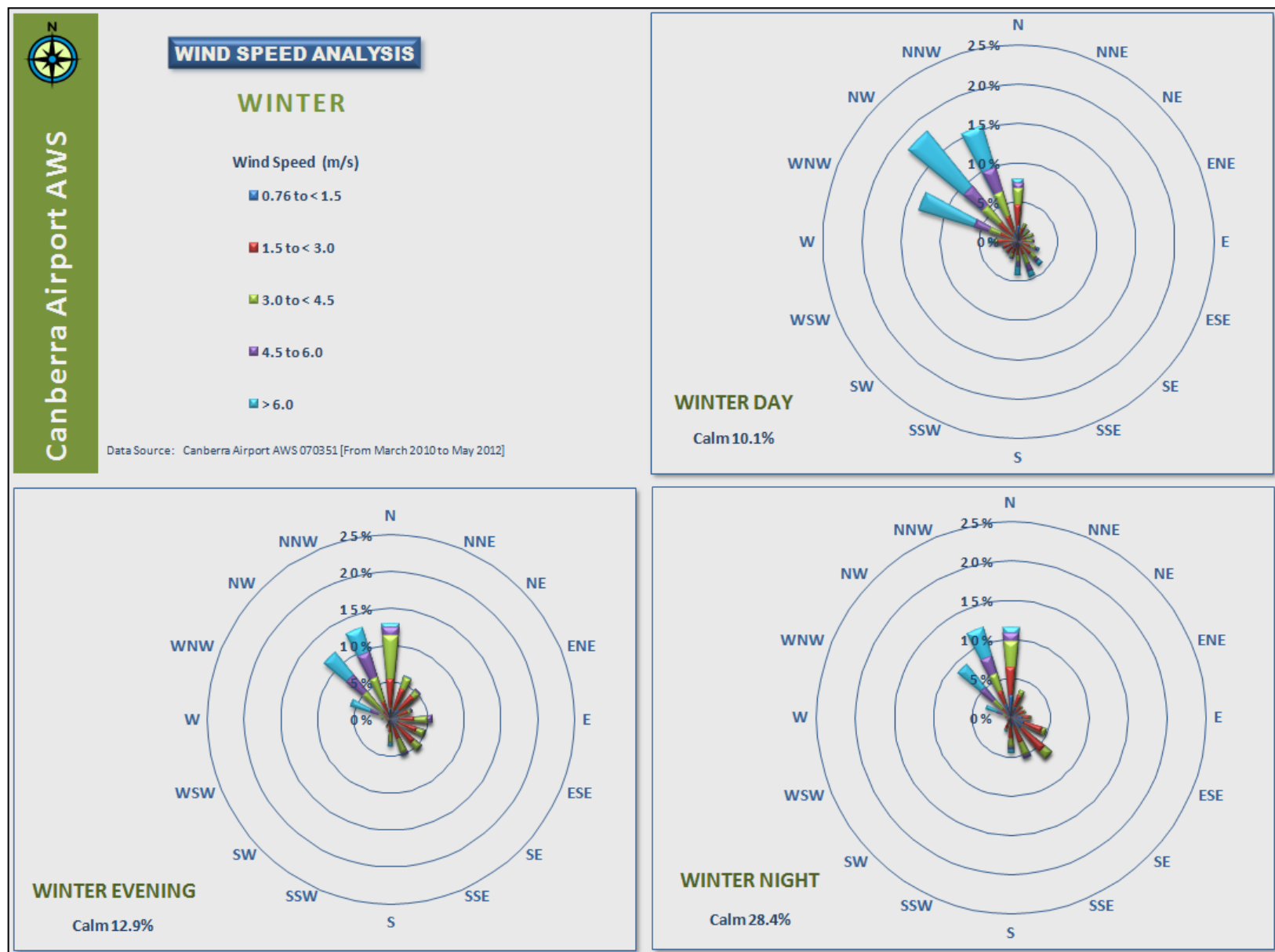


Figure 2.3 – Day, Evening and Night-time Wind Roses for Winter

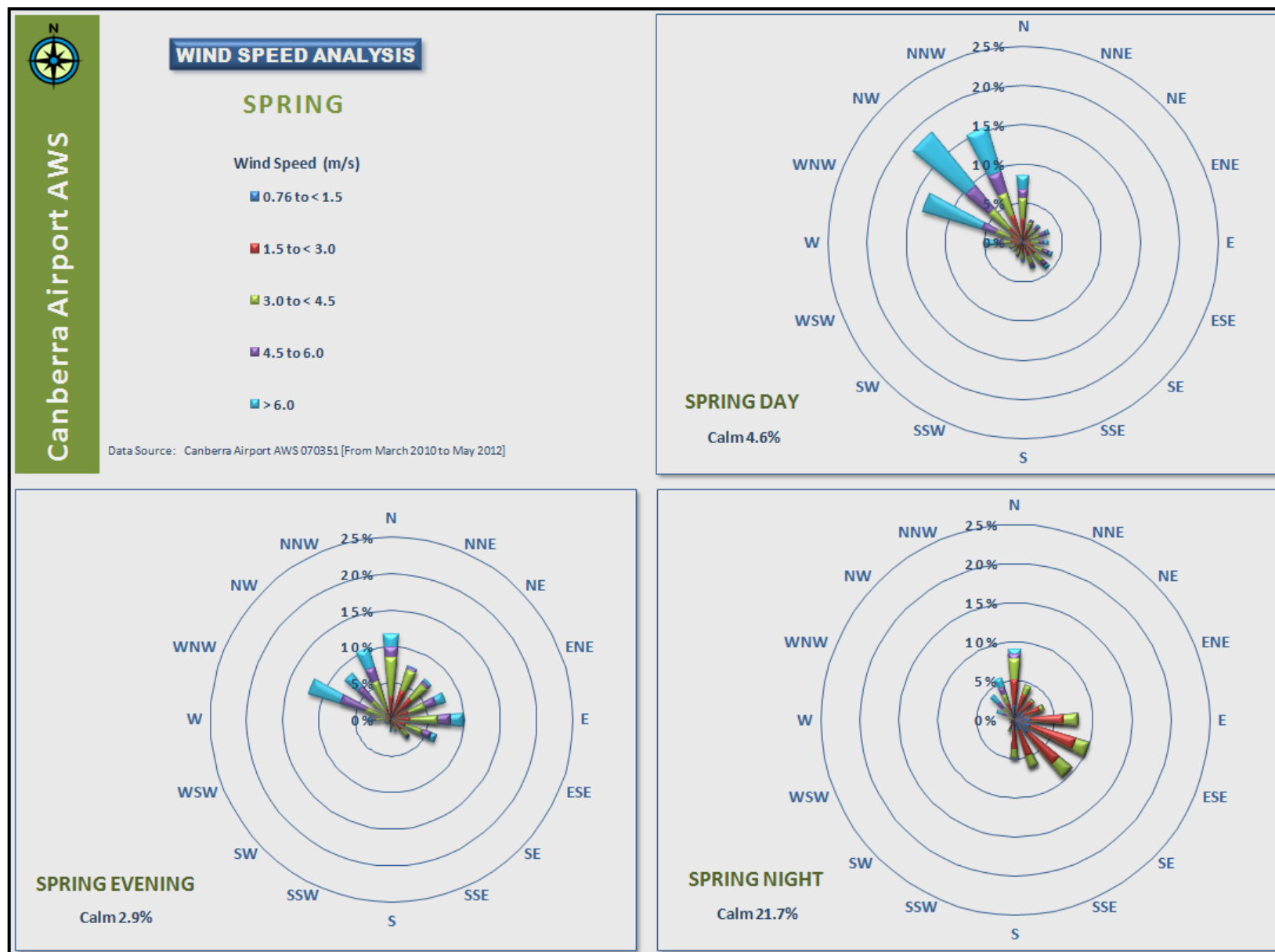


Figure 2.4 – Day, Evening and Night-time Wind Roses for Spring



Figure 2.5 – Wind Roses for 6am to 7am period of the Night-time

Key points to note from the analysis for vectored wind of up to 3 m/s from the meteorological from Canberra Airport (refer to **Table 2.2**) include:

1. No vectored wind conditions of up to 3 m/s occurred greater than 30 per cent of the time during the day-time or evening. That is, in accordance with the INP, the NBIA did not need to consider source-to-receiver gradient winds. However, the NBIA did consider a gradient wind from a north easterly direction as this was considered generally representative of conditions with potential to create worst case noise impacts (based on an all-seasons analysis with a wind speed cut off of 5 m/s).
2. Vectored wind conditions above 30 per cent occur during the night-time in summer, autumn and spring and are predominantly associated with east-south-east winds (refer to the wind roses in **Figures 2.1 to 2.4**). However, the proposed development will not operate during the night time but will operate during the morning shoulder period commencing at 6.00am and the night-time vectored wind analysis in **Table 2.2** is not therefore applicable. The wind roses for the one hour period of 6.00am and 7.00am (presented in **Figure 2.5**) indicate gradient winds up to 3 m/s can occur from the east-south-east to south-south-east between 6.00 am and 7.00 am. The vectored wind analysis for this one hour period indicated it could occur approaching 30 per cent of the time. A sensitivity analysis was undertaken for the shoulder period to ensure that any potential for adverse impacts was not overlooked. The noise model, run for this specific condition, indicated worst case predicted noise levels to the north west of the Project of 31 to 32 dB(A). Therefore no further assessment was considered required to assess this aspect of the potential noise impacts as these levels were well below the Project-specific Noise Levels (PSNLs).

Key points to note from the analysis of the wind roses in **Figures 2.1 to 2.4** include:

1. North westerly winds are a common occurrence however the wind speeds are regularly above 5 m/s and are therefore excluded from analysis for vectored winds.
2. When considering noise impacts the vectored winds from the north-east are prevalent during the evening period in autumn, however, do not exceed 30 per cent and are therefore not required to be further assessed following the INP. Inspection of the windroses suggests a conservative approach would be to consider the potential for the propagation under a north-easterly wind vector up to 3 m/s to identify the potential for adverse noise impacts. This would address the vectored winds from the north-east during autumn and the vector components of concern from winds with either easterly and northerly components.

As noted previously, based on the INP, day-time and evening gradient wind did not need to be considered and the default wind condition from the north-east was considered in the NBIA.

The meteorological data from Canberra Airport did not include any data that could be used to assess the probability of inversion conditions. Given the NBIA was conservative in that it addressed gradient winds it was considered that the potential inversion conditions that could occur would not create impacts during the 6.00 am and 7.00 am period (the only portion of the night-time period where operations will occur) greater than that predicted for the gradient winds.

Based on the above, it is believed the NBIA appropriately assessed adverse meteorological conditions.

Detailed Response to EPA Point (b)

With respect to point (b) in the EPA submission, the INP uses two criteria to establish PSNLs. These are the amenity noise criteria and the intrusive noise criteria.

In the region surrounding Cooma Road Quarry there are no other industrial noise sources, therefore the amenity criteria is typically set at the Acceptable Noise Levels applicable to the area. The exception to this is where the ambient noise levels are affected by road traffic noise. The analysis presented in Table 3.4 of the NBIA shows that the amenity noise criteria is consistently above the intrusive noise criteria and was therefore not used to set any of the PSNLs. Additional monitoring is unlikely to result in any substantive change in the amenity noise criteria and would not result in amenity based project-specific noise levels.

With respect to the intrusive noise criteria the INP states:

Typically, one week's worth of valid data covering the days and times of operation of the proposed development is required to meaningfully determine the existing noise environment. However, the duration of monitoring should be determined by taking into account the circumstances of the particular situation. The cyclic or random nature of ambient noise levels can affect the duration required.

With respect to "Methods for determining background noise" Table 3.1 of the INP states the *Length of Monitoring* to determine background noise levels is "Equivalent to one week's worth of valid data covering the days and times of operation of the development"

As outlined in the NBIA, 7 days of noise monitoring was undertaken at representative locations surrounding the quarry site. This meets the requirements of the INP and is considered sufficient for the purposes of the NBIA.

With respect to the intrusive noise criteria presented in the Table 3.1 of the NBIA:

1. The background noise levels during the night-time at all three monitoring locations N1, N2 and N3 were consistently at or below 30 dB(A). The INP states that where the background noise level is less than 30 dB(A) it is set at 30 dB(A) for assessment purposes. Additional monitoring at these locations during the night-time would not result in a lower (more restrictive) night-time intrusive noise criteria.

Although not relevant to the Project the night-time background noise monitoring results show there is a consistency in the background noise environment between the monitoring locations. The differences between the monitoring sites is primarily attributable to non-industrial noise sources such as road traffic noise, aircraft noise and local noise sources including local residences, dogs, birds, etc. The results presented in Table 3.1 of the NBIA show the effects non-industrial noise sources have on the mean LAeq noise levels and on the background noise environment as the frequency of the occurrence of the noise(s) increase.

