Environmental Management Strategy

Newnes Sand & Kaolin Project
Sandham Road, Newnes Junction

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Disclaimers

Executive Summary

Newnes Kaolin Pty Ltd, trading as Sydney Construction Materials (SCM) has approval to construct a sand and kaolin extraction operation at Newnes Junction on the main railway line located approximately 6ms east of Lithgow. The site adjoins the Blue Mountains National Park.

The project began in 2003 after more than 10 years of extensive scientific and market research and development, when SCM submitted a Development Application and accompanying Environmental Impact Statement, followed by a Supplementary Information document in 2005.

Development Application DA 329-7-2003 was approved on 14th March 2006 (Development Consent) by the NSW Minister for Planning. The Commonwealth Government consent under the *Environment Protection & Biodiversity Conservation Act* (EPBC 2002/620) was approved on 22nd August 2006.

The proposal is to mine the sandstone and transport the crushed rock off site by rail, to a site in Greater Sydney, yet to be identified. That process will be the subject of a separate application. There will be no processing of the rock on site so there will be no need to store or manage process water on site.

The proponent has adopted a proactive approach in preparing the Environmental Management Strategy (EMS) with the objective of creating a long term sustainable development.

This EMS has been prepared to satisfy the requirements set out in conditions in schedules 1 to 5 of the Development Consent. As part of this, the EMS addresses the various monitoring and management requirements set out in the Development Consent and incorporates the following management plans prepared pursuant to the Development Consent.

- Water Management Plan
- Soil & Water Management Plan
- Flora & Fauna Management Plan
- Compensatory Habitat Management Plan
- Pest & Weed Management Plan
- Rehabilitation & Landscape Management Plan
- Final Void management Plan
- Mine Closure Plan

Additionally the EMS also incorporates management strategies for Community Relations, Waste and Visual management of the mine.

This EMS will ensure that the proposed mine does not negatively impact on the surrounding environment, water, vegetation and habitat values within the adjoining Blue Mountains World Heritage Area (BMWHA) and other surrounding areas.

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Appendices

1 Background

Newnes Kaolin Pty Ltd, trading as Sydney Construction Materials (SCM) has approval to construct a sand and kaolin extraction operation at Newnes Junction near Lithgow. This Environmental Management Strategy (EMS) consists of several sections dealing with a number of general strategies to ensure that the proposed mine does not negatively impact on the surrounding environment, water, vegetation and habitat values within the adjoining Blue Mountains World Heritage Area (BMWHA) and other surrounding areas. This document is in several sections with each section dealing with separate environmental issues as required by the Conditions of Consent for DA 329-7-2003 issued by the Minister for Planning.

The EMS is not considered a stand-alone document and should be implemented in conjunction with other reports associated with the proposed development.

1.1 Site Description

The site of the development is approximately 25 hectares in area located approximately 6kms east of Lithgow, north of the railway and the Bells Line of Road.

The description of the land over which the development will be undertaken is described as:

- Lot 7005 DP 1020664
- Lot 24 DP 751631
- Lot 1 DP 108485

The site is bounded by Clarence Colliery to the northwest, the Blue Mountains National Park to the east, the former Rocla quarry to the south and Sandham Road, including the village of Newnes Junction and the main railway line to the south and southwest and the existing rail loop to the west.

The village of Newnes Junction, which includes approximately 6 dwellings, is located approximately 100 metres southwest of the proposed quarry.

The site falls from the south west at approximate RL 1070 AHD to the north east at approximate RL 990 AHD. Refer to locality plan in Appendix 1.

1.2 Description of the Proposed Development

The purpose of the mine or quarry is for the extraction of friable sandstone for processing into building materials, specialty sands and kaolin. The mine design is based on maintaining substantial buffers to the Newnes Junction residents and National Park, reducing disturbance to the marginal Newnes Plateau Shrub Swamp vegetation to the southwest of the site, and having sufficient area for the required infrastructure. The pit

depth is variable as it is located on the side of a hill and ranges from 80 m on its western wall to only a few metres in the east. The maximum pit dimensions are 750 m in length north-south by 460 m in width. The final wall slope has a 2 m wide berm every 3 m in vertical height providing regular terraces for planting of vegetation as part of the progressive rehabilitation and eventual screening of walls.

