Cooma Road Quarry

Statement of Environmental Effects: Modification 2 to Development Consent

Prepared for Holcim (Australia) Pty Ltd
February 2019

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Cooma Road Quarry

Statement of Environmental Effects: Modification 2 to Development Consent

Report Number

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Client

Holcim (Australia) Pty Ltd

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1 Introduction

1.1 Overview

Cooma Road Quarry is an authorised hard rock quarry operated by Holcim (Australia) Pty Ltd (Holcim) under Development Consent SSD 5109. The quarry is located in the Queanbeyan-Palerang local government area (LGA). The quarry is partially leased by Holcim (Lots 103, 104, 110, 111 and 124 in Deposited Plan (DP) 754881) and partially owned by Holcim (Lot 1 in DP 808393, Lot 2 in DP 1087429 and Lot 4 in DP 582954). Together these lots are referred to as 'the quarry' or 'the site'.

EMM Consulting Pty Ltd (EMM) has been engaged by Holcim to prepare a statement of environmental effects (SEE), which will be used to accompany a development application (DA) for a second modification to Development Consent SSD 5109. The proposed modification would involve the lodgement of a Section 4.55 (1A) DA to the Minister for Planning or his delegate, under the *Environmental Protection & Assessment Act 1979* (EP&A Act) seeking to allow for acceptance of excavated natural material (ENM) at the quarry for the approved purpose of land rehabilitation.

The NSW Environment Protection Authority (NSW EPA) defines ENM as:

> "naturally occurring rock and soil (including but not limited to materials such as sandstone, shale, clay and soil) that has:
>
> (a) been excavated from the ground, and
>
> (b) contains at least 98% (by weight) natural material, and
>
> (c) does not meet the definition of Virgin Excavated Natural Material in the Act.
>
> Excavated natural material does not include material located in a hotspot; that has been processed; or that contains asbestos, Acid Sulfate Soils (ASS), Potential Acid Sulfate soils (PASS) or sulfidic ores."

Nevertheless, a number of legislative framework provisions apply to the acceptance of ENM on the site, which are further covered in Chapter 4 of this SEE.

1.2 Project justification

In the immediate to short-term, Holcim has identified several new and existing development sites and business operations (such as the Canberra Airport) within the Australian Capital Territory (ACT) which are expected to have an excess of ENM. Holcim is seeking to receive ENM as it becomes available. The purpose of ENM receival would be to allow the quarry to use the material for back filling and progressive rehabilitation of terminal quarry faces in accordance with Development Consent SSD 5109 and quarry rehabilitation objectives (the proposed modification).

The alternative is that the ENM is not reused in a sustainable manner and is landfilled. The proposed modification will enable developers to recycle the ENM and Holcim to reuse a material that may otherwise go to landfill. Thus, receipt of the ENM at the quarry is beneficial for developers, businesses, Holcim and the environment.

The ENM will be transported to the quarry within existing production limits, truck movement limits and operating hours approved under Development Consent SSD 5109. The material will be accompanied by ENM certification (ie Resource Recovery Order as discussed in Section 4.3) in accordance with NSW EPA guidelines.

The proposed modification does not require a modification to:

- modify the annual peak production rate;
- modify the approved area of extraction, approved quarrying methods or other operating parameters; or
- modify any plant on the site.

A summary of the proposed modification is provided in Chapter 3 of this SEE.

EMM has discussed the proposed modification and the interstate movement of ENM with the NSW and ACT EPA. The authorities did not object to the use of the material or its interstate movement to the quarry. Additionally, on 19 October 2012 the NSW EPA announced that re-using ENM will become easier and cheaper following NSW EPA's streamlining of the way the material is identified and confirmed as safe. The amendments to the ENM exemption order (now referred to as the Resource Recovery Exemption and provided in Appendix A) came after an extensive consultation process with industry and the community, with the following rationale:

> "We [NSW EPA] have listened and amended the exemption to provide a greater opportunity for industry to recover this valuable resource whilst still protecting the environment and human health. It offers significant savings to industry in management and laboratory costs while minimising the amount of waste being sent to NSW landfills."

1.3 The proponent

Holcim is a leading international building and construction materials group, located across 70 countries in all continents. Holcim's core divisions are construction materials in Australia, in the supply of aggregate, sand, concrete and concrete pipe products, and its products lead market positions around the world. Holcim employs over 3,500 people and operates quarries across Australia. These quarries supply products to both internal and external customers for the production of asphalt and concrete, for major road and construction projects, and other construction activities by builders and developers.

1.4 Approval history

The quarry has been in operation as a hard rock quarry since 1959. Holcim was granted a state significant development (SSD) consent (Development Consent SSD 5109) by the Department of Planning and Environment (DPE) for the continued operations of the quarry on 27 September 2013.

In August 2016, Holcim received approval to modify the Development Consent SSD 5109 to allow for the acceptance of virgin excavated natural material (VENM). There have been no other modifications to Development Consent SSD 5109.

The quarry also holds an Environment Protection Licence (EPL) 1453 under the provisions of the *Protection of the Environment Operations Act 1997* (POEO Act). An amendment to the site's EPL 1453 will be required to reflect proposed ENM receival under this SEE. This is discussed in Section 4.2.

1.5 Previous environmental assessment

1.5.1 Environmental impact statement 2012

An environmental impact statement (EIS) was prepared in 2012 by Umwelt (Australia) Pty Ltd (Umwelt) to support the DA for continued operations of the quarry. This EIS will be referred to as the 2012 EIS in this SEE. The 2012 EIS included an analysis of the potential impacts of the continued operations of the quarry on a range of environmental factors.

The potential environmental impacts of the proposed modification are considered assessed in this SEE. These are:

- surface water;
- groundwater;
- ecology;
- Aboriginal archaeology;
- historic heritage;
- air quality and greenhouse gases;
- noise and vibration;
- traffic and transport;
- visual amenity;
- waste;
- rehabilitation;
- natural hazards (eg bushfire); and
- social.

In particular, the quantitative noise, traffic and transport and air quality assessments undertaken for the 2012 EIS are considered relevant to the proposed modification and have been relied upon as relevant sources of background information. These assessments (and any potential impacts identified in them) have been compared against the proposed modification to assess the potential impacts of ENM receival at the quarry, and the quarry's continued environmental compliance under the proposed modification.

1.5.2 Environmental assessment 2015

An environmental assessment (EA) was prepared in 2015 by EMM to accompany a DA seeking to modify Development Consent SSD 5109, to allow for the importation of VENM to the quarry, with the amount of material to be managed within the existing production limit of the quarry (ie 1.5 Mtpa) (MOD 1). Importation of VENM was envisioned to allow material from Googong development site to the quarry for the purpose of back filling and rehabilitation.

This EA will be referred to as the 2015 EA in this SEE. The modification was approved by DPE in August 2016, allowing the quarry to accept VENM within the quarry's production limit. Receival of VENM did not result in the quarry exceeding approved truck movement limits associated with the sale of quarry products and importation of recycled concrete.

The receipt of the VENM at the quarry has been beneficial to developers, Holcim and the environment. The NSW EPA has previously indicated their support for the acceptance of VENM given the beneficial reuse of the material to the quarry.

1.6 Report structure

This SEE describes the site, surrounding area, existing quarry operations, provided details of the proposed modification, legislative framework, stakeholder consultation and provides an environmental assessment and justification of the proposed modification. The SEE is structured as follows:

- Chapter 1 – Introduction;
- Chapter 2 – Existing operations;
- Chapter 3 – Proposed modification;
- Chapter 4 – Legislative framework;
- Chapter 5 – Environmental assessment; and
- Chapter 6 – Conclusion.

Preparation of technical environmental assessments was not considered to be warranted for the proposed modification.

2 Existing operations

2.1 Site and surrounds

2.1.1 Site description and zoning

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

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

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

2.1.2 Surrounding environment

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

The surrounding environment is characterised by slopes and plains to the south and the east. East Jerrabomberra Nature Reserve borders the quarry to the north and north-west. Cuumbeun Nature Reserve is located approximately 3.5 km to the north-east of the site. The largest water supply dam for the region, Googong Dam, is located approximately 4.5 km to the south-east from the quarry.

2.2 Existing operations

2.2.1 Overview of quarry operations

The quarry is considered a regional supplier of hard rock aggregates and blended products and makes a significant contribution to the local and regional economies. The quarry supports current and planned growth of nearby centres at Queanbeyan and Canberra given the quarry's proximity to these areas. The quarry's materials are used as key ingredients in the manufacturing of products such as concrete and asphalt.

The progression and timing of extraction is market driven and therefore variable over the quarry's operational life. The quarry is rehabilitating progressively where possible in accordance with the 2012 EIS, 2015 EA and Development Consent SSD 5109.

The existing operations at the quarry were considered in the 2012 EIS and the 2015 EA for the quarry's continued operations. The key aspects of the quarry's operations are summarised in Table 2.1.

Table 2.1 Existing operations summary

Component	Approved development
Development life	20 years (ie until 31 October 2035)
Quarry production	1.5 Mtpa of hard rock and blended products
Estimated resource	Approximately 16.5 Mt of hard rock
Extraction methods	Conventional drill-and-blast and free-dig methods
Processing	Crushing and screening using the on-site primary and secondary crusher Blending of extracted and imported products using a mobile pug mill
Water supply	Water is used for the processing plant, dust suppression and truck washing Up to 94 megalitres per year (ML/year) would be required to meet the predicted water demands of the increased production rate Water is sourced from captured surface water inflows and additional water storage upslope of the quarry
Product transport	Road transportation of product as specified in Section 2.2.3
Infrastructure	Continued use of existing infrastructure (primary and secondary crushing plant, workshop, fuel storage area, administration buildings, weighbridge, wheel wash, truck parking and associated services) Addition of a mobile pug mill Relocation of existing workshop, truck parking and temporary stockpiles is approved but has not occurred
Rehabilitation	Progressive rehabilitation of operational areas including revegetation of stepped benches in open cut void and overburden emplacement
Capital investment value	$3.5 million
Employees	Employs up to 26 employees during times of peak production Contractors are employed on a needs basis
Car parking	Provided in a designated car parking area within the site

Imported materials including aggregates and crushed rock products are transported in heavy vehicles from other Holcim quarries and external suppliers in the region. The quantity imported is dependent on production levels at the quarry and market demand.

2.2.2 Hours of operation

The quarry's approved hours of operation are shown in Table 2.2.

Table 2.2 Approved hours of operation

Activity	Approved hours of operation
Quarry operations	Monday to Friday 6 am to 10 pm Saturday 6 am to 6 pm
Primary crushing and truck dispatch	Monday to Saturday 6 am to 6 pm
Return truck movements	Monday to Saturday 6 am to 8 pm
Blasting	Monday to Friday 9 am to 3 pm
Other operations such as limited secondary crushing and stockpiling	Monday to Saturday 6 am to 10 pm

Maintenance activities which are inaudible to sensitive residential receivers nearby are allowed at any time. The quarry does not operate on Sundays or public holidays.

2.2.3 Transportation routes and limits

i Planned primary transport route

Approved transport routes are shown graphically in Appendix 6 of the Development Consent SSD 5109. They are shown in Figure 2.1 of this SEE. No changes to the transport routes are proposed as part of this modification.

The primary transport route from the quarry involves the use of major arterial roads, from Old Cooma Road to Edwin Lane Parkway, Tompsitt Drive, Lanyon Drive and on to Kings Highway (Transport Management Plan (TMP 2014)). As per Development Consent SSD 5109 requirements, this transportation route will be utilised until the completion of the planned primary transport route.

The planned primary transport route involves the use of Ellerton Drive from Kings Highway to old Cooma Road at the intersection of Edwin Lane Parkway. An extension of Ellerton Drive has been proposed and has yet to be constructed.