2. In addition to Point 1 above, the background noise levels were consistently at or below 30 dB(A) during the day-time, evening and morning shoulder period at N3 and during the evening period at N2. As above, additional monitoring at this location would not result in a lower (more restrictive) intrusive noise criteria or project-specific noise level for the day-time, evening or morning shoulder period.
3. The background noise levels at N1 and N2 during the day-time, N1 during the evening and N1 and N2 during the morning shoulder period show the effect of non-industrial noise sources, primarily road traffic noise. This is in direct contrast to the measured background noise levels at N3 during the day-time and evening period where these influences are absent.

Section 3.5 of the INP notes:

In areas where the background noise levels are affected significantly by nearby road traffic with regular daily pattern, three days' worth of valid data may be sufficient. However, care should be exercised in assuming a pattern of noise levels in an area. It is recommended that where any doubt exists, the full week's monitoring should be performed.

Additional monitoring at locations N1 and N2 may result in slightly different intrusive noise criteria and subsequent project-specific noise levels for the day-time, evening or morning shoulder period. However, it is believed any changes would be superficial and the predicted exceedances in Table 5.1 of the NBIA would not change, noting that the monitoring undertaken for the Project is consistent with the requirements of the INP.

The monitoring data at locations N1 and N2 is considered adequate as:

- There are no predicted noise levels greater than 35 dB(A) during the morning shoulder period (i.e. additional monitoring may lower intrusive noise criteria but it would have no effect on the resulting consent or EPL conditions which would likely be set at 35 dB(A) for the morning shoulder period).
- For the receiver locations where the PSNL has been adopted from monitoring at N1, any additional monitoring would have to result in a 4 dB reduction in the daytime RBL and 7 dB reduction in the evening RBL (i.e. substantive changes in background noise levels) before any additional properties exceed the resulting criteria (it is worth noting that the evening RBL is currently 33.6 dB(A) and following the INP, could only be reduced by 4 dB and even with such a change, there would be no change to the evening period noise impact assessment findings).
- For the receiver locations where the PSNL has been adopted from monitoring at N2, if additional monitoring resulted in a 2 dB reduction in the daytime RBL from 32 to 30 dB(A) RBL four (4) additional properties could theoretically exceed the resulting criteria of 35 dB(A) criteria by 1 to 2 dB. Notwithstanding this, the INP recognises that excursions of noise above the intrusiveness criterion during the day would not usually have the same impact as they would at night. This means that reducing the day-time criteria from 37 to 35 dB(A), although not supported by the background monitoring data, would have no material impact on the assessment of the noise impact from the development.

Based on the above, it is believed the NBIA included sufficient and appropriate background monitoring data for the setting of the criteria.

To manage and mitigate against potential noise impacts from the operation, the EPA recommends the proponent prepare an Operational Noise Management Plan (ONMP) and that this requirement be either applied to any approval issued by DP&I for the Project Approval, or included in any Preferred Project Report or Response to Submissions.

As discussed in Section 5.10.4 of the EIS, Holcim Australia committed to the preparation and implementation of a Noise Management Plan. It is proposed to incorporate the Noise Management Plan within the Cooma Road Quarry Environmental Management Plan (EMP). In addition, as outlined in the EIS, Holcim Australia has committed to undertake an Operational Noise and Vibration Review to confirm the noise and vibration control measures being implemented for the Project. The review will seek to confirm the predicted operational noise levels, evaluate all feasible and reasonable noise and vibration mitigation measures and identify any further specific mitigation measures necessary.

The Noise Management Plan will outline the feasible and reasonable noise management measures to be investigated as a part of the proposed Operational Noise and Vibration Review for the Project, and included noise and vibration monitoring program that will confirm the operational noise levels and performance of the proposed noise mitigation measures in accordance with the target project-specific noise criteria for the Project.

The Noise Management Plan will include all of the management and mitigation measures committed to within the EIS, including the Statement of Commitments. Holcim Australia has previously committed to the preparation and implementation of the Noise Management Plan within the EIS Statement of Commitments. The Statement of Commitment is reproduced below.

- 6.10.2 Within six months of the date of consent, Holcim Australia will prepare and implement a Noise Management Plan for the Project. The Noise Management Plan will be integrated into the site Environmental Management Plan. The Plan will outline the feasible and reasonable noise management measures to be investigated as a part of the proposed Operational Noise and Vibration Review for the Project. The Plan will also outline the noise and vibration monitoring program that will be implemented to confirm the operational noise levels and performance of the proposed mitigation measures in accordance with the target project-specific noise criteria for the Project.

2.2.2 Hours of Operation

The EPA requests the proposed hours of operation in the draft Statement of Commitments to be amended to conform with the New South Wales Industrial Noise Policy (EPA 2000) such that:

- **Quarry activities may occur between 7:00am to 6:00pm Monday to Saturday.**
- **The following activities may occur in the 'shoulder' periods (between 6:00am and 7:00am and 6:00pm and 10:00pm) Monday to Saturday, as long as they are not audible outside the premises boundary:**
 - **Maintenance of fixed and mobile plant;**
 - **Secondary crushing and screening;**
 - **Product stockpile management;**
 - **Water cart operations for stockpile area and plant; and**
 - **Pumping for dewatering activities.**

Holcim Australia does not agree with the hours of operation proposed by the EPA and notes that there are numerous quarries, extractive industries and other industrial operations throughout NSW that are permitted to have audible noise outside of the daytime period 7am to 6pm. It is noted that the quarry is currently approved to operate and have audible noise outside these hours.

The EIS has assessed the impacts associated with operating the quarry, or components of the quarry, during the proposed operating hours. The assessments indicated impacts could be mitigated and/or managed within acceptable limits, therefore Holcim Australia considers that the proposed operating hours are appropriate.

2.2.3 Construction Noise

The EPA notes that construction noise impacts from the proposal have been assessed in the noise assessment report using the Interim Construction Noise Guidelines (ICNG). It is important to note that the provisions of the ICNG does not apply to “noise from industrial sources (for example, factories, quarrying, mining and including construction associated with quarrying and mining) – this is assessed under the NSW Industrial Noise Policy”.

It is understood that the Interim Construction Noise Guidelines is specifically aimed at managing noise from construction works regulated by the EPA (formerly DECC as noted in the guidelines), and are used to assist the EPA in setting statutory conditions in licences or other regulatory instruments. It is also understood from the Interim Construction Noise Guideline information sheet (09406cnginfo.pdf) that the Guideline is not mandatory but aims to *"inform the selection and application of work practices to minimise noise impacts based on the level and extent of impact expected taking into account site-specific considerations"*.

Where the guidelines refer to noise from *"industrial sources (for example, factories, quarrying, mining, and including construction associated with quarrying and mining)"* based on advice from DP&I it is understood the guideline is addressing quarrying or mining activities that are used to initiate the quarrying/mining process such as the construction of a box-cut. The construction of supportive infrastructure is not quarrying or mining and it is therefore believed that that Interim Construction Noise Guideline is applicable.

Notwithstanding the above, in accordance with the objective of the INP and the Interim Construction Noise Guidelines monitoring will be undertaken during the construction period to show that noise generated by the Project meets the relevant criteria.

It is unclear from the assessment in the NBIA whether construction will have an acceptable noise impact on sensitive receivers. To address the issue the EPA recommends the proponent be required to prepare and implement a Construction Noise and Vibration Management Plan (CNVMP) as part of the proposed ONMP and that this requirement be reflected in any amended Statement of Commitments in the Preferred Project Report/Response to Submissions.

Construction activities are limited to construction of surface water management components and the new infrastructure area. Construction of the surface water management system components are scheduled to take place between 2013 and 2014. Between 2018 and 2020, the quarry's infrastructure area is to be relocated. This will involve relocation of the existing workshop, truck parking and temporary stockpiles, the construction of new internal roads and planting of vegetation screening. The extension of the quarry pit will be a gradual process as part of the quarry's normal operations.

As noted in Section 5.10.3.3 of the EIS, the predicted worst case construction noise levels associated with the Project were modelled and are predicted to comply with construction noise criteria.

Holcim Australia does not consider a standalone Construction Noise and Vibration Management Plan is required for the Project. Monitoring will be undertaken during the construction period to show that noise generated by the Project meets the relevant criteria.

2.2.4 Blasting Limits

As the EPA has received complaints about blasting from residents of Jerrabomberra in the past, the EPA suggests that another blast monitoring location should be installed to the west of the premises. This has been included in the EPA's proposed conditions as requiring monitoring at 15 Copperfield Place, Jerrabomberra as it is the closest sensitive receiver to the west of the premises. However other locations may be suitable and can be discussed with the EPA if the proponent feels that the proposed monitoring location is unsuitable.

Holcim Australia will commit to an additional blast monitoring location at Jerrabomberra. Holcim Australia will undertake investigations to identify the most appropriate location for the blast monitoring location, in consultation with the EPA.

Holcim Australia has revised the Statement of Commitments (refer to **Appendix 1**) to include the following:

6.10.7 A blast monitoring location will be established in Jerrabomberra in consultation with the EPA.

To manage potential noise and ground vibration impacts from the proposal, the EPA recommends that the following blasting limits be applied as conditions of any approval of the proposal.

- i) The overpressure level from blasting operations at the premises must not exceed 115dB (Lin Peak) for more than five per cent of the total number of blasts over each reporting period.
- ii) The overpressure level from blasting operations at the premises must not exceed 120d (Lin peak) at any time.
- iii) Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 5mm/sec for more than five per cent of the total number of blasts over each reporting period.
- iv) Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 10mm/sec at any time.

Holcim Australia agrees to the conditions as outlined above. Holcim Australia is committed to managing blasting practices to ensure that sensitive receivers are not adversely impacted as a result of its operations at Cooma Road Quarry.

2.2.5 Air Quality Impact Assessment

The EIS indicated that all PM₁₀ and dust deposition by the proposed development is predicted to comply with EPA criteria. To validate these predictions, the EPA suggests a dust monitoring network and plan is developed and implemented by the proponent.

The EPL currently does not require dust monitoring however, given the expanding residential populations around the quarry, the EPA recommends as part of any approval of the Project Application that a detailed dust monitoring plan be prepared and implemented for the quarry by a suitable qualified and experienced person(s) and in consultation with the EPA.

This requirement should be formalised in the draft Statement of Commitments in the Preferred Project Report/Response to Submissions.

As outlined in Section 5.8.4 of the EIS, the air quality impact assessment undertaken for the Project predicts that the dust impacts from the Project will be minimal and that the predicted dust levels are below the EPA assessment criteria.

While dust deposition monitoring is currently undertaken at five sensitive receiver locations in accordance with the current EMP, Holcim Australia commit to reviewing the Air Quality Monitoring Program within six months of development consent, in accordance with the EPAs recommendation. It is envisaged that this program would be reviewed in consultation with the EPA and to the satisfaction of the Director-General.

Accordingly, Statement of Commitment 6.8.2 has been revised (refer to **Appendix 1**) to address this request as shown below.

6.8.2 ~~Air quality monitoring will continue to be undertaken in accordance with the EMP.~~ Holcim Australia will prepare an Air Quality Monitoring Program, in consultation with EPA and to the satisfaction of the Director-General, within six months of development consent.

Other information in relation to the management of air quality at Cooma Road Quarry is contained within the EMP. As outlined in the EIS, the EMP will be revised within six months of approval to ensure all commitments made within the EIS and this document are captured.

2.2.6 Surface and Groundwater Assessment

Given there is not a great deal of background data on water quality or the impacts of the quarry on it, the EPA recommends a targeted surface and groundwater monitoring plan be developed and implemented by the proponent. This program should be for around 3 years and provide for monitoring of surface and groundwater quality data up and downstream/gradient of the premises to develop an accurate baseline of water quality and any impacts the quarry may be having on it.

In response to the request by the EPA, Holcim Australia will commit to developing a Surface and Groundwater Monitoring Program for Cooma Road Quarry. The Surface and Groundwater Monitoring Program will be developed within six months of development consent. It is envisaged that this program would be developed in consultation with the EPA and to the satisfaction of the Director-General.

Holcim Australia has revised the Statement of Commitments (refer to **Appendix 1**) to capture this commitment as shown below.

6.4.8 Holcim Australia will prepare a Surface and Groundwater Monitoring Program, in consultation with EPA and NOW, and to the satisfaction of the Director-General, within six months of the development consent.

2.2.7 Waste Processing

The site is licensed primarily as a quarry and not as a waste storage, recycling or processing facility. Waste facilities bring different environmental issues like contamination, leachate management and management of residual wastes which are issues not usually present at quarries. The EPA would therefore expect that the amount of concrete waste proposed to be received to be small in comparison with extracted natural material.

The EPA requests that the proponent clarify an upper limit on the tonnages/volumes of concrete waste that is proposed to be received and processed at the premises annually in the Preferred Project Report/Response to Submissions.

As outlined in the EIS, it is proposed to recycle up to approximately 10,000 tonnes per annum (tpa) of validated clean concrete material at Cooma Road Quarry.