With total estimated reserves of over 20Mt, the pit life is expected to exceed 21 years. Approximately 1.1Mt per annum will be extracted on average with a maximum expected of 1.4Mtpa. Areas adjacent to the quarry have been extensively quarried/mined for construction sands and coal.

The site development will take place in three stages: site preparation and construction; quarry development and operations; and final rehabilitation. The main activities of each are described below.

1.2.1 Site Preparation and Construction

This primary stage includes construction of an acoustic barrier along the south-western boundary of the site to mitigate any noise created within the site from impacting on the township of Newnes Junction. This stage includes construction of infrastructure such as access roads, office and parking facilities, a stockpiling conveyor and hopper, maintenance facilities, a flat pad for the setup of the surface mining machine and flow controls for dirty and clean water including detention ponds and a water treatment plant.

The site preparation for surface miner use involves establishing an area of sufficient width and length to allow the surface miner to operate efficiently. Wirtgen (the manufacturers of the surface mining machine) recommend for standard applications in soft material that the minimum cutting length be 300 m. The surface miner working bench will be established by ripping and dozing with a small dozer and removal of material by scrapers. The excavated friable sandstone will be required for test work in commissioning the process plant; incorporated in site infrastructure activities or stockpiled, and railed from site for processing. Topsoil stripped will be placed adjacent to the acoustic barrier to allow a visual screen of native trees to be established to further shield the barrier and quarry operation from the residents.

1.2.2 Quarry Development and Operation

The quarrying method involves extracting the material in horizontal layers from the upper most quarry bench to its base over the full width and length of each successive bench. This method meets the requirements of the surface mining machine, which prefers to operate over large, relatively flat areas for maximum efficiency. As the excavation expands, final slope batters and berms are formed into terraces and progressively rehabilitated. Also, residences will be increasingly shielded from the development by the final pit walls. The working benches will have a slight grade to direct surface run-off away from the pit crest to the northwest area of the excavation. Quarrying below 1002 RL will involve maintaining a minimum 2 m high wall on the western side to prevent outflow of water into the National Park and significantly increase the void's water storage capacity. The pit base is planned to be approximately 990 RL.

An important characteristic of the quarry development will be the early and progressive rehabilitation of the open cut berms or terraces. As the bench height is only 3 m, the wall will form a series of small terraces relative to typical quarry operations. Vegetation growth will hence shield the walls with the intention of screening the open cut void and reducing the visual impact ("terrace landscaping"). Rehabilitation will involve:

- surface preparation of the area by light ripping;
- placement of topsoil on an area 2m wide around the edge of the pit; and
- planting of locally occurring native shrubs and trees on the topsoiled bench.

The site topography will allow for continued access to all benches.

The mine will progress from the higher areas (approximately 1070 RL in the north-west parts of the site) and progress downwards and to the east in stages spread over a period of approximately 20 years. The final depth of the mine will be at 990 RL and will be approximately 25 hectares in size.

1.2.3 Final Rehabilitation

The final quarry void will contain a large number of small benches forming a terraced, vegetated landscape. The base of the pit will be graded to be free-draining with all disturbed areas to be top-soiled and re-vegetated. A small free draining wetland will result in the area occupied by the final retention pond.

The quarry design enables all water flows at the completion of quarrying to be contained within the quarry void for a period. When the final rehabilitation is complete, and vegetation well established and the landform stable, it will be possible to place a channel from the near quarry floor to the small creek channel in the north to re-establish flows directly to the water course. Previously, no direct flows other than those discharged by the water treatment plant would have taken place. Also on completion of quarrying, all buildings, infrastructure and stockpiles will be removed from the pit and processing areas leaving them to be shaped and re-vegetated.