In accordance with Conditions 10 and 11 of Schedule 2 of the Development Consent SSD 5109, Holcim abides by the following transportation requirements:

> "10. *Prior* to the commissioning of the Ellerton Drive Extension, the Applicant must not exceed 50 heavy vehicle movements a day on the section of Cooma Street north of Edwin Lane Parkway.
>
> 11. *Following* the commissioning of the Ellerton Drive Extension, the Applicant must not use Cooma Street north of the Edwin Lane Parkway as a heavy vehicle transport route to/from the site except for local deliveries to Queanbeyan."

ii Secondary transport route

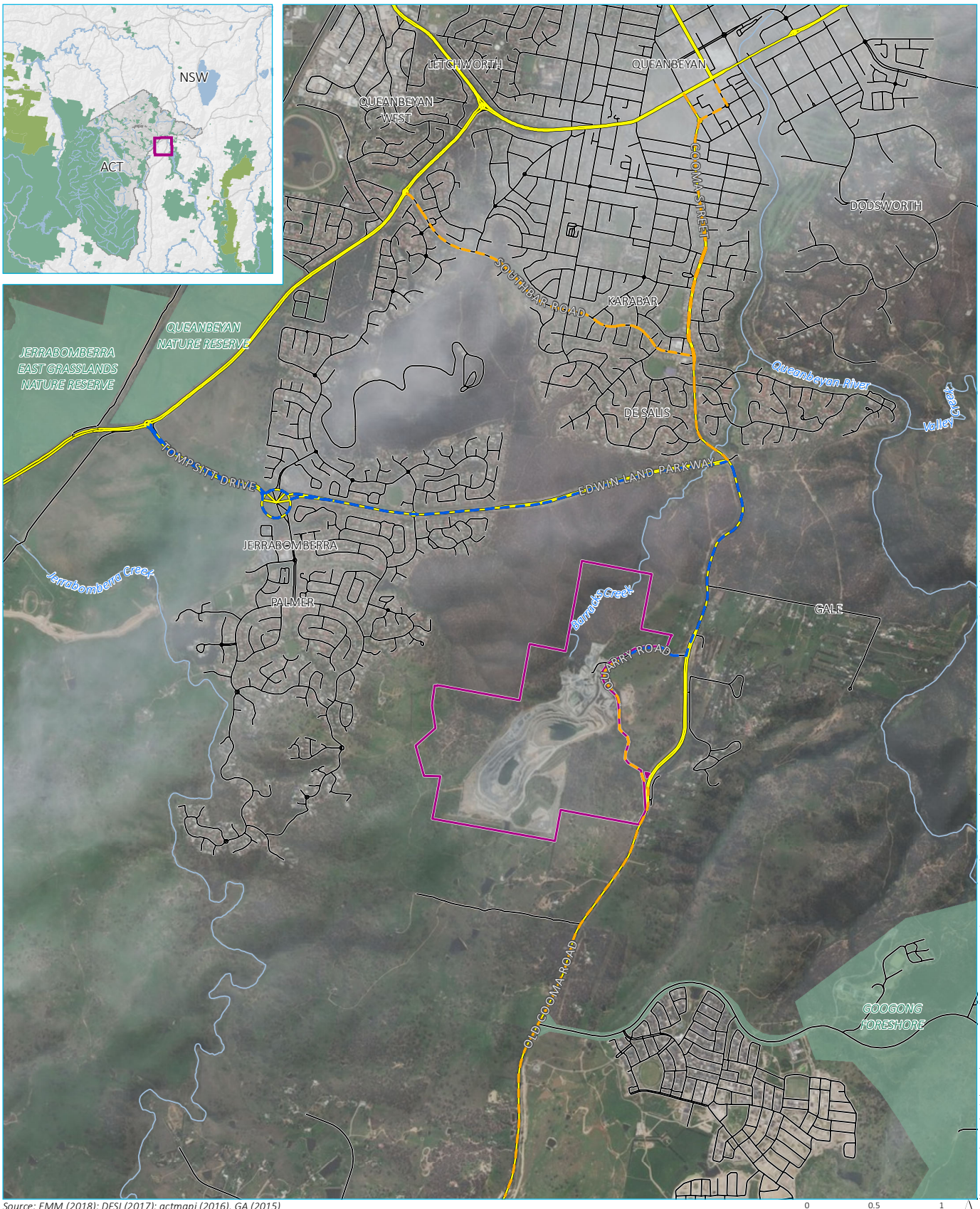
Secondary transport routes for heavy vehicle haulage from the quarry are shown on Figure 2.1. The secondary routes include major roads with capacity for current and proposed operations and include Old Cooma Road, Cooma Street, Lowe Street, Rutledge Street, Crawford Street, Southbar Road, Lanyon Drive and Kings Highway.

It is a requirement of Condition 12 of Schedule 2 of Development Consent SSD 5109 that Holcim must not use the section of Crawford Street from Monaro Street to Morisset Street as a heavy vehicle transport route except with the written permission of Council.

iii Transportation limits

In accordance with Condition 13 of Schedule 2 of Development Consent SSD 5109, for the life of the quarry Holcim must ensure that:

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



\\emmsvr1\EMMJobs\2018\J180472 - Holcim Cooma Road investigations\GIS\02_Maps\G001_ProposedTR_20181217_01.mxd 18/12/2018

Source: EMM (2018); DFSI (2017); actmapi (2016), GA (2015)

0 0.5 1 km

GDA 1994 MGA Zone 55

N

KEY

- Project area
- Main road
- Local road
- Watercourse/drainage line
- NPWS reserve

Transport route

- Primary
- Secondary

Current transport routes

Cooma Road Quarry
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Figure 2.1

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2.3 Environmental management

The quarry's environmental and planning compliance is managed under a number of site-specific management plans approved by the Secretary of DPE, including:

- Environmental Management Strategy (EMP 2014);
- Transport Management Plan (TMP 2014);
- Noise Management Plan (NMP 2014);
- Blast Management Plan (BMP 2014);
- Air Quality Management Plan (AQMP 2014);
- Water Management Plan (WMP 2014);
- Heritage Management Plan (HMP 2014); and
- Rehabilitation Management Plan (RHMP 2014).

3 Proposed modification

3.1 Overview

The proposed modification seeks approval to allow the receival of ENM at the quarry for application to land (eg back filling and rehabilitation). The amount of ENM imported to the quarry each year would vary, with an expectation that up to 500,000 tonnes of ENM will be accepted per year. The exact amount of imported ENM will vary each year based on supply of material and demand for quarry product and is to be accommodated within the quarry's approved production limit of 1.5 Mtpa. No change to this limit is proposed.

The proposed use of application to land (eg back filling and rehabilitation) are currently approved under SSD 5109, with the importation and application of VENM is already approved for this purpose under MOD 1.

The proposed modification will not only benefit the quarry, but also the environment as the material would otherwise end up in landfills.

The proposed modification would have minimal bearing on the need for longer term stockpiling as the material will be positioned near required areas, such as quarry benches, over short-term periods before the material is used for its intended purposes. Any soil and sediment runoff from the material during high wind or rainfall will be effectively captured by the quarry's surface water management system, which includes a sediment basin at the base of the quarry pit. Potential environmental aspects and impacts will be managed in accordance with measures outlined in Section 6.2 of this SEE.

The receival of ENM will not interfere with the quarry's current production limit of 1.5 Mtpa of saleable extractive materials, nor will it result in exceeding the approved truck movement limits that are associated with the sale of quarry products, importation of recycled concrete and transportation of VENM. As total production of the quarry will not be increasing, the application does not require a modification to the hours of operation, approved area of extraction, approved processing or off-site transportation of quarry products or any plant on the site.

Photograph 3.1 shows an aerial view of the quarry pit, where the proposed ENM would be stockpiled. Photographs 3.2 to 3.5 show the pit area where the stockpile will be located.

Photograph 3.1 **Aerial photograph showing proposed ENM stockpile location(s)**

Photograph 3.2 **View west across the quarry pit**

Photograph 3.3 View south-west across the quarry pit

Photograph 3.4 View west across the quarry pit

Photograph 3.5 View south-west across the quarry pit

3.2 Proposed transportation routes

ENM laden trucks from ACT development sites will use the primary and/or the secondary transport routes specified in Development Consent SSD 5109, to transport ENM to the quarry. These transportation routes were assessed and subsequently approved as part of the 2012 EIS. Thus, the proposed modification will not have an adverse impact on the quarry's traffic and transport movements.

It is noted that Conditions 10 and 11 of the Schedule 2 and Appendix 6 of the current development consent reference a planned extension to Ellerton Drive. This extension, a proposed primary transport route, would be used as a heavy vehicle transport route upon completion. Trucks bringing ENM to the site, as proposed by this modification, would be required to use the proposed primary transport route, when it is completed.

The total truck transport movements (both inbound and outbound) as a result of ENM importation to the site will be within approved truck transport movement limits and approved operating hours for truck movements.

The trucks will access the quarry using the quarry access road which is constructed to the required design standards for heavy vehicle use.

Figure 2.1 shows the existing primary and secondary transport routes, which are also the proposed routes for the proposed modification, until the Ellerton Drive extension has been completed.

3.3 Stockpile management

The progressive rehabilitation of the site, as well as the establishment, operation and maintenance of stockpiles associated with that rehabilitation were considered in the environmental impact statement, response to submissions and associated supporting reports for the original application for SSD 5709 in 2012/2013.

The current consent (MOD 1) allows for importation of VENM within the quarry's production limit. The proposed modification would not result in more stockpiles or larger stockpiles. Effectively, ENM stockpiles would replace a portion of the VENM stockpiles, as dictated by the supply of those materials.

The assessments supporting the original application considered whether stockpiling of materials to be used for rehabilitation could impact air quality. The assessments found that the impacts of the stockpiles would be minimal and could be managed via an Air Quality Management Plan (AQMP).

The AQMP was prepared (Appendix C) and approved in 2014 in accordance with the requirements of the development consent. The AQMP requires that stockpiles are watered to minimise dust emissions. This management measure extends to VENM stockpiles used for rehabilitation as approved by MOD 1. It is proposed to implement the same management measures for ENM stockpiles as are subject of this proposed modification.

As similar stockpiles have been assessed and approved on site with the same management measure, air quality impacts associated with this modification are expected to be negligible.

3.4 NSW EPA certification

The ENM will be certified in accordance with the requirements of the NSW POEO Act and Resource Recovery Order 'the excavated natural material order 2014', for which the ENM supplier will be responsible (refer to Section 4.3). The material will be transported in Holcim or contractor owned trucks from the proposed development sites to the quarry using the approved transportation routes (refer to Section 2.2.3 and Section 3.2).

The quarry's EPL will need a minor amendment to allow for ENM receival.

Refer to Chapter 4 of this SEE for an outline of legislative requirements and details of certification required.

4 Legislative framework

4.1 Environmental Planning and Assessment Act 1979

Development consents granted under the superseded Section 89E of Part 4 of the EP&A Act may be modified under Section 4.55 (1A) of Division 4.9 of the updated EP&A Act. The proposed modification will involve an application under Section 4.55(1A) of the EP&A Act which states:

(1A) Modifications involving minimal environmental impact

A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if:

(a) it is satisfied that the proposed modification is of minimal environmental impact, and

(b) it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted and before that consent as originally granted was modified (if at all), and

(c) it has notified the application in accordance with:

(i) the regulations, if the regulations so require, or

(ii) a development control plan, if the consent authority is a council that has made a development control plan that requires the notification or advertising of applications for modification of a development consent, and

(d) it has considered any submissions made concerning the proposed modification within the period prescribed by the regulations or provided by the development control plan, as the case may be.

Modification applications under Section 4.55 (1A) of Division 4.9 are required to take into consideration the relevant matters referred to in Section 4.15 of the EP&A Act which include:

(a) the provisions of:

(i) any environmental planning instrument, and

(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and

(iii) any development control plan, and

(iiia) any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and

(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and

(v) (Repealed)

that apply to the land to which the development application relates,

(b) the likely impacts of that development, including environmental impacts on both the natural and built environment, and social and economic impacts in the locality,

(c) the suitability of the site for the development,

(d) any submissions made in accordance with this Act or the regulations,

(e) the public interest.

Matters a(i), (iii) and (iv) have been addressed in the following sections of this chapter. Matters (b) to (e) are addressed in Chapter 6.

4.2 NSW Protection of the Environment Operations Act 1997

Holcim holds EPL 1453 for the quarry under the provisions of the POEO Act. The POEO Act requires that scheduled premises, which are defined in Schedule 1 of the POEO Act obtain and operate under an EPL. The quarry is defined a scheduled premise and has an EPL administered by the EPA. The licence authorises the carrying out of crushing, grinding, separating and extractive activities of between 500,000 and 2,000,000 tpa.

ENM is not currently received at the quarry. ENM does not include material that has been processed or contains ASS or PASS. ENM is not considered to be waste material under the POEO Act and the EPA *Waste Classification Guidelines* 2009.

4.3 Environment Operations (Waste) Regulation 2014

The *Environment Operations (Waste) Regulation 2014* (Waste Regulation) is a key piece of legislation for the waste regulatory framework in NSW and includes strict thresholds for EPLs. Under the Waste Regulation, a Resource Recovery Exemption and a Resource Recovery Order allow for the reuse of ENM for the purpose of application to land as engineering fill or for use in earthworks. Resource recovery orders and exemptions have been developed by the NSW EPA to ensure that "the use of waste must be genuine, fit-for-purpose, and cause no harm to the environment or human health" (2015).

4.3.1 Resource Recovery Exemption

A Resource Recovery Exemption (also referred to as 'the exemption') applies to anyone that intends to apply ENM to land for the purpose of engineering fill or for use in earthworks. The exemption under Part 9, Clauses 91 and 92 of the Waste Regulation exempts a consumer of ENM from certain requirements under the POEO Act and the Waste Regulation in relation to the application of that waste to land, provided the consumer complies with the conditions of the exemption. Subject to compliance with the exemption, the NSW EPA exempts each consumer from the following provisions:

- Section 48 of the POEO Act in respect of the scheduled activities described in clauses 39 of Schedule 1 of the POEO Act;
- Part 4 of the Waste Regulation;
- Section 88 of the POEO Act; and
- Clause 109 and 110 of the Waste Regulation.

Holcim as the consumer of ENM is required to meet the conditions listed in Table 4.1.