Uncontaminated surplus concrete material from concrete plants will be re-processed through the existing processing infrastructure for re-use as aggregate product. The concrete material will primarily be sourced from Holcim Australia concrete plants, however, uncontaminated concrete material from other concrete plants may also be accepted with suitable verification.

Presently, if a concrete customer over orders concrete for a concrete pour, the excess material retained within the concrete truck is returned to the concrete plant, emptied into a bunded area and left to set prior to being disposed of at a licensed waste facility. By reusing the resource through reprocessing, the amount of raw quarry product required is reduced and the landfill demand is also reduced.

No potentially contaminated concrete material such as demolition concrete waste or concrete from other sources will be accepted or recycled at Cooma Road Quarry. Strict controls will apply to the concrete recycling process as outlined in the EIS.

The recycled concrete material will be blended into the appropriate product streams from the quarry through the crushing and screening process for sale to customers.

The EPA also recommends the following conditions be incorporated into any Project Approval and be reflected in the draft Statement of Commitments in the Preferred Project Report:

- All waste materials removed from the site shall only be directed to a waste management facility or premises lawfully permitted to accept the materials.
- Waste generated outside the premises other than uncontaminated concrete waste) shall not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the *Protection of the Environment Operations Act 1997*.
- All liquid and/or non-liquid waste generated on the site shall be assessed and classified in accordance with Waste Classification Guidelines (Department of Environment, Climate Change and Water, 2009), or any superseding document.

The Statement of Commitments has been updated to incorporate the recommendations above (refer to **Appendix 1**). The revised Commitments are reproduced below.

- 6.13.1 All waste materials removed from the site shall only be directed to a waste management facility or premises lawfully permitted to accept the materials.
- 6.13.2 Waste generated outside the premises other than uncontaminated concrete waste shall not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the *Protection of the Environment Operations Act 1997*.
- 6.13.3 All liquid and/or non-liquid waste generated on the site shall be assessed and classified in accordance with Waste Classification Guidelines (Department of Environment, Climate Change and Water, 2009), or any superseding document.

2.3 Heritage Council of NSW

It is noted that the works will not directly impact any historic heritage, but vibrations from blasting have the potential to impact Moses Morley's Kiln site which is located within the project boundaries. In addition a site for the Eastern Dam is proposed to be constructed in the vicinity of the kiln site.

The EIS proposed mitigation measures to ensure that these works will not impact the heritage significance of the Kiln site, which is assessed as being of Local significance.

It is considered that these mitigation measures contained in Section 5.7.4 of the EIS are generally adequate to ensure that any indirect impacts to the kiln sites will be managed. However, it is recommended that an additional mitigation measure be included in to the project Statement of Commitments which required the Applicant to make good/repair any damage to the Kiln site which occurs due to the Cooma Road Quarry Continued Operations Project. Any repairs undertaken must be done in suitable manner using appropriate fabric and by appropriately skilled heritage professionals.

In addition to the mitigation measures outlined in Section 5.7.4 of the EIS, Holcim Australia considers the additional requirement proposed by the Heritage Council to be appropriate. Accordingly, Holcim Australia has revised the Statement of Commitments to capture the additional requirement (refer to **Appendix 1**). The revised Commitment is reproduced below.

- 6.7.7 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.

2.4 NSW Resources and Energy (Mineral Resource Branch)

MRB notes that the EIS lacks clear illustration of how geology constraints site resources and potential quarrying operations, and thus neither explicitly satisfies MRB nor adequately informs the general public...As consent authority, DP&I would be justified in requiring such evidence to be presented appropriately before granting consent.

Due to the commercially sensitive nature of the geological information for the site, limited information was presented in the EIS. In order to satisfy MRB, additional information will be provided to MRB and DP&I in relation to geology and any potential constraints at Cooma Road Quarry.

This additional information will be provided directly to MRB and DP&I in a separate document.

2.5 Murrumbidgee Catchment Management Authority

Any clearing should be consistent with the Murrumbidgee CMA's Catchment Action Plan and should avoid clearing of those vegetation communities that are classified as "over cleared".

As discussed in Section 5.5 of the EIS, the Project is located almost wholly within the existing and approved disturbance area of Cooma Road Quarry and is unlikely to have a significant impact on any listed threatened species or vegetation communities.

A key driver for the Project was to limit the disturbance footprint as much as possible to the existing and approved disturbance areas, and to avoid native woodland areas and other areas with high ecological value.

An additional disturbance area of approximately 0.2 hectares is proposed associated with construction of the proposed eastern dam, which will form part of the surface water management system for the Project. The area proposed to be disturbed comprises disturbed grassland.

Holcim Australia submit that all opportunities to avoid clearing vegetation have been investigated and, wherever possible, implemented as part of the Project design.

The Murrumbidgee CMA understands the site of development is currently zoned agricultural and has been highly modified over time. However if clearing native vegetation for infrastructure is required as part of the development it is recommended this be avoided and/or minimised wherever possible. Also that consideration is given to alternative cleared sites/locations.

Consideration should be given to whether the vegetation is highly modified and if it is not highly modified, whether the vegetation is in an over cleared landscape or is of a vegetation type that is over cleared. Consideration should be given to the impact on connectivity particularly in fragmented landscapes.

As discussed in the EIS, Holcim Australia has designed the Project to, wherever possible, avoid or minimise impacts outside the existing and approved disturbance area of the Cooma Road Quarry. The Project will impact on approximately 0.2 hectare of poor quality ecological habitat beyond the existing and approved disturbance area. Some vegetation clearance will be required within the proposed infrastructure area, however this area has been previously approved for disturbance (refer to **Figure 1.2**).

As discussed in Section 2.3 of the EIS, an alternative site east of Old Cooma Road which has previously been disturbed by quarrying was considered for the relocation of infrastructure. However, Queanbeyan City Council raised issues with the proposed site in its submission for the DGRs. Accordingly, Holcim Australia reviewed the Project design and moved the location of the proposed infrastructure area on a risk based approach. The proposed infrastructure area presented in the EIS is located adjacent to existing administration and stockpile areas on the western side of Old Cooma Road and is considered the most suitable location in regard to both operational and environmental constraints.

It is considered that the very minimal vegetation clearance required for the Project will not result in impacts to connectivity. The proposed infrastructure site is located adjacent to existing disturbed areas associated with the approved quarry. Large areas of remnant vegetation occur adjacent to the quarry to the north and west. The Jerrabomberra Mountain Reserve is located approximately 2 kilometres to the north-west of the quarry pit. Given this large area of remnant vegetation in proximity to the new infrastructure area, any potential fragmentation affects would be limited.

To offset impact of clearing consideration should be given to rehabilitating the landscape through revegetation activities that will also ensure minimal impact on biodiversity, soil erosion and water quality. Or where this is not possible to rehabilitate an impacted area that an offset in an alternative area be established to ensure the overall “maintain or improve” environmental principle as contained within the NVA is fulfilled.

As previously discussed, the additional disturbance resulting from the Project is limited to approximately 0.2 hectare of poor quality habitat associated with construction of the proposed eastern dam. The area proposed to be disturbed comprises disturbed grassland. Holcim Australia therefore submit that no offset is required for the Project.

Rehabilitation will be undertaken throughout the life of the Project. Holcim Australia's proposed approach to rehabilitation and eventual closure of the site is to enhance the ecological values of the Project area to link in with surrounding habitat areas. Rehabilitation activities will continue to be undertaken progressively where possible.

Consideration should be given to any threatened communities and threatened species habitat. It is noted that the endangered ecological communities (EEC) Yellow Box, White Box and Blakely's Red Gum Woodland are contained within the area. This vegetation community should be avoided for development in all instances. It is also noted that areas of the threatened species, hoary sunray have been quarantined from development. The Murrumbidgee approves this foresight.

As discussed in Section 5.5.2 of the EIS, the small area of additional disturbance resulting from the Project will not impact any threatened ecological communities, including Yellow box – yellow box – Blakely's red gum woodland and derived native grassland Critically Endangered Ecological Community (CEEC). It will also not impact any areas of habitat for any listed threatened species whether under NSW or Commonwealth legislation.

Consideration of the proposal under Section 5A of the *Environment Planning and Assessment Act 1979* 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 threatened species and communities, or on migratory species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

As noted by the CMA, the design of the Project was modified to reduce potential impacts on ecologically significant areas. This included modifying the initially proposed design of the water management system to avoid impacts to Hoary Sunray (*Leucochrysum albicans* var. *tricolor*).

2.6 Roads and Maritime Service

RMS has significant road safety concerns with the existing quarry access and any proposed intensification of its use for the quarry, given that the existing layout is designed as a standard rural property access in the high speed environment with no provision of deceleration lanes. Furthermore, the access has insufficient sight distance to/from the south on Old Cooma Road.

However, RMS notes Queanbeyan City Council's plans to realign Old Cooma Road and provide an upgraded access to the quarry from the newly constructed road...RMS cannot support the proposed increase in extraction rates at the Cooma Road Quarry until such time that the proposed realignment of Old Cooma Road and the upgrade of the quarry access is completed.

Queanbeyan City Council has approval to realign Old Cooma Road including the section that is used for quarry access. The realignment has been designed to provide for ongoing quarry access, with construction of a new T junction intersection south of the existing Tempe Road/Old Cooma Road intersection. Construction of the Old Cooma Road realignment has commenced. It is understood Stage 1, which includes the new quarry access, is due for completion in 2013.

As a result of the concerns raised by RMS, Holcim Australia will not increase the use of the existing intersection, above currently approved levels, until such time as the upgrade of the quarry access is completed.

Cooma Road Quarry currently has approval to operate and use the existing intersection. As a current operation, Cooma Road Quarry will continue to operate under its existing consent until such time as the Project is approved.

Holcim Australia will include a Statement of Commitment (refer to **Appendix 1**) to address the request from RMS, as provided below.

6.2.11 Annual production at Cooma Road Quarry will not exceed 1Mtpa prior to the completion of the upgrade of the quarry access road.

Given the above, RMS will not object to the application in principle, subject to the following being included in the conditions of development consent:

Prior to traffic operating under the development consent

- **Only one access point to Old Cooma Road from the subject property will be permitted.**

Cooma Road Quarry is currently accessed via a driveway access point off Old Cooma Road. The new intersection to be constructed as part of the Old Cooma Road realignment will replace the existing access once construction is completed. The southern access road will be rehabilitated once the realignment is completed. As a result, Cooma Road Quarry will only be able to be accessed from the one access point.

- **The junction of the quarry access and Old Cooma Road shall be upgraded in accordance with Council's approved plans (C07117 SK050 – referred to RMS Southern Design in email correspondence in May 2012).**

Holcim Australia understands that Council will undertake upgrades in accordance with the approved plans (C07117 SK050). It is noted that Holcim Australia has no authority on the construction of the Old Cooma Road realignment, including the quarry access.

- **The access shall have Safe Intersection Sight Distance at the access in accordance with Austroads Guide to Road Design – Part 4a: Unsignalised and Signalised Intersections Table 3.2, in both directions, i.e. 181 m in both directions for a design speed of 80km/h.**

It is understood that the access has been designed in accordance with the Austroads Guide to Road Design. Accordingly, the necessary safe intersection sight distances are expected to be met in both directions. It is noted that Holcim Australia has no authority on the construction of the Old Cooma Road realignment, including the quarry access with the works the responsibility of Council.

- **In this regard, where fencing or vegetation is proposed at the site frontage, landscaping plans shall indicate clear sight lines to Old Cooma Road in both directions.**

Holcim Australia will ensure that all fencing and vegetation for which it is responsible (i.e. is on Holcim owned or leased land) will provide clear sight lines to Old Cooma Road from the quarry access road in both directions.

- **Council should ensure that a suitable drainage treatment across the driveway is provided to prevent water proceeding onto, or undermining, the travel lane of Old Cooma Road.**

As previously discussed, the upgrade to Old Cooma Road is being undertaken by Queanbeyan City Council. It is noted that Holcim Australia has no authority on the construction of the Old Cooma Road realignment, including the quarry access.

- **Where required, lighting shall be upgraded/provided in accordance with Australian Standard AS/NZS1158.**

Once the new intersection has been constructed by Queanbeyan City Council, an assessment will be undertaken against Australian Standard AS/NZS1158 to ensure lighting meets the requirements.

- **All roadworks, traffic control facilities and other works associated with this development, including any modifications required to meet RMS standards, will be at no cost to RMS. All works shall be completed prior to traffic operating under this consent.**

The proposed upgrade is being undertaken by Queanbeyan City Council and Holcim Australia has no authority on the construction of the Old Cooma Road realignment.

As Cooma Road Quarry is an existing operation it is not feasible for all works to be completed prior to traffic operating under this consent. As discussed above, increases in traffic as a result of the proposed increase in production will not come into effect prior to the completion of works associated with the upgrade of the quarry intersection.