1.3 Development Consents & Associated Documents

The development was approved under the NSW *Environmental Planning & Assessment Act 1979* (EP&A) in DA 329-7-2003 which was approved by the Minister for Planning on 14th March 2006 (Development Consent).

The original Environmental Impact Statement, dated May 2003, was prepared by SCM, and submitted to DIPNR in May 2004. Supplementary Information was prepared and lodged in April 2005.

Subsequent to the issue of the Development Consent in 2006 additional investigations and reports have been prepared to support this EMS. Refer to the appendices for more details.

The Commonwealth Government consent for the project under the Environment Protection & Biodiversity Conservation Act (EPBC 2002/620) was approved on 22nd August 2006.

2 Environmental Management Strategy

2.1 Objective

The objective of the Environmental Management Strategy (EMS) may be described as follows:

To ensure compliance with the intent and conditions of both the NSW EP&A development consent and the Commonwealth EPBC development consent and all associated licence and lease conditions.

Condition 1 schedule 5 of the NSW consent specifies that an Environmental Management Strategy shall be prepared for the project.

2.2 Environmental Management Strategy – Schedule 5 condition 1

Schedule 5 condition 1 of the consent requires that *prior to carrying out any development the applicant shall prepare and subsequently implement an Environmental Management Strategy for the development. Specifically the strategy must:*

a) provide the strategic context for environmental management of the development;
Response: Site is located at Newnes Junction in the Blue Mountains and adjoins the Greater Blue Mountains World Heritage Area (WHA) to the east. The site falls from the south west to the north east and is upstream from the WHA. The site is vegetated crown land and is zoned 1(a) rural under the Lithgow City Council LEP.

b) identify all statutory requirements that apply to the development;
Response: The development was approved by DA consent 329-7-2003 issued under sec 80 of the NSW Environmental Protection & Assessment Act. (See Appendix 13)
The development was also approved under the Commonwealth of Australia Environment Protection & Biodiversity Conservation Act reference 2002/620. (See Appendix 14)
The development is subject to Environment Protection Licence number 13389 issued under the NSW Protection of the Environment Operations Act.
(See Appendix 15)

c) describe in general how the environmental performance of the development would be monitored and managed during the development
Response: The Environmental Monitoring Program (see Appendix 16) details a six part monitoring program addressing:
surface water, ground water, noise, air quality, flora and fauna and Aboriginal cultural heritage.

Schedule 5, Condition 5, of the consent specifies that the applicant shall prepare and submit an Annual Environmental Management Report (AEMR), on an annual basis, to the Director General and the relevant agencies.

Schedule 3 condition 23, of the consent states that the AEMR shall be prepared each year from the date of the consent – that's 14th March - each year.

Condition 5 of the Commonwealth EPBC consent specifies that an independent audit of compliance be prepared and submitted to the Minister. The independent auditor and the audit criteria must be approved by the Minister prior to the commencement of the audit.

Schedule 5 conditions 6, 7 & 8 of the NSW consent specify that within 1 year of the commencement of operations and every 2 years thereafter the applicant shall commission an Independent Environmental Audit (IEA)

d) describe the procedures that would be implemented to:

**** keep the local community and relevant agencies informed about the operation and environmental performance of the development***

Response: The Newnes Kaolin Community Consultative Committee first met in December 2010 followed by the second meeting in March 2011. The CCC is chaired by an independent chairperson with two community representatives and two representatives from the project. Lithgow City Council have a representative on the CCC as well. Minutes of the meetings are available on the project website: www.sydneyconstructionmaterials.com

**** receive, handle, respond to, and record complaints***

Response: The Environment Protection licence specifies that the project must keep a record of all complaints, with full details of each complaint, for at least 4 years to be produced to any authorised officer of the EPA who asks to see them. The EPL requires the project to operate a telephone complaints line during operating hours and that the proponent must notify the public of the complaints line telephone number. A public notice was published in the Lithgow Mercury notifying the telephone number and associated details on xxx. Refer to section xxx in this EMS for more details

**** resolve any disputes that may arise during the course of the development***

Response: See dispute resolution process outlined below

**** respond to any non-compliance***

Response: Newnes Kaolin P/L will respond to any non- compliance as follows:

1) Carry out an immediate investigation and take whatever action is required to ensure compliance as soon as reasonably possible.