Table 4.1 Conditions of exemption

Section	Condition requirement	Responsible
7.1	At the time the ENM is received at the premises, the material must meet all chemical and other material requirements for ENM which are required on or before the supply of ENM under 'the excavated natural material order 2014'	• Supplier of ENM is responsible for meeting all chemical and other material requirements of ENM • Holcim is responsible for obtaining and retaining adequate documentation for evidence of compliance with this condition
7.2	The excavated natural material can only be applied to land as engineering fill or for use in earthworks	Holcim
7.3	The consumer must keep a written record of the following for a period of six years: • the quantity of any ENM received; and • the name and address of the supplier of the ENM received	Holcim
7.4	The consumer must make any records required to be kept under this exemption available to authorised officers of the EPA on request	Holcim
7.5	The consumer must ensure that any application of ENM to land must occur within a reasonable period of time after its receipt	Holcim

Source: Resource Recovery Exemption under Part 9, Clauses 91 and 92 of the Protection of the Environment Operations (Waste) Regulation 2014

The exemption is normally implemented in conjunction with the Resource Recovery Order, both of which are appended to this SEE in Appendix A and Appendix B. Holcim will ensure that acceptance of ENM at the quarry is in accordance with the exemption.

4.3.2 Resource Recovery Order

The Resource Recovery Order under Part 9, Clause 93 of the Waste Regulation is an obligation of the supplier of ENM and specifies requirements that must be met by suppliers of ENM to which 'the excavated natural material exemption 2014' applies. The requirements in the order apply in relation to the supply of ENM for application to land as engineering fill or for use in earthworks.

The order stipulates the following requirements before ENM can be supplied:

- sampling requirements and parameters;
- chemical and other material requirements;
- test methods;
- notification; and
- record keeping and reporting.

Holcim will ensure that the suppliers of ENM to the quarry provide documentation to show compliance with the above requirements of the order. Holcim will retain this documentation for six years, in accordance with the Resource Recovery Exemption requirements.

4.4 The Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act) relates to the conservation of biodiversity and repeals the *Threatened Species Conservation Act 1995*, the *Nature Conservation Trust Act 2001,* parts of the *Native Vegetation Act 2003*, and the animal and plant provisions of the *National Parks and Wildlife Act 1974*.

The BC Act (and its Regulations) are the key pieces of legislation that identify and protect threatened species, populations and ecological communities in NSW. The potential ecological impacts from the continued operations of the quarry were detailed in the appendixes to the 2012 EIS.

The site is a highly disturbed site characteristic of quarries, and the proposal does not increase the approved area of disturbance of the quarry. As such, it is highly unlikely that any threatened or endangered flora and fauna species will be impacted by the proposed modification.

4.5 NSW Water Management Act 2000

The NSW *Water Management Act 2000* (WM Act) provides for the management of water sources in NSW. Under the WM Act, a controlled activity approval is required if the activity is located in, on or under waterfront land, which is defined as being within 40 m of a river or stream bank.

A controlled activity approval (under the WM Act) will not be required for the proposed modification.

4.6 Commonwealth Environmental Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) aims to protect matters deemed to be of national environmental significance (NES), specifically:

- world heritage properties;
- places listed on the National Heritage Register;
- Ramsar wetlands of international significance;
- threatened flora and fauna species and ecological communities;
- migratory species;
- Commonwealth marine areas; and
- nuclear actions (including uranium mining).

If an action (or project) will, or is likely to, have a significant impact on any of the MNES, it is deemed to be a Controlled Action and requires approval from the Commonwealth Environment Minister or the Minister's delegate.

The proposed modification will not have an impact on any MNES and accordingly, approval from the Commonwealth is not required under the EPBC Act.

4.7 Applicable environmental planning instruments

4.7.1 Queanbeyan Local Environmental Plan 2012

At the time of the development application in 2012, Cooma Road Quarry was on land zoned 1(a) Rural under Queanbeyan LEP 1998 where extractive industries were not permissible. However, the quarry was permissible under the provisions of other environmental planning instruments, namely State Environmental Planning Policy (Mining, Petroleum, Production and Extractive Industries) 2007 (Mining SEPP).

Queanbeyan LEP 2012 is now in force for the majority of the land within the Queanbeyan LGA, including the site. Under Queanbeyan LEP 2012, the Quarry is on land zoned RU2 Rural Landscape. Extractive industries are prohibited in the RU2 zone. However, this does not have any effect on the permissibility of the quarry given the applicability of the Mining SEPP. Equally, Queanbeyan Development Control Plan 2012 is not applicable to the site.

As previously stated, the site is zoned (RU2) Rural Landscape under Queanbeyan LEP 2012. The objectives of the zone are:

- to encourage sustainable primary industry production by maintaining and enhancing the natural resource base;
- to maintain the rural landscape character of the land; and
- to provide for a range of compatible land uses, including extensive agriculture.

4.7.2 State Environmental Planning Policy (Mining, Petroleum, Production and Extractive Industries) 2007

The Mining SEPP aims to provide for the proper management and development of mineral, petroleum and extractive material resources for the social and economic welfare of the state. The policy establishes appropriate planning controls to encourage ecological sustainable development (ESD).

Clause 7(3) of the Mining SEPP states:

> Development for any of the following purposes may be carried out with development consent:
>
> (a) Extractive industry on land on which development for the purpose of agriculture or industry may be carried out (with or without development consent).

Agriculture is a permissible land use (with development consent) under the RU2 zone in the Queanbeyan LEP 2012. Accordingly, pursuant to Clause 7(3) of the Mining SEPP, extractive industries are permissible with development consent.

The proposed modification is consistent with the aims and controls of this policy.

4.7.3 State Environmental Planning Policy No. 33 – Hazardous and Offensive Development

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33) applies to development for the purpose of a potentially hazardous or offensive industry. The NSW Department of Planning and Infrastructure issued *Hazardous and Offensive Development Application Guidelines – Applying SEPP 33* in January 2011. The proposal has been assessed against these guidelines.

The proposal is for a modification to an existing quarry of a minor environmental nature (ENM receival for beneficial reuse) and this is not considered a hazardous industry. It will not have adverse noise impacts and therefore is also not an offensive industry.

5 Stakeholder consultation

5.1 Community consultative committee

Holcim has established and runs the Holcim Old Cooma Road Community Consultative Committee (CCC) for the quarry. This meets the requirements of Development Consent SSD 5109. The CCC was established in May of 2014, meets biannually and is endorsed by the DPE. The purpose of the CCC is to connect representatives of Holcim, the community, the Council and other stakeholders through an open discussion. Issues discussed are include the site's operations, environmental performance and community relations. The CCC assists Holcim to maintain a good relationship with stakeholders and to work together to the benefit of the community, the environment and Holcim.

The CCC has been briefed on the site's ability to accept VENM via MOD 1 and management measures for the stockpiles.

Holcim will provide this SEE to CCC members on 25 February 2019 with a request for comment by 15 March 2019. The feedback received will be provided to DPE.

5.2 Agency consultation

Agency consultation was undertaken with NSW EPA and ACT EPA via telephone. NSW EPA indicated that they did not have any specific objections to the importation of ENM to site. Their only advice was that the exemption and the order discussed in Section 4.3 would apply to material excavated in ACT. ACT EPA indicated that the NSW Resource Recovery Order and Resource Recovery Exemption regime was suitable for exporting the material from the state.

6 Environmental assessment

This section addresses the potential impacts of the proposed modification.

6.1 Potential impacts

The proposed modification has been compared against existing operations relying upon the extensive technical assessments undertaken for the 2012 EIS. This is summarised below in Table 3.1.

Table 6.1 Potential impacts of the proposed modification

Environmental consideration	Impact assessment	Mitigation measures
Surface water/groundwater	ENM may be stockpiled for short periods on quarry benches in preparation for back filing or rehabilitation work. Any surface water runoff from ENM will be captured by the site's water management system. The proposal will not have an adverse impact on the Quarry's surface water quality or any groundwater impacts.	ENM is to be certified in accordance with NSW EPA requirements specified in Section 4.3 and received from development sites. It will be stored on quarry benches where back filling or rehabilitation works are to take place, as currently approved for VENM stockpiles on the site. Impacts to surface and groundwater will be minimal as the quarry is already well managed in accordance with the site Water Management Plan. Any soil and sediment runoff from the material during high wind or rainfall will be effectively captured by the quarry's surface water management system, which includes a sediment basin at the base of the quarry pit. A number of improvements were made to the quarry's water management system as part of the 2012 EIS commitments. These include the addition of water dams, additional monitoring (of water transfers, usage and dam levels), and installation of catchment drains around the workshop area. These improvements were made to improve the quarry's surface water management performance.
Ecology	No ground disturbance or clearing is required. The proposal will not have an adverse impact on any of the quarry's flora or fauna.	The quarry's Environmental Management Strategy and Rehabilitation Management Plan will continue to operate under the proposed modification.
Aboriginal archaeology/historic heritage	No ground disturbance or clearing is required. The proposal will not have any adverse impact on any of the quarry's identified Aboriginal archaeology or historic heritage sites/items.	The quarry's Environmental Management Strategy and Heritage Management Plan will continue to operate under the proposed modification.
Air quality and greenhouse gases	ENM may be stockpiled for short periods on quarry benches in preparation for back filing or rehabilitation work. ENM stockpiles will be managed as required by the current AQMP, which includes specific management measures for stockpiles (ie for VENM stockpiles approved as part of MOD 1). The proposal will not have an adverse	ENM, received from development sites, will be certified in accordance with the NSW EPA requirements specified in Section 4.3. ENM will be stockpiled on quarry benches where back filling or rehabilitation works are to take place, as currently approved for VENM stockpiles on the site. Stockpiles to be managed in accordance with the existing AQMP (including watering for dust suppression).

Table 6.1 Potential impacts of the proposed modification

Environmental consideration	Impact assessment	Mitigation measures
	impact on air quality impacts relating to approved rehabilitation activities, including stockpiling.	
Noise and vibration	There are no increases to truck movements or additional machinery/plant under the proposal. The proposal will not have an adverse impact on the quarry's noise and vibration emissions.	The quarry's Environmental Management Strategy, Noise Management Plan and Blast Management Plan will continue to operate under the proposed modification.
Traffic and transport	ENM laden trucks from regional development sites will use Old Cooma Road south of the quarry, which is a transport route assessed as part of the 2012 EIS. The proposal will not have an adverse impact on the quarry's traffic and transport movements.	The total truck transport movements (both inbound and outbound) as a result of ENM importation will be within approved truck transport movement limits and approved operating hours for truck movements.
Visual amenity	The proposed modification l will not have an adverse impact on the visual amenity of the locality.	ENM is to be received from various development sites and stored on quarry benches where back filling or rehabilitation works are to take place.
Waste	The proposal will help reduce waste generated offsite by regional developments by reusing potential waste (ENM) for a beneficial purpose at the quarry. The proposal will not have an adverse impact on the quarry's waste generation rates as ENM will be reused on site.	ENM is to be received from development sites and stored on quarry benches where back filling or rehabilitation works are to take place. The amount of imported ENM is to be within the quarry's approved production limits for imported material allowance.
Rehabilitation	The proposal will assist the quarry achieving rehabilitation objectives by importing material to assist with back filling of terminal benches.	ENM is to be received from development sites and used for back filling or rehabilitation purposes.
Natural hazards	ENM may be stored for short durations on quarry benches which are existing disturbed areas. The proposal will not cause any natural hazards (eg bushfire) at the quarry.	The quarry's Environmental Management Strategy will continue to operate as well as the Rehabilitation Management Plan under which weed and bushfire risks are managed at the site.
Social	The proposal will see beneficial reuse of material which would otherwise likely end in landfill. Only approved transportation routes will be used. Importation will be maintained within the quarry's approved production limits, truck transport movements, transport route and operation hours. The alternative is landfilled at sites, which would not be beneficial in terms of recycling.	The quarry will continue to operate under its environmental management plans and update them as required to improve the site's environmental performance.

6.2 Consideration of alternatives

The alternative to the proposed modification would be to take the ENM to landfill sites. This alternative would mean the ENM is not reused in a sustainable manner.

7 Conclusion

This SEE describes and assesses the proposed modification against the relevant provisions of the EP&A and POEO Acts. The proposed modification is permissible with consent. It will facilitate the reuse of ENM in a sustainable manner, thereby benefitting the public and the environment.

The proposed modification is in accordance with the requirements of relevant planning instruments and legislation and will not result in any identified environmental impacts in relation to the site and surrounds and the broader local area.

Based on the above, development modification should be granted for the proposed importation of ENM to the quarry.