2.7 Department of Primary Industries

2.7.1 Agriculture NSW

Agriculture NSW raise no issues with the proposal on the basis that:

- (i) The footprint of the quarry pit itself is not increasing significantly compared to the current approved footprint;
- (ii) The maximum depth of extraction has not changed; and
- (iii) The proposed extraction areas are either located on bushland or already disturbed land as part of the quarry.

Noted.

2.7.2 Fisheries NSW

Fisheries NSW raise no issues with the proposal.

Noted.

2.7.3 NSW Office of Water

The NSW Office of Water advise that it can support the proposal based on consideration of the following comments and requests for clarification. Recommended conditions for inclusion with any consent are in Attachment A.

- (i) the revised groundwater assessment has significantly reduced the estimated inflow into the quarry from 8.5ML/d to 0.161ML/d. The Office of Water considers this to be more representative of the hydrogeological conditions at the site. The proponent will be required to hold adequate licensed entitlement to account for this volume of groundwater take prior to the take commencing. The Office of Water advises the site is located within the Lachlan Fold Belt groundwater source of the Water Sharing Plan for the Murray Darling Basin Fractured Rock Water Sources.

Holcim Australia will maintain appropriate groundwater licences for the operation in accordance with the *Water Management Act 2000*.

- (ii) Ongoing monitoring and modelling of groundwater and surface water inflows to the pit/s will be critical to inform the required water licenses for the site. The Office of Water recommends this be clearly documented within subsequent management plan development.

In response to NOW's request, in conjunction with the EPA's request, Holcim Australia commit to preparing and implementing a Surface and Groundwater Monitoring Program for Cooma Road Quarry. The Program will include the ongoing monitoring and modelling requirements, as requested by NOW.

Holcim Australia has included Statement of Commitment 6.4.8 in the revised Statement of Commitments (refer to **Appendix 1**) to capture the requirement. Commitment 6.4.8 is provided below.

6.4.8 Holcim Australia will prepare a Surface and Groundwater Monitoring Program, in consultation with EPA and NOW, and to the satisfaction of the Director-General, within six months of the development consent.

- (iii) Section 3.4 of the Groundwater Assessment refers to predictions of the void filling from a 103ha surface water catchment and infers the potential for the pit to overflow. Clarification is requested as to whether the inflows and outflows would be all clean water or whether there is a proposal to maintain clean water diversions through the site.
- (iv) The Office of Water recognises assumptions have been made regarding the rate that the quarry will fill and the corrected pan evaporation figures. Clarification is requested as to the likelihood of the pit overflowing under a range of rainfall scenarios including storm events.

Section 3.4 of the Groundwater Assessment provides an indication of the likely contribution of water sources that would potentially contribute to the filling of the void. This is presently a broad estimate as the detailed final land form and detailed closure planning information is not available at this stage of the quarry operations.

As part of the detailed quarry closure planning process, a detailed Quarry Closure Plan will be developed approximately three years prior to cessation of quarrying activities. This will include assessing the requirement for any clean water diversions to be maintained. It is noted that the quarry currently has a reasonably large upstream catchment which would contribute to the filling of the void, however, there are options to reduce this catchment as part of the final landform if this is considered desirable as part of the quarry closure process. The likelihood of the void overflowing is related to the final landform design and the contributing catchment area. Water management controls will form an integral part of the final landform and some of the proposed diversion drains, catch drains and site bunding will likely remain in place as part of the final landform, however, some changes may occur to manage upslope catchment contribution.

The approach to management of the final void will be a key consideration of the closure planning process and will require detailed water level and quality modelling as part of the closure process. This modelling, which will be based on the actual final landform, will provide confidence on the likelihood of spills and associated water quality. The closure strategy will be prepared in consultation with relevant government agencies.

The closure and rehabilitation objectives for the site are to establish a sustainable native ecosystem, commensurate with adjacent land use types. The preliminary closure and rehabilitation criteria presented in Section 5.15.3 of the EIS, require runoff water quality from the site to not pose a threat to downstream water quality.

Assuming that the quarry is decommissioned at the end of the Project, water management dams will either remain in use as farm dams or will be removed. If the dams are to be retained, the capacity of the dams will be reviewed and the size/volume modified, if required to suit future land uses.

- (v) Section 4 of the Groundwater Assessment refers to the use of bail out tests, however no results or interpretation is provided. This information may provide further detail for consideration in the assessment hence it is recommended this be provided.**

As discussed in Section 4.0 of the Groundwater Assessment, bail-down tests were undertaken on three temporary bores installed to access the groundwater at the quarry. Bail-down test results will be included as baseline data in the proposed Surface and Groundwater Monitoring Program. These results can be provided for NOW's information if this would be of assistance at this stage of the Project.

- (vi) Retention and continued monitoring of the temporary monitoring bores is critical to confirm the assumed groundwater behaviour conditions. The Office of Water recommends revision of the monitoring program as part of development of the Water Management Plan. It is also recommended water samples be taken from the monitoring bores to confirm assumptions about groundwater quality prior to commencement of the proposed works.**

As discussed above, Holcim Australia commit to preparing and implementing a Surface and Groundwater Monitoring Program for Cooma Road Quarry. The Program will include the ongoing monitoring requirements for the quarry. Holcim Australia has committed to preparing and implementing the Program within six months of development consent being issued (refer to **Appendix 1**). As an existing operation, the timeframe proposed is considered appropriate.

- (vii) The proposed eastern dam and north west dam are designed to capture clean water on the site. The Office of Water advises these dams will need to be considered within the Maximum Harvestable Rights Dam Capacity (MHRDC) for the site and may potentially require the purchase of additional licensed entitlement. The proponent is therefore requested to clarify the current MHRDC for the site and any additional licensing requirements. Consideration also needs to be given to the current surface water entitlement held by the proponent for 98ML and whether there is uncommitted entitlement available to account for the 2 new dams.**

The current proposed design, as outlined in Section 5.3.3 of the EIS, is for neither the Eastern Dam or North-West Dam to hold permanent water but to overflow to the quarry water management system (WMS) for transfer to Barracks Creek or for usage in the quarry, in accordance with Holcim Australia's surface water licence and harvestable rights provisions.

Holcim has a harvestable rights provision (based on landholdings) of approximately 20 ML (refer to Table 5.9 of the EIS). In addition, Holcim Australia has a licence (40SL27690) to capture up to 98 ML per year of runoff (refer to Section 5.2.4.2 of the EIS) to meet quarry water demands. As such Holcim has a total licensed extraction volume of 118 ML per year.

The volumes of runoff predicted to occur from the upslope catchment areas are summarised in Table 5.9 of the EIS and indicate that the surplus runoff (i.e. in excess of Holcim Australia's existing licensing provisions of 118 ML per year) may range up to 135 ML per year in a 90th percentile rainfall year, with no surplus runoff predicted to occur during a 50th percentile rainfall year.

As discussed in Section 5.3.4.4 of the EIS, Holcim Australia will need to transfer water from the upslope catchment areas downstream to Barracks Creek that which is either in excess of licensable limits or surplus to the site's water requirements. The average surplus is estimated to be 56 ML per year.

2.7.3.1 Recommended Conditions of Approval

- 1. The proponent must ensure that it has sufficient water for all stages of the project to the satisfaction of the NSW Office of Water, and if necessary adjust the scale of quarrying operations to match its licensed water entitlements.**
- 2. The proponent must prepare a Groundwater Management Plan in consultation with and to the satisfaction of the NSW Office of Water prior to commencement of activities.**
- 3. The proponent must prepare a Surface Water Management Plan in consultation with and to the satisfaction of the NSW Office of Water prior to commencement of activities.**
- 4. The proponent must obtain relevant licences to the satisfaction of the NSW Office of Water under the *Water Act 1912* or *Water Management Act 2000* (whichever is relevant) for all activities which intercept or extract surface water or groundwater prior to commencement of these activities.**

Holcim Australia has no objection to the intent of the recommended conditions of approval provided by NOW, while noting the following:

- Holcim Australia proposes to develop a Surface and Groundwater Monitoring Program instead of separate Groundwater and Surface Water Management Plans (refer to **Appendix 1**); and
- Holcim Australia has committed to prepare a Surface and Groundwater Monitoring Program for the quarry. As an existing operation, it is not feasible for the Program to be required prior to commencement of activities. Holcim Australia proposes that the Program be prepared and implemented within six months of approval (refer to **Appendix 1**).

2.7.4 Catchment and Lands - Crown Lands

There is a Crown road running east-west from the western side of the current pit along the northern boundary of Lot 1 DP 808393. This is a westerly extension of a (former) Crown road reserve now closed and incorporated into the development lands. Given the Crown road is adjacent to an existing approved disturbance area and given the nature of the topography, it is recommended any approval of the project be subject to a condition ensuring the boundary is accurately and visibly delineated to prevent any unintentional encroachment.

Holcim Australia will ensure that the northern boundary of Lot 1 DP 808393 is visibly delineated to prevent any unintentional encroachment. The Statement of Commitments has been revised in order to capture this commitment (refer to **Appendix 1**). The new Commitment is reproduced below.

6.2.10 Holcim Australia will visibly delineate the northern boundary of Lot 1 DP 808393 to identify the location of the adjacent Crown land road reserve.

2.8 Queanbeyan City Council

2.8.1 Quarrying Techniques

The previously approved western overburden area has not been used in the current operations and is not supported by Council due to visual impacts and impacts on Jerrabomberra Creek which feeds a nationally recognised wetland prior to entering Lake Burley Griffin (Action 1.1 prior to consent).

As outlined in Section 2.2.3 of the EIS, Holcim Australia does not propose using the overburden emplacement area to the west of the current approved extraction boundary. Overburden from the proposed extension area can be readily accommodated within the existing overburden emplacement areas.

Holcim Australia will update the Statement of Commitments to reiterate this, as below.

6.2.12 No overburden associated with the Project 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.

2.8.2 Hours of Operation

The project proposes to vary hours of operation for certain activities to provide increased flexibility to supply materials and to accommodate increased production rates. Council does not support this request for all activities and suggests that the reasons given for justification of an increase in hours of operation are not sufficient or lack substantiation of the potential impacts.

Activities suggested to allow during the proposed extended hours include:

- maintenance of fixed plant and mobile plant;
- secondary crushing and screening;
- product stockpile management;
- water cart operations for stockpile and plant area; and
- pumping for dewatering activities.

Council does not support the following activities from the list:

- **secondary crushing and screening; and**
- **product stockpile management.**

Careful consideration has been given to activities to be undertaken outside current operating hours. As discussed in Section 2.2.8 of the EIS, the extended hours of operation will allow Holcim Australia to meet the maximum production limit of 1.5 Mtpa while minimising community exposure to high noise generating activities during the evening period. The extended operating hours would allow Holcim Australia to process (secondary crushing) and stockpile material in preparation for loading into trucks for the first delivery of the following day.

Due to the limited storage capacity and the need to meet customers' product specifications, Cooma Road Quarry is not able to produce large amounts of product for stockpiling. The extended hours of operations would allow the quarry to respond to customer needs and ensure that stores are not depleted during particularly busy periods.

Additional stockpile areas would be necessary to accommodate product if the hours of operation are not extended. Given the confined nature of the project area and the desire to minimise additional disturbance, this option is not considered appropriate or ideal.

A detailed assessment of the potential environmental impacts of operating the quarry during the proposed extended operating hours was provided as part of the EIS. It is considered that the activities proposed in the extended operating hours can be managed to minimise any potential unacceptable impacts to sensitive receivers. Relevant management and mitigation measures have been outlined in Section 5.10.4 of the EIS in this regard.

Section 5.1.3 – Control Measures of the Noise and Blasting Impact Assessment suggests the following reasonable and feasible control measures that were incorporated into the ENM noise model of the project will ameliorate any impacts:

- **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 and layout of stockpiles and work areas to minimise the number of machines running at 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); and**
- **not running the secondary crushing plant during the evenings if potentially adverse weather conditions aid in the propagation of noise to the receiver areas.**

Council is concerned that the majority of these controls rely on management of the situation to avoid impacts. Council believes that a more effective measure would be to exclude these operations from being permitted up to 10.00pm. However, it is acknowledged that there are returning truck movements until 8.00pm and given this other plant operating on the site up to 8.00pm would likely cause minimal impact.

Holcim Australia is committed to the implementation of the feasible and reasonable noise management measures set out in the EIS. Holcim Australia consider that the activities proposed to be undertaken between 6.00pm and 10.00pm, Monday to Saturday, can be managed to minimise impact to sensitive receivers, as outlined in the EIS.

Holcim Australia has committed to a process of confirming the predicted noise impacts of the Project and assessing the performance of the proposed noise management measures. These commitments are set out in Section 6.10 of the EIS Statement of Commitments.

In addition it is stated that the extended hours will allow for Holcim to process (secondary/tertiary crushing) and stockpile in preparation for loading into trucks for first delivery the following day and minimise truck waiting times in the mornings. This would also mean that an increased number of trucks would be leaving the site earlier in the mornings. Council does not support any activity which will see additional trucks, above present conditions, travelling through residential areas prior to 7.00am.