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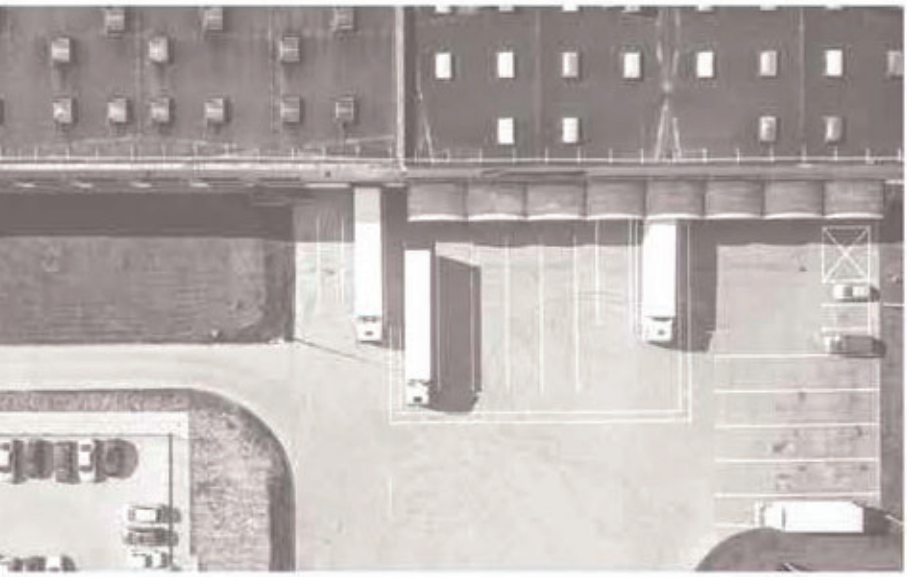
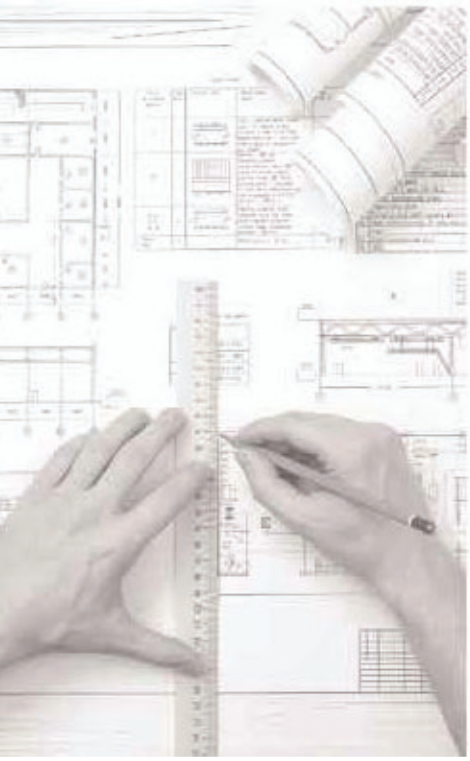
Appendix A

Resource Recovery Exemption





Resource Recovery Exemption under Part 9, Clauses 91 and 92 of the Protection of the Environment Operations (Waste) Regulation 2014

The excavated natural material exemption 2014

Introduction

This exemption:

- is issued by the Environment Protection Authority (EPA) under clauses 91 and 92 of the Protection of the Environment Operations (Waste) Regulation 2014 (Waste Regulation); and
- exempts a consumer of excavated natural material from certain requirements under the *Protection of the Environment Operations Act 1997* (POEO Act) and the Waste Regulation in relation to the application of that waste to land, provided the consumer complies with the conditions of this exemption.

This exemption should be read in conjunction with 'the excavated natural material order 2014'.

1. Waste to which this exemption applies

1.1. This exemption applies to excavated natural material that is, or is intended to be, applied to land as engineering fill or for use in earthworks.

1.2. Excavated natural material is naturally occurring rock and soil (including but not limited to materials such as sandstone, shale, clay and soil) that has:

a) been excavated from the ground, and
b) contains at least 98% (by weight) natural material, and
c) does not meet the definition of Virgin Excavated Natural Material in the Act.

Excavated natural material does not include material located in a hotspot; that has been processed; or that contains asbestos, Acid Sulfate Soils (ASS), Potential Acid Sulfate soils (PASS) or sulfidic ores.

2. Persons to whom this exemption applies

2.1. This exemption applies to any person who applies or intends to apply excavated natural material to land as set out in 1.1.

3. Duration

3.1. This exemption commences on 24 November 2014 and is valid until revoked by the EPA by notice published in the Government Gazette.

4. Premises to which this exemption applies

4.1. This exemption applies to the premises at which the consumer's actual or intended application of excavated natural material is carried out.

5. Revocation

5.1. 'The excavated natural material exemption 2012' which commenced 19 October 2012 is revoked from 24 November 2014.

6. Exemption

6.1. Subject to the conditions of this exemption, the EPA exempts each consumer from the following provisions of the POEO Act and the Waste Regulation in relation to the consumer's actual or intended application of excavated natural material to land as engineering fill or for use in earthworks at the premises:

- section 48 of the POEO Act in respect of the scheduled activities described in clauses 39 of Schedule 1 of the POEO Act;
- Part 4 of the Waste Regulation;
- section 88 of the POEO Act; and
- clause 109 and 110 of the Waste Regulation.

6.2. The exemption does not apply in circumstances where excavated natural material is received at the premises for which the consumer holds a licence under the POEO Act that authorises the carrying out of the scheduled activities on the premises under clause 39 'waste disposal (application to land) or clause 40 'waste disposal' (thermal treatment) of Schedule 1 of the POEO Act.

7. Conditions of exemption

The exemption is subject to the following conditions:

7.1. At the time the excavated natural material is received at the premises, the material must meet all chemical and other material requirements for excavated natural material which are required on or before the supply of excavated natural material under 'the excavated natural material order 2014'.

7.2. The excavated natural material can only be applied to land as engineering fill or for use in earthworks.

7.3. The consumer must keep a written record of the following for a period of six years:

- the quantity of any excavated natural material received; and
- the name and address of the supplier of the excavated natural material received.

7.4. The consumer must make any records required to be kept under this exemption available to authorised officers of the EPA on request.

7.5. The consumer must ensure that any application of excavated natural material to land must occur within a reasonable period of time after its receipt.

8. Definitions

In this exemption:

application or apply to land means applying to land by:

- spraying, spreading or depositing on the land; or
- ploughing, injecting or mixing into the land; or
- filling, raising, reclaiming or contouring the land.

consumer means a person who applies, or intends to apply excavated natural material to land.

Manager Waste Strategy and Innovation

Environment Protection Authority

(by delegation)

Notes

The EPA may amend or revoke this exemption at any time. It is the responsibility of the consumer to ensure they comply with all relevant requirements of the most current exemption The current version of this exemption will be available on www.epa.nsw.gov.au

In gazetting or otherwise issuing this exemption, the EPA is not in any way endorsing the use of this substance or guaranteeing that the substance will confer benefit.

The conditions set out in this exemption are designed to minimise the risk of potential harm to the environment, human health or agriculture, although neither this exemption nor the accompanying order guarantee that the environment, human health or agriculture will not be harmed.

The consumer should assess whether or not the excavated natural material is fit for the purpose the material is proposed to be used for, and whether this use will cause harm. The consumer may need to seek expert engineering or technical advice.

Regardless of any exemption provided by the EPA, the person who causes or permits the application of the substance to land must ensure that the action is lawful and consistent with any other legislative requirements including, if applicable, any development consent(s) for managing operations on the site(s).

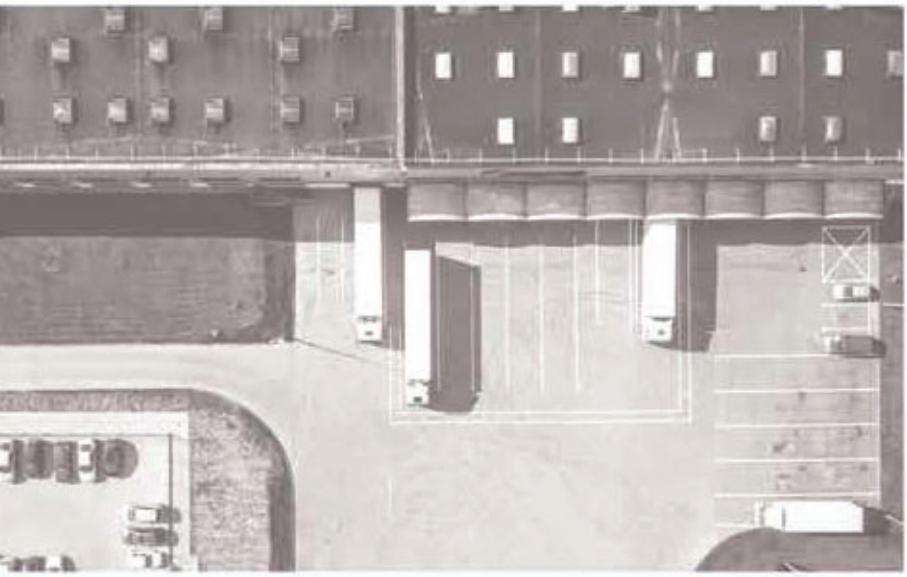
The receipt of excavated natural material remains subject to other relevant environmental regulations in the POEO Act and the Waste Regulation. For example, a person who pollutes land (s. 142A) or water (s. 120), or causes air pollution through the emission of odours (s. 126), or does not meet the special requirements for asbestos waste (Part 7 of the Waste Regulation), regardless of having an exemption, is guilty of an offence and subject to prosecution.

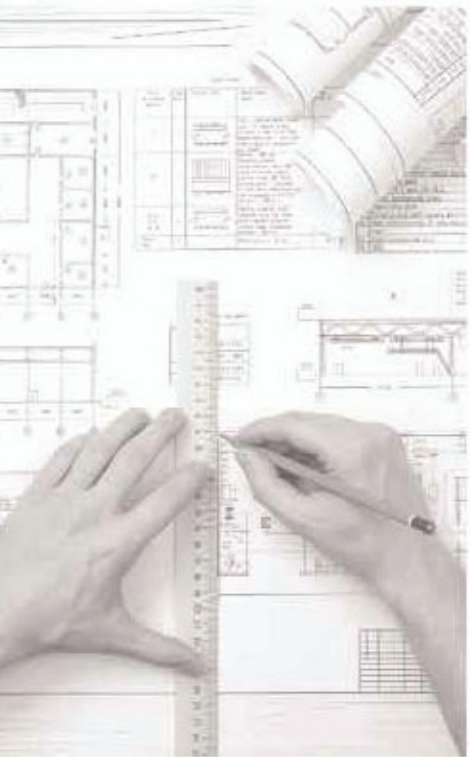
This exemption does not alter the requirements of any other relevant legislation that must be met in utilising this material, including for example, the need to prepare a Safety Data Sheet (SDS).

Failure to comply with the conditions of this exemption constitutes an offence under clause 91 of the Waste Regulation.

Appendix B

Resource Recovery Order





Resource Recovery Order under Part 9, Clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014

The excavated natural material order 2014

Introduction

This order, issued by the Environment Protection Authority (EPA) under clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014 (Waste Regulation), imposes the requirements that must be met by suppliers of excavated natural material to which 'the excavated natural material exemption 2014' applies. The requirements in this order apply in relation to the supply of excavated natural material for application to land as engineering fill or for use in earthworks.

1. Waste to which this order applies

1.1. This order applies to excavated natural material. In this order, excavated natural material means naturally occurring rock and soil (including but not limited to materials such as sandstone, shale, clay and soil) that has:

a) been excavated from the ground, and
b) contains at least 98% (by weight) natural material, and
c) does not meet the definition of Virgin Excavated Natural Material in the Act.

Excavated natural material does not include material located in a hotspot; that has been processed; or that contains asbestos, Acid Sulfate Soils (ASS), Potential Acid Sulfate soils (PASS) or sulfidic ores.

2. Persons to whom this order applies

2.1. The requirements in this order apply, as relevant, to any person who supplies excavated natural material, that has been generated, processed or recovered by the person.

2.2. This order does not apply to the supply of excavated natural material to a consumer for land application at a premises for which the consumer holds a licence under the POEO Act that authorises the carrying out of the scheduled activities on the premises under clause 39 'waste disposal (application to land)' or clause 40 'waste disposal (thermal treatment)' of Schedule 1 of the POEO Act.

3. Duration

3.1. This order commences on 24 November 2014 and is valid until revoked by the EPA by notice published in the Government Gazette.

4. Generator requirements

The EPA imposes the following requirements on any generator who supplies excavated natural material.

Sampling requirements

4.1. On or before supplying excavated natural material, the generator must:

4.1.1. Prepare a written sampling plan which includes a description of sample preparation and storage procedures for the excavated natural material.

4.1.2. Undertake sampling and testing of the excavated natural material as required under clauses 4.2, 4.3, and 4.4 below. The sampling must be carried out in accordance with the written sampling plan.

4.2. The generator must undertake sampling and analysis of the material for ASS and PASS, in accordance with the NSW Acid Sulfate Soil Manual, Acid Sulfate Soils Management Advisory Council, 1998 and the updated Laboratory Methods Guidelines version 2.1 – June 2004 where:

4.2.1. the pH measured in the material is below 5, and/or

4.2.2. the review of the applicable Acid Sulfate Soil Risk Maps (published by the former Department of Land and Water Conservation and available at http://www.environment.nsw.gov.au/acidsulfatesoil/riskmaps.htm) indicates the potential presence of ASS.

4.3. For stockpiled material, the generator must:

4.3.1. undertake sampling in accordance with Australian Standard 1141.3.1-2012 Methods for sampling and testing aggregates – Sampling – Aggregates (or equivalent);

4.3.2. undertake characterisation sampling by collecting the number of samples listed in Column 2 of Table 1 with respect to the quantity of the waste listed in Column 1 of Table 1 and testing each sample for the chemicals and other attributes listed in Column 1 of Table 4. For the purposes of characterisation sampling the generator must collect:

4.3.2.1. composite samples for attributes 1 to 10 and 18 in Column 1 of Table 4.

4.3.2.2. discrete samples for attributes 11 to 17 in Column 1 of Table 4.

4.3.2.3. The generator must carry out sampling in a way that ensures that the samples taken are representative of the material from the entire stockpile. All parts of the stockpile must be equally accessible for sampling.

4.3.2.4. for stockpiles greater than 4,000 tonnes the number of samples described in Table 1 must be repeated.