Heavy vehicle movements are presently permitted from Cooma Road Quarry from 6.00am, Monday to Saturday. While the extended hours of operation would allow Cooma Road Quarry to reduce the waiting times prior to 7.00am, it is not envisaged that the number of heavy vehicles departing Cooma Road Quarry prior to 7.00 am is likely to increase significantly, if at all. Delivery of quarry products to market will continue to be subject to customer needs as is the situation with the existing quarry and other quarry sites.

As previously discussed, it is not envisaged that the rate of production will increase significantly from current levels. The proposed increase from 1 Mtpa to 1.5 Mtpa would allow the quarry to meet predicted future peak market demands to support the planned future growth and development of the Canberra and Queanbeyan regions.

Given all of the above Council suggests that:

- **secondary crushing and screening;**
 - **product stockpile management;**
- only be permitted up to 8.00pm (Consent Condition 2.2)**

Holcim Australia has given careful consideration to the activities proposed to be undertaken within the proposed extended hours of operation. Holcim Australia is confident that the proposed activities can be undertaken and managed to minimise any potential unacceptable impact to sensitive receivers. Holcim Australia has committed to the management measures as outlined above in order to achieve this.

2.8.3 Surface Water Resources

Water Quality

The site currently contains a water settlement pond. The EIS needs to address whether the proposed infrastructure area will have any effect on Barracks Flat Creek. Without an appropriate design there is the potential for surface flows from this new area to bypass the pre-treatment systems in place to ensure that water quality in Barracks Flat Creek meets acceptable standards. A contour plan of appropriate scale would help assist in the assessment of water flow and management. A plan showing diversion bunding, surface treatments and stormwater pits would be of assistance (Consent condition 2.3).

As discussed in Section 5.3.1 of the EIS, the quarry pit and infrastructure area is located within the catchment area of Barracks Creek. Runoff from the majority of the upslope catchment area is currently captured and managed in a series of dams prior to flowing into the quarry water management system (WMS).

As discussed in Section 5.3.3 of the EIS, runoff from the new infrastructure area north of the processing plant will be diverted to the quarry's existing drainage system and the Pump Dam. All controls will be constructed in accordance with Blue Book requirements (Managing Urban Stormwater: Volumes 1 and 2, Landcom 2004 and DECC 2005) and will include methods to capture oil and grease (e.g. oils skimming, interceptors etc.). These controls are considered appropriate to minimise the potential for water quality impacts. Detailed designs of the proposed water quality management structures will be provided to the certifying authority prior to construction.

2.8.4 Air Quality

Dust

There is limited information on how dust from the site could affect residential receivers. The EIS provided existing data and worst case scenario contours. It gives the understanding that dust impacts will be minimal and within OEH assessment criteria.

The dispersion models do however show deposition of dust particles over parts of Queanbeyan and the map is not very well explained with yellow bands not provided with a key.

As discussed in Section 5.8 of the 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.

In reference to Figure 5.13 of the EIS, the contours shown are the worst case operating conditions. This figure should be viewed in conjunction with the information presented in **Table 2.3 – Summary of Air Quality Impact Assessment Findings**, reproduced below.

Table 2.3 – Summary of Air Quality Impact Assessment Findings

Pollutant	Average Period	Adopted Background	Predicted Concentration at Most Affected Sensitive Receiver	Goal
TSP	Annual	30 $\mu\text{g}/\text{m}^3$	30.8 $\mu\text{g}/\text{m}^3$	90 $\mu\text{g}/\text{m}^3$
PM ₁₀	24-hour	24 $\mu\text{g}/\text{m}^3$	29 $\mu\text{g}/\text{m}^3$	50 $\mu\text{g}/\text{m}^3$
	Annual	15 $\mu\text{g}/\text{m}^3$	15.6 $\mu\text{g}/\text{m}^3$	30 $\mu\text{g}/\text{m}^3$
Dust deposition	Annual	3.3 $\text{g}/\text{m}^2/\text{month}$	3.4 $\text{g}/\text{m}^2/\text{month}$	4 $\text{g}/\text{m}^2/\text{month}$

The table and figure demonstrate that the predicted concentration at the most affected sensitive receiver is well below the goal.

The short term impact of dust during the construction phase with the removal of top soil and site levelling of the proposed infrastructure area is not included.

The potential air quality impacts associated with the proposed construction activities at Cooma Road Quarry are discussed in Section 8.5 of Air Quality Assessment (Appendix 8 of the EIS).

Construction activities would not be expected to generate significant quantities of dust, in comparison to the operations stage, hence the operational scenarios modelled by the Air Quality Assessment, and found to be compliant with relevant criteria, are considered to represent worst case.

Dust emissions during construction would be readily controlled using water sprays and standard dust control measures used on construction sites, such as water trucks, minimising exposed disturbance areas and rehabilitation cleared ground as soon as reasonably practicable.

As outlined in the EIS, given the minor scale of the proposed construction activities and the relatively short timeframes involved in the construction, it is envisaged that any dust generated during construction activities will be minimal and well within relevant criteria.

Dust control measures and monitoring needs to be throughout the life of the operational works. Monitoring results should be provided to Council as part of the environmental monitoring requirements (Consent condition 2.4).

Holcim Australia currently undertake dust monitoring at five sensitive receivers. As previously discussed, Holcim Australia has committed to revising the Air Quality Monitoring Program to the satisfaction of the Director-General. This program is proposed to be developed within six months of development consent.

Monitoring results will be provided to Queanbeyan City Council as part of the Annual Review (refer to Statement of Commitment 6.3.2).

2.8.5 Biodiversity

Flora and Fauna

The Ecological Assessment Supporting Information provides a detailed list of plants found on the site from previous surveys. Various weeds are listed. The EIS does not provide information relating to a weed management plan or proposed weed management activities for the site. This should be included in the EMP (Consent condition 2.5). The proposed review of the Environmental Management Plan shall include a weed management plan for the site.

In accordance with the request from Queanbeyan City Council, Holcim Australia will provide details of weed management in the revision of the EMP. As previously discussed, the EMP is proposed to be revised within six months of development consent, as stipulated in Statement of Commitment 6.3.1 (refer to **Appendix 1**).

2.8.6 Traffic

5.11.1 Existing Traffic Conditions – currently haulage south of the quarry on OCR is not Approved.

Holcim Australia is aware that the existing development consent does not allow haulage south of the quarry.

The Project proposes to haul product to the south of the Project. Accordingly, relevant assessments have been undertaken to assess the impact of the proposed haulage to the south.

5.11.2 Planned Road Network Changes – a tender for the OCR realignment has been let and construction will occur in the first half of 2013. The approved design provides for a right turn bay into the existing road alignment leading to the quarry (termed the Quarry Access Road). Two southbound lanes will allow for transport of product to the south. The Edwin Land Parkway is now constructed and together with Tomsitt Drive now provides an alternative haulage route to Jerrabomberra and southern ACT suburbs rather than via Southbar Road. The haulage routes should be reviewed prior to the commencement of work (Consent condition 2.12).

Holcim will review their haulage routes on an ongoing basis. The haulage routes presented in the EIS are the best estimate of proposed haulage routes at the time, based on existing transport routes and known market areas.

5.11.4 Road Transport Impacts of the Project – the anticipated additional traffic generation is considered accurate, but the analysis fails to give proper consideration to the ready market at Googong township as a destination.

The traffic impact assessment identifies Googong as a potential destination. As discussed in Section 3.2.4 of Appendix 11, the construction of the proposed new Googong township which will be accessed from Googong Dam Road will increase the use of the realigned section of Old Cooma Road between the quarry and Googong Dam Road, by quarry product trucks, once work on the new town begins. Until this occurs, the use of Old Cooma Road south of Googong Road is expected to remain an infrequent transport route.

Furthermore, Section 4.3.3 of Appendix 11 provides details on the higher deliveries south to the future township of Googong. It is expected for a period of the proposed quarry life, a higher proportion of truck trips are expected to turn right out of the Quarry Access Road and travel south to deliver aggregate as part of the construction for the new Googong Township.

It is considered that the traffic impact assessment adequately considers the market of Googong as a destination of quarry products into the future.

The additional traffic proposed to be generated is not accounted for in Council's adopted traffic study, being the Googong and Tralee Traffic Study 2031 (Gabites Porter 2010). The traffic study informs the QCC Section 94 Contributions Plan with respect to contributions to be obtained for Urban Roads and Traffic Management. The quarry is located in Location 1 of the Fernleigh / Royalla catchment area and developments in this area are anticipated to make a contribution toward upgrade of roads and intersections within Queanbeyan urban area. For a Brownfield site the contribution rate is \$360.00 per additional daily vehicle trip (ADVT) (March 2012 dollars). Such a contribution should be sought for the additional 140 ADVT (Consent condition 2.6).

While the Project, if approved, would increase the maximum extraction rate from 1 Mtpa to 1.5 Mtpa, Holcim Australia does not predict that the typically annual production levels will increase significantly from the current production levels. The increase in production levels would allow Holcim Australia to meet market demands at certain times if forecasts prove accurate. Therefore, the additional daily vehicle trips identified by Queanbeyan City Council would be a worst case situation which is unlikely to eventuate or be a true reflection of the operations at Cooma Road Quarry.

The Queanbeyan City Council Section 94 Contribution Plan primarily relates to urban and industrial developments. Many of the requirements outlined in the Queanbeyan City Council Section 94 Contribution Plan do not relate to extractive industry developments. As such, a specific plan is in place for extractive industries which outlines relevant contributions from Cooma Road Quarry. Holcim Australia considers the Extractive Industry Section 94 Contribution Plan as the appropriate plan relevant to Cooma Road Quarry.

Accordingly, Holcim Australia questions the contribution fee outlined above. As an existing development, it is considered that section 94 contributions are adequately covered in the existing Extractive Industry Section 94 Contribution Plan.

The traffic generation fails to consider the impact of additional heavy vehicle movements on road pavements, which was a matter that Council requested to be considered in the preparation of the EIS. This aspect will require investigation as part of the revision of the extractive industry S94 Plan (Consent condition 2.7).

It is noted that Queanbeyan City Council requested road pavement testing to be undertaken on all transport routes during the Adequacy Review process. However, this was not a requirement of the DGRs for the Project and was not required as part of the EIS.

The Extractive Industry Section 94 Contribution Plan does not require pavement testing to be undertaken on all transport routes, as requested by Queanbeyan City Council. An alternate method of determining section 94 contributions is also available and currently used by the quarry. As there are numerous potential transport routes, Holcim Australia proposes to continue to utilise the alternate method to determine Section 94 contributions. This alternate method is based on standardised contribution rates. Holcim Australia will consult with Queanbeyan City Council to agree on the standardised rates to be applied to the Project.

The increased generation of truck movements through residential areas including school and the pre-school areas as well as the Queanbeyan City Centre is considered significant and will have a serious and further adverse impact on the amenity residents and the community generally. To protect the amenity of Queanbeyan community it is recommended that the expansion of production from the current 1Mtpa only be permitted once the planned Ellerton Drive Extension has been constructed and that those haulage vehicles that would ordinarily travel along Cooma Street and via the Queanbeyan CBD, be required to travel on the Ellerton Drive Extension (Consent condition 2.8).

While the Project, if approved, would increase the maximum extraction rate from 1 Mtpa to 1.5 Mtpa, Holcim Australia does not predict that typical annual production levels will increase significantly from the current production levels. The increase in production levels would allow Holcim Australia to meet market demands at certain times if forecasts prove accurate. The traffic impact assessment undertaken for the Project indicates that additional heavy vehicle movements travelling through the Queanbeyan City Centre associated with the Project is considered relatively small when compared to existing volumes and traffic composition. Accordingly, Holcim Australia does not consider it necessary to place additional restrictions on the movement of heavy vehicles through the Queanbeyan City Centre.

Holcim Australia employs a ZeroHarm approach to safety. Holcim Australia drivers are regularly trained and assessed in all aspects of road safety, including fatigue management and must complete annual driver competency assessments.

2.8.7 Noise and Blasting

The Quarry is located in close proximity to several residences. While the noise assessment reveals that most are not impacted by activities from the extended operating hours some areas to the south would be susceptible. To mitigate the potential increase in noise impacts on this area it is recommended that Secondary Crushing Plant not be permitted to operate during north-east wind conditions (Consent condition 2.2).

As detailed in Section 5.10 of the EIS and Appendix 10 of the EIS, Holcim Australia has committed to managing secondary crushing activities in order to minimise impacts to sensitive receivers.

These commitments were provided in the Statement of Commitments and have been reproduced below. In particular, Holcim Australia has committed to 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.

6.10.1 Holcim Australia is committed to managing the noise impact of the Project 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.

Road Traffic Noise Impacts (5.10.3.4) – The acoustic study considers noise impacts on Old Cooma Road and Cooma Street which is the main haulage route to the north and east. It determines that the increase in noise attributed to the increased operations is less than the 2dB guideline. It appears that this assessment is based on the 60dB criteria in table 5.15. However, the 60dB level only applies from 7.00am. There will also be significant increases in truck activity between 6.00am and 7.00am when the night time criteria in Table 5.15 of 55dB applies. The EIS needs to address the traffic noise impacts during those earlier hours when sleep disturbance is still a significant issue (Action 1.5 prior to consent).

The night-time traffic noise impacts are assessed over a 9 hour period from 10pm to 7am. Traffic from the Project will only contribute to the road traffic noise levels for a small portion of this time. The predicted noise impact from road traffic noise during the night-time is presented in **Table 2.4**. The results show that there will not be a significant increase in the night-time road traffic noise impacts and that the noise impacts are below the night-time LAeq,9hour criteria of 55 dB(A).

Table 2.4 – Predicted Weekday Night Time LAeq,9hour Noise Level, dB(A)

Setback Distance (m)	Old Cooma Road North of the Project, South of West Avenue			Old Cooma Road North of the Project			Old Cooma Road South of the Project		
	Pre	Post	Increase	Pre	Post	Increase	Pre	Post	Increase
25	53.2	53.4	0.2	49.9	50.5	0.6	47.9	48.0	0.1
50	46.3	46.5	0.2	43.4	44.1	0.7	40.6	40.7	0.1
100	41.4	41.7	0.3	38.8	39.5	0.7	35.6	35.7	0.1

In addition the acoustic assessment only addresses traffic noise impacts on Old Cooma Road/Cooma Street. Many of these impacts will be ameliorated when Ellerton Drive is constructed and provides an alternative haulage route to the north and east. However, the study fails to address impacts on residences at the western end of the existing Edwin Land Parkway which is the main haulage route to the northwest and southwest.

The Traffic Impact Assessment for the Project (Page20) notes that: "a portion of the existing trips generated by the quarry currently using Southbar Road are expected to transfer to Edwin Land Parkway once this road is opened." The traffic study estimates "some 40 vehicles per day including 34 heavy vehicles from the quarry are expected to use Edwin Land Parkway and Tomsitt Drive on a weekday with the project in place." The Traffic Study also states "Edwin Land Parkway and Tomsitt Drive have been designed and constructed as a high standard arterial road and as such will easily accommodate the quarry traffic."

Based on the findings of the Traffic Impact Assessment for the Project, Edwin Land Parkway is not a main haulage route.

The Gabites Porter Traffic Study has identified future (2031) projected total peak period traffic volumes (AM/PM combined) on the Edwin Land Parkway to be approximately of 47% of the traffic on Old Cooma Road North of the Project. Based on an estimated daily traffic count with the additional 40 vehicles per day from the quarry including 34 heavy vehicles, the estimated noise impacts along Edwin Land Parkway during the day-time are presented in **Table 2.5**. The results show that there will not be a significant increase in the day-time road traffic noise impacts due to the Project and that the noise impacts are below the day-time LAeq,15hour criteria of 60 dB(A).

Table 2.5 – Predicted Weekday Day Time LAeq,15hour Noise Level, dB(A)

Setback Distance (m)	Edwin Lane Parkway		
	Pre	Post	Increase
25	55.6	56.0	0.4
50	49.1	49.6	0.5
100	44.5	45.0	0.5

Edwin Land Parkway was recently extended to link Old Cooma Road through to Tomsitt Drive in Jerrabomberra to the west. While the new section of road had sound barriers erected the existing section between Numerlia Street and Jerrabomberra Circle has no such sound attenuation. As a major haulage route testing should have been conducted in this area.

The predicted noise impacts in **Table 2.5** above indicate the Project will have a negligible impact on the noise levels from Edwin Land Parkway. No further assessment is therefore considered necessary.

Council is concerned that the increase in quarry traffic from the increased operations will lead to a consequent increase in traffic noise and both a public demand and requirement for Council to erect sound attenuation barriers. If that noise increase can be attributed to increased operations at the quarry (even if only partly) then the proponents have a responsibility to contribute to the cost of sound barriers in the future. Presently the EIS does not address this issue. Council recommends that prior to finalising the assessment of the application a further acoustic study in line with that conducted for Old Cooma Road/Cooma Street be carried out to determine future impacts on residents in Edwin Land Parkway between Numerallia Drive and Jerrabomberra Circle and whether the quarry should be requested to make a contribution to the erection of sound barriers in the future. (Action 1.6 prior to consent).

The predicted noise impacts in **Table 2.4** and **2.5** above and Table 5.6 in the NBIA indicate the Project will have a negligible impact on the road traffic noise levels from Cooma Road and Edwin Land Parkway. Based on this assessment finding, Holcim Australia do not consider a contribution to the construction of sound barriers is warranted.

2.8.8 Visual

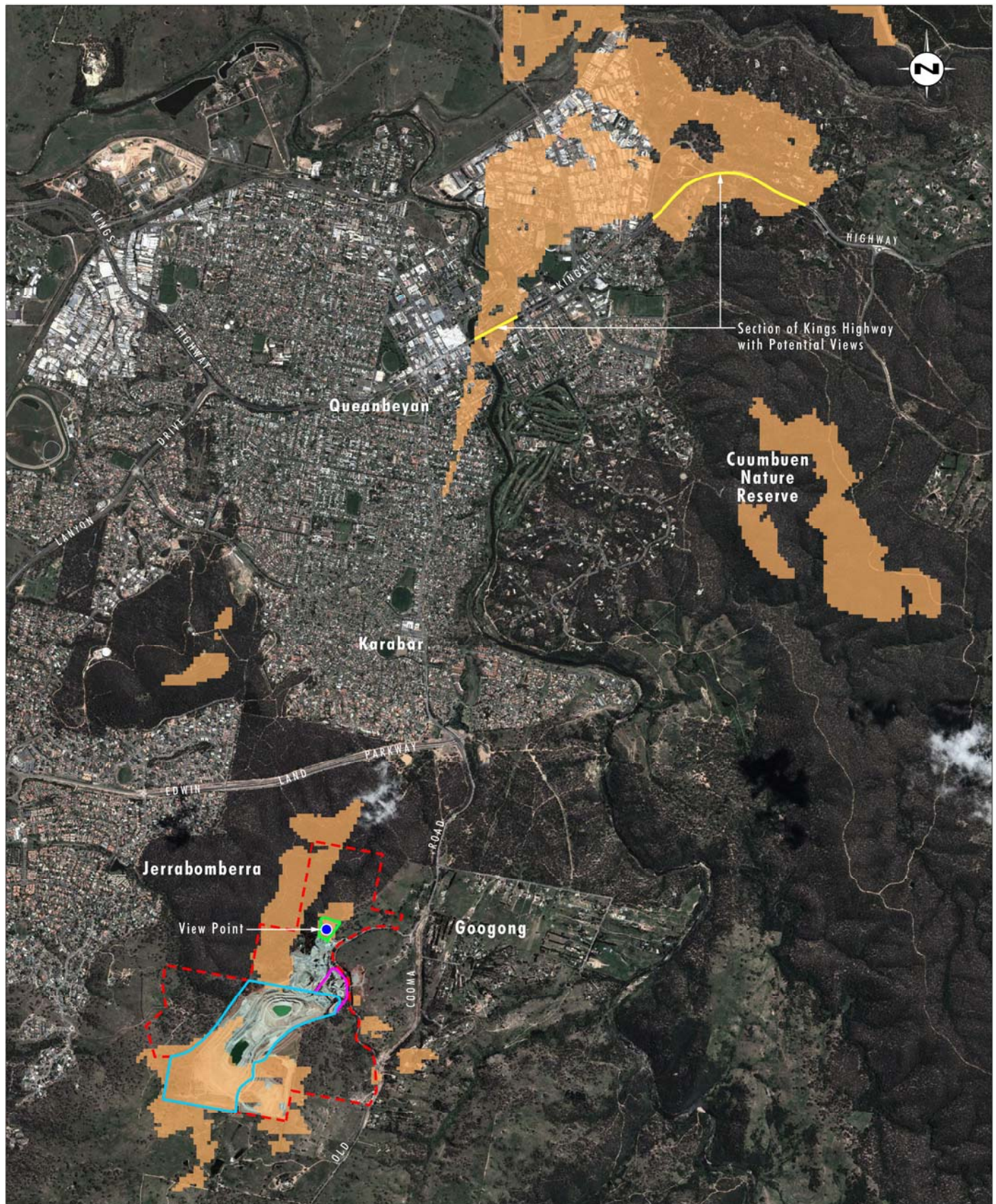
The visual analysis supplied in the EIS provides a very narrow view of the development from the immediate vicinity of the quarry. The analysis should also be conducted from vantage points such as Kings Highway (new alignment) and other vantage points which are further afield than the current analysis provides (Action 1.3 prior to consent).

The visual assessment, as presented in Section 5.12 of the EIS, focuses on the most potentially affected areas and is considered adequate for the Project considering the minimal change in the overall visibility of the Project. The changes proposed as part of the Project require only minimal changes to the existing quarry and the majority of changes will not result in changes in the visibility of the Project for the majority of surrounding community viewing locations. The changes required will have an insignificant impact on the visual amenity of all receivers. The major visual change from the Project is the new infrastructure area. Accordingly, the visual assessment focussed on the new infrastructure area.

The visual assessment included the assessment points used in the previous EIS to allow for a comparison of the visual impacts of the Project against those already approved and aimed to cover the most sensitive receivers. In this instance, the most sensitive receivers were determined to be residents in the vicinity of the Project. Views from locations greater than 5 kilometres from the site (such as those from Kings Highway) were not considered to be significant due to the minimal changes to Cooma Road Quarry as a result of the Project.

As shown in **Figure 2.6**, a section of Kings Highway may have potential views of the proposed new infrastructure area. The analysis presented in **Figure 2.6** is based on topography only and does not make any allowances for vegetation or other shielding. As the new infrastructure area will mostly consist of a number of buildings, it is considered that any views that are not shielded by vegetation will be consistent with the views of the surrounding area (with numerous houses and other buildings).

It is noted that some views of the existing quarry pit are available from locations along the Kings Highway. The current views are primarily of an area of the existing quarry pit which is not proposed to change as a result of the Project. As shown in **Plate 2.1** and **Plate 2.2**, the existing views of the existing quarry pit from Kings Highway are over a long distance and are not highly visually intrusive. Based on the topography only analysis presented in **Figure 2.6**, the proposed quarry pit extension area and new infrastructure area may have some potential



Source: Holcim (2012), ASTER DEM, Google Earth (2011)

Legend

- Proposed Project Area
- Approved Extraction Area
- Proposed Additional Extraction Area
- Approved Disturbance Area - Workshop
- Potential Visibility
- Section of Kings Highway with Potential Views
- View Point

File Name (A4): R08/2992_116.dgn
20130125 10.02

FIGURE 2.6

Potential Visibility of the
Proposed Infrastructure Area



PLATE 2.1
View of Cooma Road Quarry - Intersection of Kings Highway and Hills Lane



PLATE 2.2
View of Cooma Road Quarry - Intersection of Kings Highway and Thurralilly Street

views from a section of Kings Highway. However, topographic and vegetative shielding combined with the long distance views means that Kings Highway and areas further afield will have little to no change in visual amenity. Any distant views that are available of the new infrastructure area and extended quarry pit would be generally consistent with the existing views from these areas. Based on the above, the Project is not considered likely to result in significant changes to visual amenity from the Kings Highway area.

It is also noted that any user of the Kings Highway will have limited opportunity to view the quarry as they will be travelling at significant speeds, with limited viewing opportunities. Therefore, the Project is not considered likely to impact on visual amenity for road users of Kings Highway.

In addition any approval issued for the proposal should include a condition of consent that requires a plan of the revegetation and retention of native species to minimise impact on visual amenity and soil erosion and water quality (Consent condition 2.9).

Holcim Australia has included commitments to revegetation and retention of native species, where possible, within the revised EMP.

2.8.9 Waste

Section 68 Application - sewage and waste water disposal

The proposed infrastructure area is currently not serviced by any sewerage system. As such the applicant must seek consent for the installation of an appropriately sized on site wastewater disposal system for the purposes of disposal of effluent from the site.

As discussed in Section 2.2.6 of the EIS, the new infrastructure area will require a wastewater disposal system for the purposes of disposal of effluent from the site. It is proposed that an Envirocycle system type system will be used, however, the exact details of the system will be confirmed during the detailed engineering design phase and the relevant plans provided to the certifying authority prior to construction. Holcim Australia will obtain all necessary approvals from Council to operate this system.

The adequacy of the existing septic tanks and the aerated wastewater treatment systems need to be capable of serving the relocated / additional buildings on the site. This information has not been detailed adequately in the EIS. The applicant is to engage a suitably qualified consultant to prepare a geotechnical report detailing the adequacy of the possible methods of sewerage and waste water disposal systems for the proposal.

As discussed above, Holcim Australia will ensure that a suitable system will be designed and as part of the Project. All relevant approvals will be gained prior to installation and operation of any waste water disposal system associated with the Project.