4.3.3. store the excavated natural material appropriately until the characterisation test results are validated as compliant with the maximum average concentration or other value listed in Column 2 of Table 4 and the absolute maximum concentration or other value listed in Column 3 of Table 4.

Table 1

Sampling of Stockpiled Material		
Column 1	**Column 2**	**Column 3**
Quantity (tonnes)	**Number of samples**	**Validation**
<500	3	Required
500 – 1,000	4	
1,000 – 2,000	5	
2,000 – 3,000	7	
3,000 – 4,000	10	

4.4. For in situ material, the generator must:

4.4.1. undertake sampling by collecting discrete samples. Compositing of samples is not permitted for in-situ materials.

4.4.2. undertake characterisation sampling for the range of chemicals and other attributes listed in Column 1 of Table 4 according to the requirements listed in Columns 1, 2 and 3 of Table 2. When the ground surface is not comprised of soil (e.g. concrete slab), samples must be taken at the depth at which the soil commences.

4.4.3. undertake sampling at depth according to Column 1 of Table 3.

4.4.4. collect additional soil samples (and analyse them for the range of chemicals and other attributes listed in Column 1 of Table 4), at any depth exhibiting discolouration, staining, odour or other indicators of contamination inconsistent with soil samples collected at the depth intervals indicated in Table 3.

4.4.5. segregate and exclude hotspots identified in accordance with Table 2, from material excavated for reuse.

4.4.6. subdivide sites larger than 50,000 m² into smaller areas and sample each area as per Table 2.

4.4.7. store the excavated natural material appropriately until the characterisation test results are validated as compliant with the maximum average concentration or other value listed in Column 2 of Table 4 and the absolute maximum concentration or other value listed in Column 3 of Table 4.

Table 2

***In Situ* Sampling at surface**				
Column 1	**Column 2**	**Column 3**	**Column 4**	**Column 5**
Size of *in situ* area (m^2)	**Number of systematic sampling points recommended**	**Distance between two sampling points** (m)	**Diameter of the hot spot that can be detected with 95% confidence** (m)	**Validation**
500	5	10.0	11.8	Required
1000	6	12.9	15.2	
2000	7	16.9	19.9	
3000	9	18.2	21.5	
4000	11	19.1	22.5	
5000	13	19.6	23.1	
6000	15	20.0	23.6	
7000	17	20.3	23.9	
8000	19	20.5	24.2	
9000	20	21.2	25.0	
10,000	21	21.8	25.7	
15,000	25	25.0	28.9	
20,000	30	25.8	30.5	
25,000	35	26.7	31.5	
30,000	40	27.5	32.4	
35,000	45	27.9	32.9	
40,000	50	28.3	33.4	
45,000	52	29.3	34.6	
50,000	55	30.2	35.6	

Table 2 has been taken from NSW EPA 1995, *Contaminated Sites Sampling Design Guidelines*, NSW Environment Protection Authority.

Table 3

***In Situ* Sampling at Depth**	
Column 1	**Column 2**
Sampling Requirements *	**Validation**
1 soil sample at 1.0 m bgl from each surface sampling point followed by 1 soil sample for every metre thereafter. From 1.0 m bgl, sample at the next metre interval until the proposed depth of excavation of the material is reached. If the proposed depth of excavation is between 0.5 to 0.9 m after the last metre interval, sample at the base of the proposed depth of excavation.	Required if the depth of excavation is equal to or greater than 1.0 m bgl

* Refer to Notes for examples

Chemical and other material requirements

4.5. The generator must not supply excavated natural material waste to any person if, in relation to any of the chemical and other attributes of the excavated natural material:

4.5.1. The chemical concentration or other attribute of any sample collected and tested as part of the characterisation of the excavated natural material exceeds the absolute maximum concentration or other value listed in Column 3 of Table 4:

4.5.2. The average concentration or other value of that attribute from the characterisation of the excavated natural material (based on the arithmetic mean) exceeds the maximum average concentration or other value listed in Column 2 of Table 4.

4.6. The absolute maximum concentration or other value of that attribute in any excavated natural material supplied under this order must not exceed the absolute maximum concentration or other value listed in Column 3 of Table 4.

Table 4

Column 1	Column 2	Column 3
Chemicals and other attributes	**Maximum average concentration for characterisation** (mg/kg 'dry weight' unless otherwise specified)	**Absolute maximum concentration** (mg/kg 'dry weight' unless otherwise specified)
1. Mercury	0.5	1
2. Cadmium	0.5	1
3. Lead	50	100
4. Arsenic	20	40
5. Chromium (total)	75	150
6. Copper	100	200
7. Nickel	30	60
8. Zinc	150	300
9. Electrical Conductivity	1.5 dS/m	3 dS/m
10. pH *	5 to 9	4.5 to 10
11. Total Polycyclic Aromatic Hydrocarbons (PAHs)	20	40
12. Benzo(a)pyrene	0.5	1
13. Benzene	NA	0.5
14. Toluene	NA	65
15. Ethyl-benzene	NA	25
16. Xylene	NA	15
17. Total Petroleum Hydrocarbons C_{10}-C_{36}	250	500
18. Rubber, plastic, bitumen, paper, cloth, paint and wood	0.05%	0.10%

* The ranges given for pH are for the minimum and maximum acceptable pH values in the excavated natural material.

Test methods

4.7. The generator must ensure that any testing of samples required by this order is undertaken by analytical laboratories accredited by the National Association of Testing Authorities (NATA), or equivalent.

4.8. The generator must ensure that the chemicals and other attributes (listed in Column 1 of Table 4) in the excavated natural material it supplies are tested in accordance with the test methods specified below or other equivalent analytical methods. Where an equivalent analytical method is used the detection limit must be equal to or less than that nominated for the given method below.

4.8.1. Test methods for measuring the mercury concentration.

4.8.1.1. Analysis using USEPA SW-846 Method 7471B Mercury in solid or semisolid waste (manual cold vapour technique), or an equivalent analytical method with a detection limit < 20% of the stated absolute maximum concentration in Column 3 of Table 2 (i.e. < 0.20 mg/kg dry weight).

4.8.1.2. Report as mg/kg dry weight.

4.8.2. Test methods for measuring chemicals 2 to 8.

4.8.2.1. Sample preparation by digesting using USEPA SW-846 Method 3051A Microwave assisted acid digestion of sediments, sludges, soils, and oils (or an equivalent analytical method).

4.8.2.2. Analysis using USEPA SW-846 Method 6010C Inductively coupled plasma - atomic emission spectrometry, or an equivalent analytical method with a detection limit < 10% of the stated absolute maximum concentration in Column 3 of Table 2, (e.g. 10 mg/kg dry weight for lead).

4.8.2.3. Report as mg/kg dry weight.

4.8.3. Test methods for measuring electrical conductivity and pH.

4.8.3.1. Sample preparation by mixing 1 part excavated natural material with 5 parts distilled water.

4.8.3.2. Analysis using Method 103 (pH) and 104 (Electrical Conductivity) in Schedule B (3): Guideline on Laboratory Analysis of Potentially Contaminated Soils, National Environment Protection (Assessment of Site Contamination) Measure 1999 (or an equivalent analytical method).

4.8.3.3. Report electrical conductivity in deciSiemens per metre (dS/m).

4.8.4. Test method for measuring Polynuclear Aromatic Hydrocarbons (PAHs) and benzo(a)pyrene.

4.8.4.1. Analysis using USEPA SW-846 Method 8100 Polynuclear Aromatic Hydrocarbons (or an equivalent analytical method).

4.8.4.2. Calculate the sum of all 16 PAHs for total PAHs.

4.8.4.3. Report total PAHs as mg/kg dry weight.

4.8.4.4. Report benzo(a)pyrene as mg/kg.

4.8.5. Test method for measuring benzene, toluene, ethylbenzene and xylenes (BTEX).

4.8.5.1. Method 501 (Volatile Alkanes and Monocyclic Aromatic Hydrocarbons) in Schedule B (3): Guideline on Laboratory Analysis of Potentially Contaminated Soils, National Environment Protection (Assessment of Site Contamination) Measure 1999 (or an equivalent analytical method).

4.8.5.2. Report BTEX as mg/kg.

4.8.6. Test method for measuring Total Petroleum Hydrocarbons (TPH).

4.8.6.1. Method 506 (Petroleum Hydrocarbons) in Schedule B (3): Guideline on Laboratory Analysis of Potentially Contaminated Soils, National Environment Protection (Assessment of Site Contamination) Measure 1999 (or an equivalent analytical method).

4.8.6.2. Report as mg/kg dry weight.

4.8.7. Test method for measuring rubber, plastic, bitumen, paper, cloth, paint and wood.

4.8.7.1. NSW Roads & Traffic Authority Test Method T276 Foreign Materials Content of Recycled Crushed Concrete (or an equivalent method).

4.8.7.2. Report as percent.

Notification

4.9. On or before each transaction, the generator must provide the following to each person to whom the generator supplies the excavated natural material:

- a written statement of compliance certifying that all the requirements set out in this order have been met;
- a copy of the excavated natural material exemption, or a link to the EPA website where the excavated natural material exemption can be found; and
- a copy of the excavated natural material order, or a link to the EPA website where the excavated natural material order can be found.

Record keeping and reporting

4.10. The generator must keep a written record of the following for a period of six years:

- the sampling plan required to be prepared under clause 4.1.1;
- all characterisation sampling results in relation to the excavated natural material supplied;
- the volume of detected hotspot material and the location;
- the quantity of the excavated natural material supplied; and
- the name and address of each person to whom the generator supplied the excavated natural material.

4.11. The generator must provide, on request, the characterisation and sampling results for that excavated natural material supplied to the consumer of the excavated natural material.

5. Definitions

In this order:

application or apply to land means applying to land by:

- spraying, spreading or depositing on the land; or
- ploughing, injecting or mixing into the land; or
- filling, raising, reclaiming or contouring the land.

Bgl means below ground level, referring to soil at depth beneath the ground surface.

composite sample means a sample that combines five discrete sub-samples of equal size into a single sample for the purpose of analysis.

consumer means a person who applies, or intends to apply excavated natural material to land.

discrete sample means a sample collected and analysed individually that will not be composited.

generator means a person who generates excavated natural material for supply to a consumer.

hotspot means a cylindrical volume which extends through the soil profile from the ground surface to the proposed depth of excavation, where the level of any contaminant listed in Column 1 of Table 2 is greater than the absolute maximum concentration in Column 3 of Table 2.

***in situ* material** means material that exists on or below the ground level. It does not include stockpiled material.

***in situ* sampling** means sampling undertaken on *in situ* material.

N/A means not applicable.

stockpiled material means material that has been excavated from the ground and temporarily stored on the ground prior to use.

systematic sampling means sampling at points that are selected at even intervals and are statistically unbiased.

transaction means:

- in the case of a one-off supply, the supply of a batch, truckload or stockpile of excavated natural material that is not repeated.
- in the case where the supplier has an arrangement with the recipient for more than one supply of excavated natural material, the first supply of excavated natural material as required under the arrangement.

Manager Waste Strategy and Innovation

Environment Protection Authority

(by delegation)

Notes

The EPA may amend or revoke this order at any time. It is the responsibility of each of the generator and processor to ensure it complies with all relevant requirements of the most current order. The current version of this order will be available on ' www.epa.nsw.gov.au

In gazetting or otherwise issuing this order, the EPA is not in any way endorsing the supply or use of this substance or guaranteeing that the substance will confer benefit.

The conditions set out in this order are designed to minimise the risk of potential harm to the environment, human health or agriculture, although neither this order nor the accompanying exemption guarantee that the environment, human health or agriculture will not be harmed.

Any person or entity which supplies excavated natural material should assess whether the material is fit for the purpose the material is proposed to be used for, and whether this use may cause harm. The supplier may need to seek expert engineering or technical advice.

Regardless of any exemption or order provided by the EPA, the person who causes or permits the application of the substance to land must ensure that the action is lawful and consistent with any other legislative requirements including, if applicable, any development consent(s) for managing operations on the site(s).

The supply of excavated natural material remains subject to other relevant environmental regulations in the POEO Act and Waste Regulation. For example, a person who pollutes land (s. 142A) or water (s. 120), or causes air pollution through the emission of odours (s. 126), or does not meet the special requirements for asbestos waste (Part 7 of the Waste Regulation), regardless of this order, is guilty of an offence and subject to prosecution.

This order does not alter the requirements of any other relevant legislation that must be met in supplying this material, including for example, the need to prepare a Safety Data Sheet. Failure to comply with the conditions of this order constitutes an offence under clause 93 of the Waste Regulation.

Examples

In situ sampling at depth

Example 1.

If the proposed depth of ENM excavation is between 1 m bgl and 1.4 m bgl, then:

- 1 sample on surface (as per the requirements of Table 2).
- 1 sample at 1 m bgl.
- No further depth sampling after 1 m bgl, unless required under section 4.4.4.

Example 2.

If the proposed depth of ENM excavation is at 1.75 m bgl, then:

- 1 sample on surface (as per the requirements of Table 2).
- 1 sample at 1 m bgl.
- 1 sample at 1.75 m bgl.
- No further depth sampling after 1.75 m bgl, unless required under section 4.4.4.