Section 68 Application is also required for the truck wash facility with detailed specifications and plans of the proposed oil/water separator and sedimentation pits (Consent condition 2.10 and 2.11).

All water from the truck wash will be recycled and managed outside the waste water system. As such, the provisions of Section 68 would not apply to the truck wash facility. Regardless, Holcim Australia will ensure that any necessary approvals are sought for its operations.

Holcim Australia will provide detailed specifications and plans of the new infrastructure area to the certifying authority prior to construction.

2.8.10 Hazards

Dangerous Goods

The EIS has not supplied sufficient details on provisions for the design, construction and operation of the above ground diesel tank. This facility is to comply with the requirements of AS1940- 2004. Details of fuel storage and refilling areas should be located on the construction plans and details of appropriate emergency actions included (Action 1.3 prior to consent).

The detailed design of the infrastructure area including fuel storage and refuelling areas will be provided to the certifying authority prior to construction. The detailed design of these facilities will address the requirements of relevant Australian standards.

2.8.11 Proposed Rehabilitation Monitoring and Maintenance

Legal Access to the Block

Once the quarry ceases operating from the site, the block will be land locked. This means, it has no legal or practical physical access to a public road. This needs to be addressed to ensure that the site is not land locked. Currently the site is accessed via adjoining sites that are leased to Holcim. The rehabilitation process should include the formalisation of access to the site (Consent condition 2.13).

It is noted that a lot of land has the potential to become land locked once quarrying has been completed at Cooma Road Quarry. This situation is not a consequence of the Project and is therefore an issue that can be addressed as part of a separate process in consultation with Council and is not considered an issue relevant to the determination of the development application.

Holcim Australia will address this issue in consultation with Council. One appropriate approach to further investigating the resolution of this issue may be as part of the quarry detailed closure planning process. As discussed in Section 5.15 of the EIS, Holcim Australia has committed to undertaking a detailed quarry closure planning process. As part of this process, a detailed Quarry Closure Plan will be developed approximately three years prior to cessation of quarrying activities. The Quarry Closure Plan will outline the proposed closure of the site and detail the post-closure land use. It would be appropriate to address access arrangements to the land raised by Council as part of the Quarry Closure Plan.

As the proposed expansion area for the infrastructure area will remove a substantial clearance of box-woodland the operations should therefore be sympathetic and include replacing habitat in buffer areas and completed emplacement areas as a priority.

The infrastructure area is currently approved for clearing. The only new clearing associated with the proposed Project is approximately 0.2 hectares of disturbed grassland for the construction of the proposed eastern dam. As previously discussed, no offsets for this area are required or proposed by Holcim Australia.

A significant proportion of the buffer areas surrounding Cooma Road Quarry are being purchased by Queanbeyan City Council as an offset for the Old Cooma Road realignment. Holcim Australia will have limited opportunities to replace any habitat in buffer areas. As outlined in the EIS, Holcim Australia will prioritise the revegetation of emplacement areas with appropriate native species, including box-woodland species.

Council would like to see some ongoing revegetation occurring throughout the operations of the site. A staged plan should be prepared to identify emplacement areas which could be revegetated and maintained. The Environmental Management Plan should identify how the quarry proposes to undertake revegetation work, who is responsible and when it will commence (Consent condition 2.5).

In respect to Queanbeyan City Council's request, Holcim Australia will include revegetation information within the revised EMP. This will include a plan of work, including details of how rehabilitation will be staged.

As previously discussed, the EMP will be revised within six months of development consent.

2.8.12 Statement of Commitments

The quarry currently pays a road maintenance contribution for product hauled on Council's road network. A commitment to paying a revised S94 maintenance contribution, based on the revised road haulage network, production rates and back loading rates, should be included in the consent if approved. The lead time to commencement of the new consent will provide a suitable time frame for the plan to be reviewed (Consent condition 2.1).

Holcim Australia has committed to reviewing the section 94 contributions based on the Project. Holcim proposes to pay contributions on a cents/tonne/kilometre basis as outlined in the Extractive Industry Section 94 Contribution Plan and in accordance with the current arrangement.

Holcim Australia recognise that payments will also need to be considered for back loading of product. Holcim Australia will consult with Queanbeyan City Council to determine standardised rates, in accordance with the Extractive Industry Section 94 Contributions Plan.

The approach is Holcim Australia's preferred option as it allows payments to be based on the actual amount of product being hauled to and from site and therefore appropriately addresses the contribution of Cooma Road Quarry related heavy vehicle traffic to road maintenance requirements.

2.8.13 Environmental Management Plan

The existing Environmental Management Plan should be revised and implemented within six months of development consent. EMP's are not static documents and require review and amendment during the life of the project. The EMP is required to ensure that appropriate environmental management practices are followed during site construction activities and ongoing operation of the site. The EMP is fundamental to the EIS process and should ensure that commitments given in the projects planning and assessment stage are carried out in the construction and/or operations (Consent condition 2.5).

As discussed throughout the EIS, Holcim Australia has committed to updating the EMP for Cooma Road Quarry if development consent is issued. Statement of Commitment 6.3.1 states that the EMP would be revised as part of the implementation of the Project within six months of development consent. Council's comment regarding the need for the EMP to be regularly reviewed and updated is noted and agreed.

2.8.14 Traffic Impact Assessment

1.2 Authority Requirements – QCC – the request by QCC to undertake pavement condition surveys on the nominated haulage routes to determine a pavement rehabilitation strategy is nominated to be addressed elsewhere in the EIS in this appendix, but has not been undertaken. This aspect will need to form part of the revision of the extractive industry S94 Plan (Consent condition 2.7).

It is noted that Queanbeyan City Council requested road pavement testing to be undertaken on all transport routes during the Adequacy Review process. However, this was not a requirement of the DGRs for the Project and was not required as part of the EIS.

The Extractive Industry Section 94 Contribution Plan does not require pavement testing to be undertaken on all transport routes, as requested by Queanbeyan City Council. An alternate method of determining section 94 contributions is also available. As there are numerous potential transport routes, Holcim Australia proposed to utilise the alternate method to determine Section 94 contributions. This alternate method is based on standardised contribution rates. Holcim Australia will consult with Queanbeyan City Council to agree on the standardised rates to be applied to the Project.

Transport routes should be restricted to those shown on Figure 3, with the exception that the existing Queanbeyan heavy vehicle bypass route via Canberra Avenue, Kendall Avenue North and Uriarra Road should be included to facilitate possible haulage to the Beard (ACT) industrial estate. This will negate use of Crawford Street west of Monaro Street.

Holcim Australia propose to use the haulage routes as shown in Figure 3 and as outlined in the EIS and Traffic Impact Assessment.

3.2.4 Old Cooma Road (MR584) South of the Quarry – this section recognises that product is anticipated to be delivered to Googong township, but the traffic modelling does not account for it.

The Traffic Impact Assessment does account for the delivery of product to the south, via Old Cooma Road.

The SIDRA traffic model has been used to examine the impacts of the additional traffic from the Project at the principal intersections, on the road network. SIDRA is the appropriate traffic model to examine these impacts.

As discussed in Section 4.3.3 of the Traffic Impact Assessment, additional modelling was undertaken to account for the haulage of product to the south, in particular to the new township of Googong.

4.2 Traffic Generation of Project – this section mentions potential haulage of product from 6p.m. to 10p.m. for special circumstances. This contradicts the EIS and particularly Statement of Commitment 6.2.5. Such special haulage is not supported (Action 1.4 prior to consent).

The quarry currently has approval to operate between 6.00 am and 6.00 pm Monday to Saturday, excluding public holidays with general maintenance permitted until 10.00 pm and truck movements associated with delivery vehicles returning to site permitted until 8.00 pm.

As outlined in Section 2.2.8 of the EIS, the return of delivery trucks to site will continue to occur up until 8.00 pm Monday to Saturday in accordance with current approvals and site practice.

Holcim Australia does not propose to undertake any haulage during the period 6.00 pm to 10.00 pm (noting that truck movements associated with delivery vehicles returning to site will continue to occur until 8.00 pm as currently permitted), under any circumstances.

4.3.3 Principal Intersection of Old Cooma Road/Quarry Access Road – this intersection upgrade will be undertaken by Council and will provide safe intersection sight distance for all turning movements.

Noted.

2.8.15 Recommendations

Council's submission contained a number of recommendations that were a summary of the points raised throughout the submission. These points have been addressed in the above sections and therefore the recommendations have not been addressed separately in the response to prevent repetition.

3.0 Response to Community Submissions

As previously discussed, two community submissions have been received during the exhibition period for the Project.

One submission was supporting the Project.

The other submission states that while they supported Cooma Road Quarry in its current form, they did have some concerns with the proposed changes to the hours of operation and conditions of operation. The concerns raised are detailed below.

I am concerned that in the future the quarry will change the activities allowed during the extended hours of operation. They have not been specific in the activities they wish to undertake during these hours, and the term "activities proposed" for the extended hours should be changed to "activities allowed" and should also include no trucks to leave or return carrying product to the quarry.

As outlined in Section 2.2.8 of the EIS, Holcim Australia proposes to undertake certain activities within the proposed extended hours of operation. No activities, other than those listed will be undertaken in the extended hours of operations. Holcim Australia has already committed to this through the Statement of Commitments (refer to **Appendix 1**). The specific commitments related to this are reproduced below.

Hours of Operation

6.2.3 *Quarry operations will be undertaken between 6.00 am and 6.00 pm Monday to Saturday.*

6.2.4 *The following activities may occur between 6.00 am and 10.00 pm Monday to Saturday:*

- *maintenance of fixed plant and mobile plant;*
- *secondary crushing and screening;*
- *product stockpile management;*
- *water cart operations for stockpile area and plant area; and*
- *pumping for dewatering activities.*

6.2.5 *Road trucks will not leave the site after 6.00 pm and may return to the site till 8.00 pm Monday to Saturday.*

6.2.6 *Blasting activities will be undertaken between 9.00 am and 3.00 pm, Monday to Friday only.*

6.2.7 *No operations are undertaken on a Sunday or public holidays.*

The road report that Holcim had prepared does not take into account the additional traffic that will be generated due to the Googong Township development. There are approximately 16000 people due to start moving into the township starting June next year. This plus the additional truck movements generated by the quarry will have a negative impact on the traffic on Old Cooma Road.

The Traffic Impact Assessment has taken into account the new township of Googong. The Traffic Impact Assessment refers to the Gabites Porter Traffic Study which identified future (2031) projected traffic volumes on the Queanbeyan road network associated with estimated background traffic growth, plus the growth associated with the new towns of Googong and Tralee.

There are a number of people that cycle on Cooma Road and with the new Googong township going ahead, that will only increase. Currently, the road heading down into Karabar is narrow with a single lane in each direction for most of it (there is a passing lane for part of the road coming up the hill), however there is no where for cyclists to go if there are large vehicles passing each other.

Old Cooma Road is currently in the process of being upgraded by Queanbeyan City Council. A new four lane dual carriageway road will be constructed in 2 stages to realign Old Cooma Road. This realignment and upgrade will provide a better link between Queanbeyan and the new township of Googong.

Stage 1 is a 1.5 kilometre long realignment of Old Cooma Road. It will be a three lane road, including a southbound climbing lane between the Quarry Access Road and the southern end of Talpa Heights. Stage 2 will involve a 4.5 kilometre long duplication of Old Cooma Road from Edwin Land Parkway at Karabar to the new Googong township. This will deliver a four lane dual carriageway for the full length of the duplication.

Additional works are planned in the Stage 2 duplication to provide an off-road cycle and pedestrian path to join the new Googong township with Queanbeyan to provide a safer environment for pedestrians and cyclists.

It is considered that the planned upgrades to Old Cooma Road will address the concerns raised above. However, it is noted that issues raised above relate to works under the control of Queanbeyan City Council and are outside the control of Holcim Australia.

We only live 3 kms from the local supermarket, however it is too dangerous to ride a bicycle to Karabar due to the narrowness of the road and the trucks.

Concerns in relation to this matter should be directed to Queanbeyan City Council. As detailed above, planned upgrades to Old Cooma Road will address this concern in due course.

There is no lighting at the Wickerslack Lane intersection or turning lanes. This intersection can be quite difficult to turn out of presently with the traffic that is already using the road.

Concerns in relation to this matter should be directed to Queanbeyan City Council. As outlined in the Traffic Impact Assessment, intersection performance have been assessed and considered to be at a good level of service. The Project is not predicted to adversely impact intersection performance.

It is understood that lighting at the Wickerslack Lane intersection is proposed as part of Stage 2 of the Old Cooma Road upgrade.

Currently, trucks for the quarry are not on the road at night or only for a short period at night in winter. With the increased hours proposed for the quarry, the trucks have the potential to be operating after dark increasing the possibility of an accident with both cyclists and other road users.