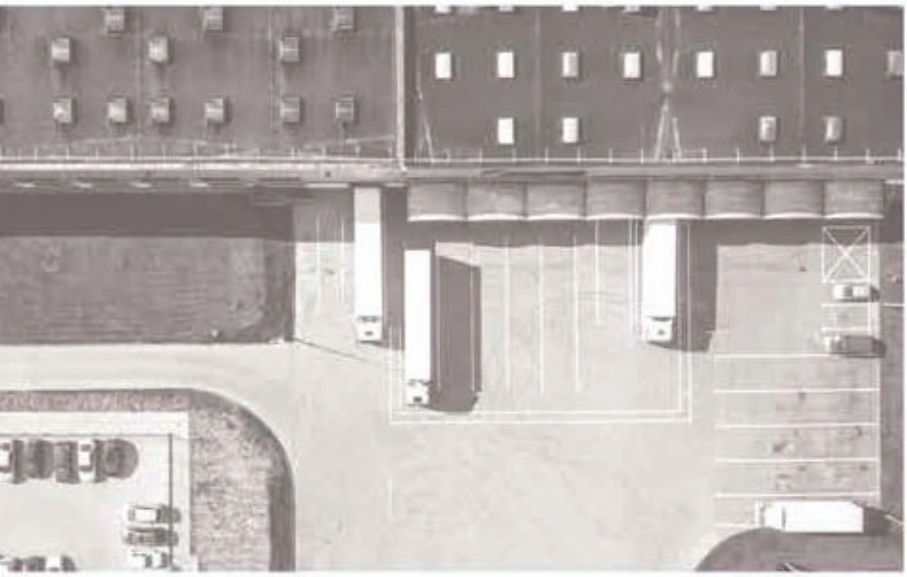
Example 3.

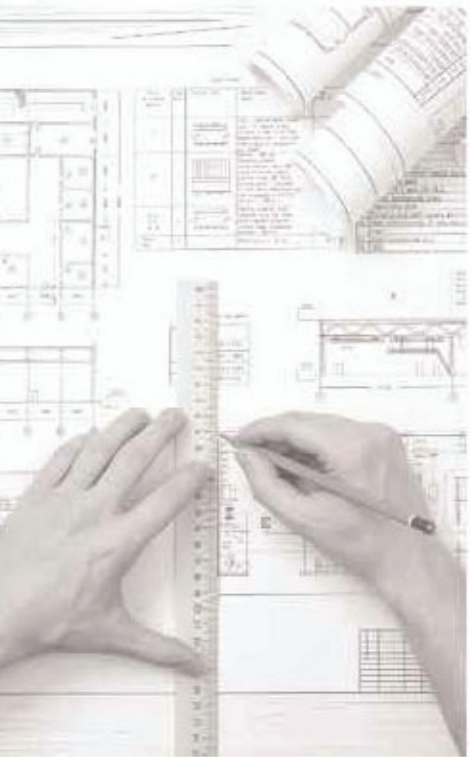
If the proposed depth of ENM excavation is at 2.25 m bgl, then:

- 1 sample on surface (as per the requirements of Table 2).
- 1 sample at 1 m bgl.
- 1 sample at 2 m bgl.
- No further depth sampling after 2 m bgl, unless required under section 4.4.4.

Appendix C

Air Quality Management Plan





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Holcim

COOMA ROAD QUARRY

AIR QUALITY MANAGEMENT PLAN

March 2014

COOMA ROAD QUARRY

AIR QUALITY MANAGEMENT PLAN

March 2014

Prepared by
Umwelt (Australia) Pty Limited

on behalf of
Holcim (Australia) Pty Ltd

Project Director:	John Merrell
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Report No.	3282/R04/FINAL
Date:	March 2014

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APPENDICES

1.0 Introduction

1.1 Background

Holcim (Australia) Pty Ltd (Holcim Australia) operates Cooma Road Quarry, an existing hard rock quarry located approximately 6 kilometres south of Queanbeyan New South Wales (NSW) (refer to **Figure 1.1**). Cooma Road Quarry has been operating at the site since 1959. The previous development consent for Cooma Road Quarry was granted on 26 October 1995 and is due to expire in October 2015. To enable continued quarrying operations, Cooma Road sought a Development Consent under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for an extension of the approved quarry life for an additional 20 years. The Cooma Road Quarry Development Consent (SSD_5109) (Development Consent) was granted on 27 September 2013 by the NSW Minister for Planning and Infrastructure.

The Development Consent allows for continued operations of the existing Cooma Road Quarry which will enable the extraction of additional hard rock resources within the approved extraction area (refer to **Figure 1.2**).

Holcim Australia is committed to implementing continued quarrying operations in the context of updated and contemporary environmental management requirements. This Air Quality Management Plan (AQMP) has been prepared in accordance with Condition 16 of Schedule 3 of the Development Consent.

1.2 Project Description

The revised Cooma Road Development Consent provides for the following:

- extraction of the remaining resources within the existing approved quarry pit area;
- extension of the approved extraction boundary to the north covering an area of approximately 3.5 hectares;
- increasing the maximum annual production limit from 1 Mtpa to 1.5 Mtpa;
- 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;
- relocation of the existing workshop, truck parking and temporary stockpiles;
- addition of a mobile pug mill; and
- recycling of clean concrete on site for re-use as product.

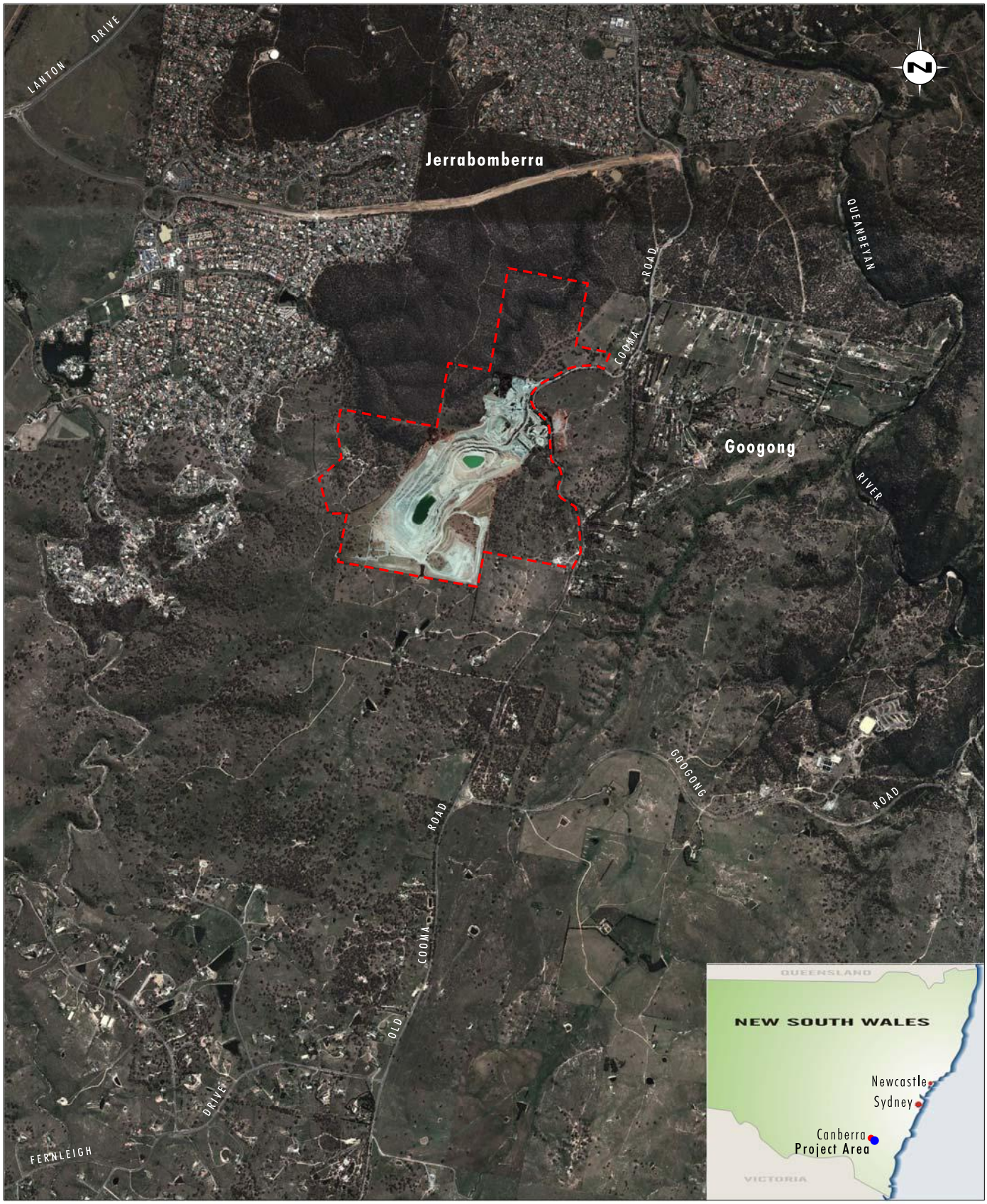


Image Source: Holcim (2012), Google Earth (2011)
Data Source: Holcim (2012), Queanbeyan City Council (2006)

0 0.5 1.0 1.5km
1:35 000

Legend
Approved Project Area

FIGURE 1.1
Locality Map

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

0 0.25 0.5 0.75km
1:15 000

Legend

- Approved Project Area
- Approved Extraction Area
- Approved Additional Extraction Area
- Approved Disturbance Area - Workshop
- Approved Disturbance Area - Overburden Emplacement
- Approved Dam

FIGURE 1.2

Cooma Road Quarry
Continued Operations Project

1.3 Purpose and Scope

The purpose of this AQMP is to provide a description of the measures to be implemented by Holcim Australia to manage air quality at Cooma Road Quarry and to detail the air quality monitoring requirements associated with the operation. This AQMP also provides a mechanism for assessing air quality monitoring results against the relevant air quality impact assessment criteria and operating conditions.

This AQMP also addresses the requirements detailed in Schedule 3 of the Development Consent. A brief outline of the Development Consent conditions and Statement of Commitments relevant to this plan is provided in **Sections 2.1** and **2.2** respectively, including a checklist of where each condition has been addressed within this document.

The plan outlines the control measures to be implemented as part of the continued operations at Cooma Road Quarry to minimise the potential air quality impacts on the local community.

1.4 Objectives

The objectives of this plan in relation to air quality management are to:

- detail the controls to be implemented to minimise dust generation from operations;
- establish an air quality monitoring system to assess the air quality impact on surrounding receivers and performance against the specific air quality impact assessment criteria;
- provide a mechanism to assess monitoring results against air quality impact assessment criteria;
- provide an air quality protocol for determining exceedances of the relevant criteria;
- manage air quality related community complaints in a timely and effective manner;
- to detail the requirement for reporting air quality criteria exceedances to the relevant stakeholders;
- provide management commitments and strategies for dealing with air quality related issues; and
- to detail the review process for reporting exceedances of air quality criteria to relevant stakeholders.

2.0 Regulatory Requirements

2.1 Development Consent

The Development Consent for the Cooma Road Continued Operations Project was assessed under the *Environmental Planning and Assessment Act 1979* (EP&A Act). Approval for the project was granted on 27 September 2013. The requirement for this AQMP arises from Condition 16 of Schedule 3 of the Cooma Road Development Consent. A table detailing the AQMP requirements from the Development Consent and where these requirements are addressed within this document is provided in **Table 2.1**.

Table 2.1 – Development Consent Conditions

Approval Condition - Schedule 3 – Environmental Performance Conditions	**Section Addressed**
15. The Applicant shall:	
a) implement best management practice to minimise the dust emissions of the development including minimising the area of surface disturbance and maximising progressive rehabilitation of the site;	**Section 5.0**
b) regularly assess the air quality monitoring data to ensure compliance with the relevant conditions of this consent; and	**Section 6.1**
c) minimise the air quality impacts of the development during adverse meteorological weather conditions.	**Section 5.0**
16. The applicant shall prepare and implement an Air Quality Management Plan for the development to the satisfaction of the Director-General. This plan must:	**Whole Document**
a) be prepared in consultation with Council and the EPA, and be submitted to the Director-General for approval within 6 months of this consent;	**Section 2.3**
b) describe the measures that would be implemented to ensure compliance with the air quality criteria and operating conditions under this consent; and	**Section 5.0**
c) include an air quality monitoring program to evaluate the performance of the development against the air quality criteria.	**Section 6.1**

Management controls for potential air quality impacts associated with quarrying and ancillary activities are provided in **Section 5.0**. Air quality monitoring is outlined in **Section 6.0** and a description of the air quality monitoring reporting requirements is provided in **Section 7.0** of this AQMP.

Additional general requirements of all Environmental Management Plans are included in Condition 3 of Schedule 5 of the Development Consent and are provided in **Appendix 1**. **Appendix 1** also identifies where each of these requirements are addressed within the AQMP.

Air quality monitoring will also be undertaken in accordance with the requirements of the Cooma Road Quarry Environment Protection Licence.

2.2 Statement of Commitments

The Statement of Commitments relevant to the AQMP, and where they are addressed in this document, is detailed in **Table 2.2**.