Cooma Road Quarry currently operates 6.00 am to 6.00 pm Monday to Saturday with general maintenance and truck movements associated with delivery vehicles returning to site permitted until 8.00 pm. The Project proposes to continue the existing arrangement of delivery trucks returning to site until 8.00 pm.

There are no changes to heavy vehicle movement times associated with the Project.

The road is in poor condition and with the additional trucks and traffic on the road, the surface would deteriorate further. In addition Old Cooma Road heading south from Karabar to the Quarry would also deteriorate as there would be trucks carrying product heading to the quarry, which is currently not a problem. In order for the roads to be maintained, Holcim should be paying a higher levy to use the roads, on a cost per tonne per km.

Holcim Australia currently pay contributions to Queanbeyan City Council based on the tonnes of product transported from site. As a result of the Project, contributions will be negotiated with Queanbeyan City Council.

It should be noted that Holcim Australia have no control over how the funds paid to Queanbeyan City Council are used. In theory, these funds should be used for road maintenance along transport routes used by quarry trucks.

There would also be noise from these trucks in the evening, particularly if trucks are allowed to return to the quarry carrying product until 8pm.

The return of delivery trucks to site will continue to occur up until 8.00 pm Monday to Saturday in accordance with current approvals and site practice. This is not a change to the current approval or practice at Cooma Road Quarry.

A noise assessment was completed for the Project which addressed the potential impacts of traffic noise. Please refer to Section 5.10 of the EIS and Appendix 10 of the EIS.

During the ski season there is additional traffic on Old Cooma Road as people travel to and from the ski fields. This also has not been taken into consideration in the traffic report.

The traffic impact assessment has been undertaken in accordance with relevant guidelines. While seasonal influences may occur on road networks, peak traffic numbers have been utilised within the assessment. Holcim Australia considers the Traffic Impact Assessment adequately considers traffic movements within the local road network.

Community consultation has been minimal. Although there have been two newsletters put out to certain parts of the community, other major stake holders such as the people in Burra, and the greater Queanbeyan area have not had the opportunity to participate in the process as there have not been community meetings held to allow greater consultation.

Holcim Australia believe that the community consultation undertaken for the Project has been adequate.

As identified in the submission, two newsletters were distributed throughout the local community surrounding Cooma Road Quarry. It is noted that minimal response was received from these newsletters. Numbers and details of the responses were outlined in Section 3.0 of the EIS. All community members that responded to the newsletters were provided with a response and Holcim Australia offered to meet with all respondents.

It is also considered that the distribution of the newsletter was appropriate for the Project. Given the Project does not present considerable changes to the existing operations and the potential impacts are not significantly different to the existing operations, the local community was the focus as they would likely be the ones most affected by the Project. In determining the appropriate area for newsletter distribution, Holcim Australia considered the current and potential impacts of the quarry, the past community engagement undertaken at the quarry, and the history of complaints and enquiries.

Copies of the newsletter were also provided to Queanbeyan City Council to be made available to the wider community. Advertisements were also placed in the local newspapers informing of the exhibition process of the EIS for the Project.

Holcim Australia is committed to ongoing consultation within the communities that they operate. Holcim Australia would be happy to meet within any community members on an ongoing basis in relation to Cooma Road Quarry.

I ask the NSW Department of Planning and Infrastructure to make any approval of the development subject to a condition that:

- **Old Cooma Road be upgraded to have a shoulder so that vehicles can pull over safely and pass each other and cyclists are able to travel safely on the road between Wickerslack Lane and the Edwin Land Parkway; and**
- **Furthermore, either a roundabout or a wider intersection with merging lane for traffic turning right from Wickerslack Lane onto Old Cooma Road should be installed within 12 months of approval.**

It is considered that the two proposed conditions outlined above are issues for Queanbeyan City Council and are outside the control of Holcim Australia.

As previously discussed, Old Cooma Road is currently in the process of being upgraded which will encompass the areas identified in the submission above. It is understood that lighting at the Wickerslack Lane intersection is proposed as part of Stage 2 of the Old Cooma Road upgrade. Additional works are planned in the Stage 2 duplication to provide an off-road cycle and pedestrian path to join the new Googong township with Queanbeyan to provide a safer environment for pedestrians and cyclists.

Appendix 1

Revised Statement of Commitments



Appendix 1 – Revised Statement of Commitments

The Statement of Commitments included in the EIS has been revised to consider the issues raised in the response to submissions. The revised Statement of Commitments details the measures proposed by Holcim Australia for environmental mitigation, management and monitoring of the Project.

If approval is granted under Part 4 of the EP&A Act for the Project, Holcim Australia will commit to the following controls.

6.1 Compliance with the EIS

- 6.1.1 To carry out the development for the Project generally in accordance with the Development Application and this EIS.

6.2 Life of Operation, Production, Conceptual Quarry Plan and Product Delivery

Project Life

- 6.2.1 The project approval life will be for an additional 20 years from the date of expiry of the current development consent which is October 2015, that is, until October 2035. Closure and rehabilitation activities will be undertaken in accordance with a detailed Quarry Closure Plan, at the time of closure. These works may extend beyond the 20 year operational approval period.

Production Limits

- 6.2.2 The quarry may transport from the site up to 1.5 Mtpa of product.

Hours of Operation

- 6.2.3 Quarry operations will be undertaken between 6.00 am and 6.00 pm Monday to Saturday.
- 6.2.4 The following activities may occur between 6.00 am and 10.00 pm Monday to Saturday:
- maintenance of fixed plant and mobile plant;
 - secondary crushing and screening;
 - product stockpile management;
 - water cart operations for stockpile area and plant area; and
 - pumping for dewatering activities.
- 6.2.5 Road trucks will not leave the site after 6.00 pm and may return to the site till 8.00 pm Monday to Saturday.
- 6.2.6 Blasting activities will be undertaken between 9.00 am and 3.00 pm, Monday to Friday only.

6.2.7 No operations are undertaken on a Sunday or public holidays.

Infrastructure

6.2.8 The final infrastructure layout (subject to a detailed design process) will remain within the existing approved disturbance footprint in the general area indicated in **Section 2.0**. The main infrastructure components will generally be consistent with those identified in this EIS.

Concrete Recycling

6.2.9 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.

Crown Land Road Reserve

6.2.10 Holcim Australia will visibly delineate the northern boundary of Lot 1 DP 808393 to identify the location of the adjacent Crown land road reserve.

Quarry Access

6.2.11 Annual production at Cooma Road Quarry will not exceed 1 Mtpa prior to the completion of the upgrade of the quarry access road.

Overburden Emplacement

6.2.12 No overburden associated with the Project 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.

6.3 Environmental Management, Monitoring and Reporting

Environmental Management Plan

6.3.1 Within six months of development consent, Holcim Australia will revise its existing Environmental Management Plan (EMP) as part of the implementation of the Project. The EMP will include all of the management and monitoring commitments outlined in the EIS (specifically those outlined in this Statement of Commitments).

Annual Review

6.3.2 Holcim Australia will prepare an Annual Review of the environmental performance of the Project and will make this available to the public, Queanbeyan City Council and relevant government agencies.

6.4 Surface Water

6.4.1 All erosion and sediment controls will be designed, constructed and managed in accordance with the Blue Book Volumes 1 and 2 (Landcom 2004 and DECC 2008).

-
- 6.4.2 A Construction Erosion and Sediment Control Plan will be prepared for the construction of infrastructure for the Project. The Plan will include the works required and inspection requirements.
- 6.4.3 During the operational phase of the Project, monitoring of the water management controls will be undertaken on a monthly basis and after major storm events.
- 6.4.4 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.
- 6.4.5 Holcim Australia will continue to monitor water quality of all discharge waters and Barracks Creek in accordance with the EPL.
- 6.4.6 All monitoring results will be reported in the Annual Review.
- 6.4.7 Water usage, water imported to site, rainfall, dam volumes and discharges (including transfers) at Cooma Road Quarry will be monitored to assist in the management of the water and accounting for water.
- 6.4.8 Holcim Australia will prepare a Surface and Groundwater Monitoring Program, in consultation with EPA and to the satisfaction of the Director-General, within six months of the development consent. The Surface and Groundwater Monitoring Program will be prepared by a suitably qualified person.

6.5 Biodiversity

- 6.5.1 The revised EMP will include measures to manage biodiversity impacts, including:
- a clearing protocol for tree felling to ensure that this is undertaken in a manner that minimises the potential for impacts on fauna species; and
 - specific management measures for hoary sunray and the white box – yellow box – Blakely's red gum woodland and derived native grassland community occurring in the Project Area, including identification of appropriate management controls to enhance natural regeneration, as well as periodic ecological monitoring to inform adaptive management.

6.6 Aboriginal Archaeology

- 6.6.1 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.
- 6.6.2 Cooma Quarry 2 will be fenced during the construction phase to avoid any unintended impacts to the site.
- 6.6.3 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.

6.7 Historic Heritage

- 6.7.1 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.
- 6.7.2 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.
- 6.7.3 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.
- 6.7.4 A program of blast monitoring will be implemented to verify the vibration levels from blasting activities do not exceed those currently experienced at the kiln site.
- 6.7.5 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.
- 6.7.6 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.

6.7.7 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.

6.8 Air Quality

- 6.8.1 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.

-
- 6.8.2 ~~Air quality monitoring will continue to be undertaken in accordance with the EMP. Holcim Australia will prepare an Air Quality Monitoring Program, in consultation with EPA and to the satisfaction of the Director-General, within six months of development consent. The Air Quality Monitoring Program will be prepared by a suitably qualified and experienced person.~~

6.9 Greenhouse Gases

- 6.9.1 Holcim Australia will monitor diesel usage and seek opportunities for further efficiency, including consideration of fuel efficiency in equipment selection.

6.10 Noise and Blasting

- 6.10.1 Holcim Australia is committed to managing the noise impact of the Project 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.
- 6.10.2 Within six months of the date of consent, Holcim Australia will prepare and implement a Noise Management Plan for the Project. The Noise Management Plan will be integrated into the site Environmental Management Plan. The Plan will outline the feasible and reasonable noise management measures to be investigated as a part of the proposed Operational Noise and Vibration Review for the Project. The Plan will also outline the noise and vibration monitoring program that will be implemented to confirm the operational noise levels and performance of the proposed mitigation measures in accordance with the target project-specific noise criteria for the Project.
- 6.10.3 Within 24 months of the date of consent, Holcim Australia will undertake an Operational Noise and Vibration Review to confirm the noise and vibration control measures being implemented for the Project. The review will seek to confirm the predicted operational noise levels, evaluate all feasible and reasonable noise and vibration mitigation measures and identify any further specific mitigation measures if necessary.

-
- 6.10.4 On an annual basis, Holcim Australia will undertake compliance noise and vibration monitoring to confirm the operational noise levels of the Project.
- 6.10.5 Holcim Australia will manage the design and size of blasts to meet relevant ANZECC and OEH ground vibration and airblast criteria at all sensitive residential receiver locations.
- 6.10.6 Ongoing monitoring of ground vibration and airblast levels will be undertaken during each blasting event at sensitive residential receiver locations and the Moses Morley's Lime Kiln site. The precise location of each blast will also be recorded to determine compliance with relevant standards and to allow for further refinement of the ground vibration site law.
- 6.10.7 A blast monitoring location will be established in Jerrabomberra in consultation with the EPA.

6.11 Visual

- 6.11.1 Holcim Australia will undertake tree planting to screen the proposed infrastructure area.
- 6.11.2 Built elements of the new infrastructure area will be sympathetically coloured to blend into the environment, where feasible (e.g. use of green and brown tones).

6.12 Hazard

- 6.12.1 Holcim Australia will store all dangerous goods in accordance with dangerous goods storage requirements and relevant Australian Standards.
- 6.12.2 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.

6.13 Waste

- 6.13.1 All waste materials removed from the site shall only be directed to a waste management facility or premises lawfully permitted to accept the materials.
- 6.13.2 Waste generated outside the premises other than uncontaminated concrete waste shall not be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the *Protection of the Environment Operations Act 1997*.
- 6.13.3 All liquid and/or non-liquid waste generated on the site shall be assessed and classified in accordance with Waste Classification Guidelines (Department of Environment, Climate Change and Water, 2009), or any superseding document.

6.1314 Rehabilitation

- 6.143.1 The revised EMP will detail the approach to rehabilitation of the Project, including the species to be used in revegetation works.
- 6.143.2 Wherever possible, rehabilitation will be completed progressively as part of the ongoing development of the quarry.
- 6.143.3 A detailed Quarry Closure Plan will be developed approximately three years prior to cessation of quarrying activities.

6.154 Community Engagement and Environmental Reporting

- 6.154.1 Holcim Australia will continue to operate a Community Line for the Cooma Road Quarry for the life of the Project.
- 6.154.2 Holcim Australia will provide an annual report on the environmental performance of the quarry on its website and will provide copies to Council and DP&I.



Umwelt (Australia) Pty Limited
PO Box 3024
75 York Street
Teralba NSW 2284

Ph. 02 4950 5322

www.umwelt.com.au