Table 2.2 – Statement of Commitments Conditions

Commitment	Section Addressed
14. The existing dust control measures will continue to be implemented on site, including:	Section 5.0
• minimisations of the total disturbed/working areas at any one time;	
• dust collection during drilling operations;	
• enclosure of primary and secondary crushing plants and screening transfer points;	
• watering of unsealed roads, working areas and stockpiles;	
• water sprays on the conveyers;	
• dust extraction system within the secondary crushing plant; and	
• truck wheel wash facility.	

2.3 Stakeholder Consultation Regarding this Document

Copies of this AQMP were provided to Queanbeyan City Council and the EPA for comment on 14 March 2014. EPA provided a letter stating that the AQMP appeared adequate and that the EPA had no specific comments to make regarding the AQMP. Queanbeyan City Council provided comment on 25 March 2014 indicating that the AQMP was considered to have been developed in accordance with the requirements of the Development Consent, refer to **Appendix 2**.

3.0 Baseline Data

3.1 Existing Environment

3.1.1 Dust Concentration

As detailed within the Cooma Road EIS, background dust concentration data was analysed from the closest air quality monitoring station located at Monash, approximately 12 kilometres south of the Project Area. The Monash site is operated by the ACT Environmental Protection Authority and is surrounded by rural and residential land uses. No exceedance of the 24 hour average PM_{10} criteria of 50 µg/m^3 was experienced at this station during 2010, the most recent year for which data are available.

From the available monitoring data, the following background concentrations have been applied to the Project:

- annual average TSP of 30 µg/m^3;
- 24-hour average PM_{10} of 24 µg/m^3;
- annual average PM_{10} of 15 µg/m^3; and
- annual average dust deposition of 3.5 g/m^2/month.

3.1.2 Dust Deposition

Holcim Australia has monitored dust deposition on a monthly basis at five locations within the Project Area since 2001 (refer to **Figure 3.1**). Dust deposition data from the site shows that annual average dust deposition levels have been below the OEH goal of 4 g/m^2/month, with the maximum of annual average deposition being 3.5 g/m^2/month.

The results of the air quality modelling as undertaken for the EIS have identified that Cooma Road Quarry will comply with the relevant air quality criteria at all nearby sensitive receiver locations under worst case operating conditions.

4.0 Air Quality Assessment Criteria

4.1 Dust Concentration

Goals for dust concentration are referred to as long term (annual average) and short term (24 hour maximum) goals. The TSP and PM_{10} annual average goals relate to the total dust in the air and not just the dust from quarry operations. Condition 14 of Schedule 3 of the Development Consent specifies the air quality criteria for Cooma Road Quarry. The Development Consent criterion for particulate matter is outlined in **Tables 4.1** and **4.2**.

Table 4.1 – Long Term Criteria for Particulate Matter

Pollutant	Averaging Period	[d]Criterion
Total suspended particulate (TSP) matter	Annual	[a]90 µg/m^3
Particulate matter < 10 µm (PM_{10})	Annual	[a]30 µg/m^3

Table 4.2 – Short Term Criteria for Particulate Matter

Pollutant	Averaging Period	[d]Criterion
Particulate matter < 10 µm (PM_{10})	24 hour	[a]50 µg/m^3

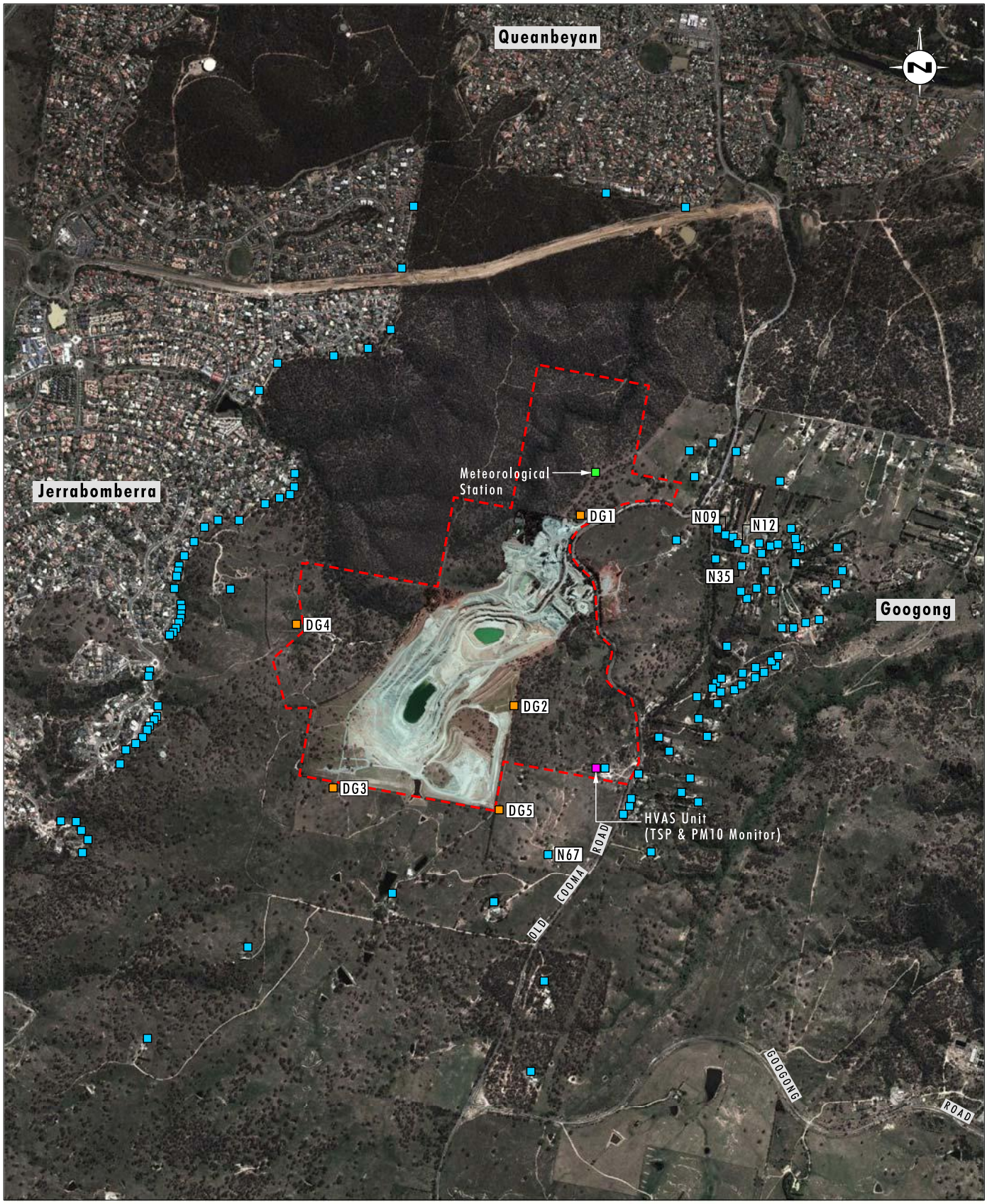
Notes to **Tables 4.1 and 4.2**:

- [a] Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources);
- [b] Incremental impact (i.e. incremental increases in concentrations due to the development on its own);
- [c] Deposited dust is to be assessed as insoluble solids as defined by AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air – Determination of Particulate Matter – Deposited Matter – Gravimetric Method; and
- [d] Excluded extraordinary events such as bush fires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Director-General in consultation with the EPA.

4.2 Dust Deposition

Dust deposition levels refer to the quantity of dust particles which settle out of the air as measured in grams per square metre per month (g/m^2/month) at a particular location.

Condition 14 of Schedule 3 outlines maximum allowable limits in terms of an acceptable increase in dust deposition over the existing background levels (refer to **Table 4.3**). For example, in residential areas with annual average dust deposition levels of between 0 and 2 g/m^2/month an increase of up to 2 g/m^2/month would be permitted before it would be considered that a significant degradation of air quality had occurred. The Development Consent air quality criteria for dust deposition are included in **Table 4.3**.



Source: Holcim (2012), Google Earth (2011) and Queanbeyan City Council (2006)

0 0.5 1 1.25km
1:25 000

Legend

- Proposed Project Area
- Indicative Dwelling Location
- Existing Dust Deposition Gauges
- HVAS Unit (TSP & PM10 Monitor)
- Meteorological Station

FIGURE 3.1

Air Quality Monitoring Locations

Table 4.3 – Development Consent Air Quality Criteria for Dust Deposition

Pollutant	Averaging Period	Maximum Increase in Deposited Dust Level	Maximum Total Deposited Dust Level
[c]Deposited dust	Annual	[b]2 g/m^2/month	[a]4 g/m^2/month

Notes to **Table 4.3**:

- [a] Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to all other sources);
- [b] Incremental impact (i.e. incremental increases in concentrations due to the development on its own);
- [c] Deposited dust is to be assessed as insoluble solids as defined by AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air – Determination of Particulate Matter – Deposited Matter – Gravimetric Method; and
- [d] Excluded extraordinary events such as bush fires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Director-General in consultation with the EPA.

5.0 Air Quality Management Controls

Holcim Australia is committed to implementing all reasonable and feasible air quality mitigation measures, to reduce the potential impact of the operation on sensitive receivers. In order to mitigate any potential air quality impacts from the operation, a number of air quality management controls will be implemented throughout the life of the operation.

The dust control measures available for quarry operations are generally a combination of engineering controls, operational controls, and planning controls with existing dust control measures in place continuing to be implemented as part of the Project. These dust control measures include:

- minimisation 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.

The effectiveness of the dust management controls utilised at Cooma Road Quarry will be reported to NSW Planning and Infrastructure (P&I) within the Annual Review. The Annual Review will also identify whether any additional dust management controls are required to be implemented at Cooma Road Quarry, or whether there are any technological advancements in dust control which are suitable for implementation at the quarry.

6.0 Air Quality Monitoring

The requirement for air quality monitoring for the operation are provided in Condition 16(c) of Schedule 3 of the Development Consent. The air quality monitoring program will be implemented to evaluate the performance of the Cooma Road Quarry against the air quality criteria outlined in **Section 4.0**. This section details the monitoring program and requirements for Cooma Road Quarry.

6.1 Monitoring Locations

To assess compliance against dust deposition and dust concentration criteria for Cooma Road Quarry, depositional dust, TSP and PM_{10} will be monitored at the locations shown on **Figure 3.1**.

Monitoring will involve the utilisation of Cooma Road Quarry's existing Air Quality Monitoring Network. In addition to the existing network of dust deposition gauges, Holcim Australia proposes, to monitor PM_{10} and TSP in order to demonstrate compliance against the air quality assessment criteria for Cooma Road Quarry contained in Condition 14 of Schedule 3. Cooma Road will install a High Volume Air Sampling (HVAS) unit as part of their continued operations in a location representative of the nearest sensitive receiver. The unit will have the capability to measure TSP and PM10 in accordance with the relevant Australian Standards (refer to **Section 6.2**). The air quality monitoring to be undertaken at Cooma Road Quarry is detailed in **Table 6.1** below.

Table 6.1 – Cooma Road Quarry Air Quality Monitoring Program

Site No.	Parameters Monitored	Units of Measure	Averaging Period	Frequency
DD1	Deposited dust	g/m^2/month	Month, annual	Monthly
DD2	Deposited dust	g/m^2/month	Month, annual	Monthly
DD3	Deposited dust	g/m^2/month	Month, annual	Monthly
DD4	Deposited dust	g/m^2/month	Month, annual	Monthly
DD5	Deposited dust	g/m^2/month	Month, annual	Monthly
HVAS1	PM_{10}/TSP	$\mu g/m^3$	24 hour, annual	Continuous

In addition to the regular monitoring outlined in **Table 6.1**, if Cooma Road Quarry receives complaints regarding air quality at a particular receiver location, specific monitoring may be undertaken to demonstrate compliance with air quality criteria.

To comply with monitoring and recording conditions included in EPL 1453 for Cooma Road Quarry, all monitoring records required to be kept by the licence will be:

- in a legible form, or in a form that can readily be reduced to a legible form;
- kept for at least four years; and
- produced in a legible form to any authorised officer of EPA who asks to see them.

The following records will also be kept in respect of air quality monitoring undertaken:

- the dates on which the monitoring was undertaken;
- the times at which the monitoring was undertaken;
- the point at which the monitoring was undertaken; and
- the name of the person who undertook the monitoring.

6.2 Monitoring Standards

Air quality monitoring at Cooma Road Quarry is to be undertaken in accordance with all relevant Australian Standards, legislation and OEH approved methods for sampling. The Australian Standards and OEH approved methods relevant to the Air Quality Monitoring Program are listed below:

- All sampling and analysis will be undertaken in accordance with the *Protection of the Environment Operations (Clean Air) Regulation 2002* and the guidelines specified in the OEH publication '*Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (2007)'*.

- The dust deposition gauges will be operated in accordance with AS/NZS 3580.10.1:2003 *Methods for Sampling and Analysis of Ambient Air – Determination of Particulate Matter – Deposited Matter – Gravimetric Method*.

- The High Volume Air Sampler (HVAS) will be operated in accordance with AS/NZ 3580.9.3:2003 *Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – Total suspended particulate matter (TSP) – High volume sampler gravimetric method*. The HVAS will be sited in accordance with AS/NZS 3580.1.1:2007 *Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment*.

6.3 Air Quality Compliance Assessment

In the event of an exceedance of the impact assessment criteria provided in **Tables 4.1**, **4.2** and **4.3**, Cooma Road Quarry will investigate and report the exceedance in accordance with **Section 7.2**). The investigation undertaken by Cooma Road Quarry will involve an assessment of the likely contribution made by the operation to any identified exceedances of air quality criteria. External reporting regarding air quality related environmental incidents will be undertaken in accordance with the process outlined in **Section 7.2**.

6.4 Meteorological Monitoring

A meteorological station is to be installed at Cooma Road Quarry as detailed on **Figure 3.1**. The meteorological monitoring data obtained from the station will be in accordance with the requirements of Condition 17 of Schedule 3 of the Development Consent.

6.5 Independent Review

In the event that a landowner considers that Cooma Road Quarry is exceeding air quality criteria at his or her property, the landowner may request an independent review of the air quality impacts at the property. The independent review will be conducted in accordance with the procedure described in Condition 2 of Schedule 4 of the Development Consent.

7.0 Reporting

7.1 External Reporting

A summary of air quality monitoring results will be provided in the Cooma Road Quarry Annual Review. The following information will be reported in the Annual Review in accordance with Condition 4 of Schedule 5 of the Development Consent:

> By the end of March each year, the applicant (Holcim Australia) shall review of the environmental performance of the development to the satisfaction of the Director-General. This review must:
>
> - describe the development (including any rehabilitation) carried out in the past calendar year, and the development that is proposed to be carried out over the current calendar year;
> - include a comprehensive review of the monitoring results and complaints records of the development over the past calendar year, which includes a comparison of these results against the:
>   - relevant statutory requirements, limits or performance measures/criteria;
>   - monitoring results of previous years; and
>   - relevant predictions in the EIS;
> - identify any non-compliance over the past calendar year, and describe what actions were (or are being) taken to ensure compliance;
> - identify any trends in the monitoring data over the life of the development;
> - identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
> - describe what measures will be implemented over the current calendar year to improve the environmental performance of the development.

In addition, in accordance with *Protection of the Environment Legislation Amendment Act 2011 (*Amendment Act) and Condition 11 of Schedule 5 of the Development Consent, Holcim Australia will also publish air quality monitoring results on the Holcim (Australia) website (http://www.holcim.com.au). Performance monitoring, which includes an assessment of the effectiveness of air quality monitoring and compliance with the relevant Development Consent and EPL conditions, may be discussed at Community Consultative Committee (CCC) meetings.

7.2 Air Quality Criteria Exceedance Reporting Protocol

Exceedances of air quality criteria will be classified as environmental incidents and will be managed in accordance with the environmental incident and complaint management procedures detailed within the Cooma Road Quarry Environmental Management Strategy (EMS). In accordance with the EMS all environmental incidents will be investigated to a level commensurate to their risk level, in consultation with the Cooma Road Quarry Environment and Community Manager. Additional controls will be implemented where required, based on the outcomes of the investigation. All environmental incidents/exceedances will be reported annually in the Annual Review.

Incidents that have caused, or threaten to cause material harm to the environment will be reported to the Director-General of P&I as soon as practicable after Holcim Australia become aware of the incident. Reporting for material harm incidents will be undertaken in accordance with Condition 7 of Schedule 5 of the Development Consent.

Additionally, in accordance with Schedule 4, Condition 1 of the Development Consent, in the event an exceedance of the air quality impact assessment criteria is identified, Holcim Australia will notify P&I and any affected landowner(s) and provide regular monitoring results to each of these parties until the results show that the operation is complying with the relevant criteria (refer to **Section 4.0**). Holcim Australia will also provide a copy of the NSW Health fact sheet entitled 'Mine Dust and You' to the affected landowners and/or existing tenants of the land, in accordance with the requirements of the Development Consent.

7.2.1 Adaptive Management

In accordance with Condition 2 of Schedule 5 of the Development Consent, Holcim Australia will assess and manage air quality related risks to ensure compliance with the criteria outlined in **Section 4.0**.

Where a non-compliance relating to air quality impact has occurred, Holcim Australia will, to the satisfaction of the Director-General of P&I:

- take all reasonable and feasible measures to ensure the exceedance ceases and does not recur;
- consider all reasonable and feasible options for remediation (where relevant) and submit a report to the P&I describing those options and any preferred remediation measures or other course of action; and
- implement remediation measures as directed by the director-general of P&I.

Holcim Australia will report on the effectiveness of the dust control measures implemented at the site within the Annual Review.

7.3 Complaint Response

Complaints relating to air quality at Cooma Road Quarry are to be managed in accordance with the complaints management procedure contained within the Cooma Road Quarry EMS This includes recording the complaint on an incident report form, which is completed by the Cooma Road Quarry Manager in consultation with Holcim Australia Environmental personnel to facilitate that corrective actions are implemented. A summary of complaints will published on the Holcim Australia website and provided in the Annual Review.

8.0 Review and Improvement

Ongoing monitoring and review on the performance and implementation of this AQMP will be undertaken in accordance with Cooma Road Quarry Environmental Management Strategy.

In accordance with Condition 5 of Schedule 5, Holcim Australia shall review, and if necessary revise, the strategies, plans, and programs required under Development Consent to the satisfaction of the Director-General, within 3 months of the submission of:

(a) the submission of an annual review under condition 4 above;
(b) the submission of an incident report under condition 7 below; and
(c) the submission of an audit report under condition 9 below;

the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.

The Cooma Road Quarry Manager in consultation with Holcim Australia Environmental personnel will review and if necessary, revise this AQMP and resubmit to P&I every year or earlier if required. Any changes made to the AQMP as a result of the review will be made in consultation with EPA and Queanbeyan City Council. A copy of the revised AQMP will be supplied to the Director General of P&I for approval. The AQMP will reflect changes in environmental requirements, technology and operational procedures. Updated versions of the approved AQMP will be made publicly available on the Holcim Australia website (http://www.holcim.com.au/).

9.0 Definitions

The terminology utilised within this AQMP is defined in **Table 9.1** below.

Table 9.1 – Terminology Utilised Within the AQMP

Term	Definition
Dust Deposition	Dust particles that settle out from the air - measured in grams per square metre per unit time (g/m^2/month).
HVAS	High Volume Air Sampler.
Incident	A set of circumstances that causes or threatens to cause material harm to the environment, and/or breaches or exceeds the limits of performance measures/criteria in the Project Approval.
Non-compliance	Occurs when environmental monitoring results fall outside acceptable regulatory limits (i.e. Development Consent or EPL criteria).
PM_{10}	Particulate matter less than 10 micrometers (µm) in size.
$PM_{2.5}$	Particulate matter less than 2.5 micrometers (µm) in size.
TSP	Total Suspended Particulates ($µg/m^3$). The nominal size of this fraction has particles with a diameter of up to 50 micrometers (µm).
$µg/m^3$	Micrograms per cubic metre.

10.0 Accountabilities

Relevant roles and responsibilities associated with this AQMP are presented in **Table 10.1** below.

Table 10.1 – Roles and Responsibilities

Role	Accountabilities for this document
Holcim Australia District Manager	• Approve appropriate resources for the effective implementation of this plan.
Cooma Road Quarry Manager	• Provide that sufficient resources are allocated for the implementation of this Plan. • Coordinate the implementation of air quality management controls and strategies in accordance with this Plan. • Coordinate the review of this plan in accordance with the requirements of the Development Consent.
Holcim Australia Environmental personnel	• Coordinate the air quality monitoring requirements of this plan, and evaluate and report monitoring results as required. • Coordinate air quality related incident investigations and reporting as required by legislation and internal standards and guidelines. • Assist with the review of this plan.

Table 10.1 – Roles and Responsibilities (cont.)

Role	Accountabilities for this document
All employees and contractors	• Comply with all requirements of this Plan. • Report all potential environmental incidents to their supervisor immediately. • Seek approval from the Quarry Manger prior to making changes to infrastructure/processes which may result in increased air emissions.

11.0 References

NSW Environment Protection Authority (EPA) 2007. *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales.*

Standards Australia, AS/NZS 3580.10.1:2003 *Methods for Sampling and Analysis of Ambient Air – Determination of Particulate Matter – Deposited Matter – Gravimetric Method.*

Standards Australia, AS/NZ 3580.9.3:2003 *Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – Total suspended particulate matter (TSP) - High volume sampler gravimetric method*.

Standards Australia, AS/NZS 3580.1.1:2007 *Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment.*

APPENDIX 1

General Management Plan Requirements
from Development Consent

Appendix 1 – General Management Plan Requirements from Development Consent

Schedule 5	
Management Plan Requirements 1. The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:	
a) detailed baseline data	3.0
b) a description of: • the relevant statutory requirements (including any relevant approval, licence or lease conditions); • any relevant limits or performance measures/criteria; • the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;	2.0 4.0 4.0
c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	5.0,6.0,7.0 ,8.0
d) a program to monitor and report on the: • impacts and environmental performance of the project; • effectiveness of any management measures (see (c) above);	7.0
e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	7.2
f) a program to investigate and implement ways to improve the environmental performance of the project over time;	5.0, 8.0
g) a protocol for managing and reporting any: • incidents; • complaints; • non-compliances with conditions of this approval and statutory requirements; and • exceedances of the impact assessment criteria and/or performance criteria	7.2 7.3 6.3 7.2
h) a protocol for periodic review of the plan.	8.0

APPENDIX 2

Agency Correspondence

Our reference: EF13/3083: DOC13/69830-03
Contact: Kirsty Pearson 02 6229 7002

Mr Luke Bettridge
Senior Environmental Scientist
Umwelt (Australia) Pty Limited
75 York Street
TERALBA NSW 2284

24 March 2014

Dear Mr Bettridge

Re: Draft Environmental Management Plans for Cooma Road Quarry - Development Consent (SSD_5109) - Environment Protection Licence No. 1453

Thank you for your email 14 March 2014 inviting the Environmental Protection Authority's (EPA) comment on the draft Environmental Management Plans developed for the Cooma Road Quarry expansion project.

As you are aware, the Department of Planning and Infrastructure has issued an approval under Part 4 of the *Environmental Planning and Assessment Act* 1979 for the continued operation of the existing Cooma Road Quarry. The EPA understands the current development consent for Cooma Road Quarry will expire in October 2015 and the Project has been given approval to continue operation of the quarry for a further 20 years. The Project involves extending the approved extraction area and relocating some of the infrastructure components to allow for this extension. The revised Cooma Road Quarry Project Approval (SSD_5109) extends hours of operation for certain activities from 6pm to 10pm; increases production capacity from 1 to 1.5 million tonnes per annum; relocates the existing workshop, truck parking and temporary stockpiles; includes the addition of a mobile pug mill; incorporates recycling of clean concrete on site for re-use; and extends the approved extraction boundary to the north covering an additional area of about 3.5 ha.

As previously advised by the EPA, a variation to Environment Protection Licence (EPL) No. 1453 issued under the *Protection of the Environment Operations Act 1997* (POEO Act) will be required to accommodate the expansion project.

It is not the role of the EPA to approve or endorse such management plans. The EPA's role is to regulate compliance with the conditions of the EPL for the premises. Notwithstanding this, the EPA has conducted a brief review of the draft Environmental Management Plans including the Noise Management Plan, Blast Management Plan, Water Management Plan and Air Quality Management Plan prepared by Umwelt (Australia) Pty Ltd.

The plans appear adequate and the EPA has no specific comments to make at this stage. The installation of the meteorological station at the Cooma Road Quarry is a good tool for assisting in the management and mitigation of potential impacts related to operation as well as complaints investigation. The EPA supports this initiative.

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Level 3/11 Farrer Place Queanbeyan NSW 2620
Tel: (02) 6229 7002 Fax: (02) 6229 7006

We remind the proponent, Holcim, of its responsibility to ensure the EPL is appropriately varied prior to the commencement of construction activities for the Quarry extension.

I trust this information is of assistance. Should you have any queries or wish to discuss the EPA's response, please contact me or Kirsty Pearson on Ph: 6229 7002.

Yours sincerely

JULIAN THOMPSON
Unit Head – South East Region
NSW Environment Protection Authority

Queanbeyan City Council

PF990489
C1434774

25 March 2014

Luke Bettridge
Senior Environmental Scientist
Umwelt (Australia) Pty Limited
lbettridge@umwelt.com.au

Dear Luke

RE: Cooma Road Quarry – Environmental Management Plans - Review
Thank you for the opportunity to review Environmental Management Plans for the Cooma Road quarry prior to submitting them to the Department. The timeframe was short and as such not all of the plans were able to be reviewed in detail by your deadline of 25 March 2014. However, the following comments are provided for your consideration:

Heritage Management Plan
To ensure the long term protection of the lime kiln it is recommended that a Weed Management Program be provided to address 4.1.1 dot point 3 (p. 6). This would give further clarification of weed poisoning over a stipulated time period. This would then commit the applicant to this program. Our Parks & Recreation section are happy to provide some information on a weed management program, however, the time frame of 25 March is not achievable for them.

Noise Management Plan, Blast Management Plan and Air Quality Management Plan
These plans have been reviewed by our Environmental Health section and they are satisfied that they have complied with the condition of approval.

Transport Management Plan
Additional time is requested to review this plan in detail.

Council will take the opportunity to provide further comment on the Transport Management Plan during the time that NSW Planning and Infrastructure are reviewing the Plans.

Yours sincerely,

Lorena Blacklock

Lorena Blacklock
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