2) Notify the Environment Protection Authority of NSW and the Australian Government Department of the Environment, Water, Heritage and the Arts with 24 hours and by written report within 7 days.

**** manage cumulative impacts***

Response: The identification and management of possible cumulative impacts of the development. The Annual Environmental Management Report will, among other matters, identify trends in the monitoring results overt the life of the development and seek to identify opportunities for continuous improvement in accordance with schedule 3 condition 12.

**** respond to emergencies***

Response: NK will prepare and implement a *Site Emergency Procedures Manual* prior to commencement of mining and/or quarry operations.

e) describe the role, responsibilities, authority and accountability of all key personnel involved in environmental management of the development

Response:

* Newnes Kaolin General Manager (NKGM) – overall project responsibility – reports to NK Board of Directors
* Newnes Kaolin Environmental Manager – responsible for the environmental management of the project including the preparation of the AEMR, organisation and facilitation of the Community Consultative Committee and the commissioning of the Independent Environmental Audit – reports to the NK GM.

* Newnes Kaolin Site Supervisor/Mine Manager – responsible for the day to day activities on site including all mining/quarry operations and associated activities – reports to the NK GM

2.3 Introduction

The proponent has adopted a proactive approach as the environmental management strategy with the objective of creating a long term sustainable development.

By undertaking both engineering and environmental investigations concurrently the proponent has ensured that the environmental studies have been incorporated into the design of the open pit and the quarry proposal overall.

Consequently effective mitigation measures have been incorporated into the project from the outset limiting the environmental impacts associated with the development.

Given that the crushed sandstone will be transported off site by rail there will be little requirement to store or manage process water on site. No groundwater will exit the pit during active mining operations since the watertable gradient will be directed toward the pit. Ultimate steady state groundwater conditions will be reached within a year or so once the 21-year pit floor depth has been achieved.

The EMS has been prepared in response to the approved consent to ensure the development is undertaken in close accordance with the conditions of the consent.

2.4 Environment Protection & Biodiversity Conservation Act consent

Condition 1 of the Commonwealth EPBC consent specifies that the quarry and mine project maintain and manage a 100 metre buffer between the construction site and the Greater Blue Mountains World Heritage Area. The development plans have been amended to ensure compliance with the EPBC approval. Refer to plans dated 25th November 2010 in Appendix 10.

The management of the 100 metre buffer will include the following:

- Clear marking of the 100 buffer on the ground and strict site supervision of construction works to ensure no accidental intrusion into the buffer;
- Implementation of the Flora and Fauna Monitoring program as appropriate (refer to section 3.7 below);
- Implementation of the Pest and Weed Management plan as appropriate (refer to section 3.6 below);
- Strict implementation of the Erosion and Sediment Control Management plan (refer to part 13 of this EMS).

Condition 2 of the EPBC consent specifies that the project:

- Retain on site at least a 1 in 500 years 72 hour storm event.
- Ensure water releases meet ANZEEC Code standards
- Includes an incident reporting schedule with notification to the Department of Environment & Heritage within 24 hours and a report to DEH within 7 days.
- Methods to minimise soil erosion
- Development and implementation of a monitoring program.
- Include a process to review and report.

Refer to letter by GSS Environmental in Appendix 10 regarding the 1 in 500 year event. Refer to section 2.6 of this EMS below for incident reporting criteria.

Condition 3 of the EPBC consent specifies that the project must submit for the Ministers approval a rehabilitation management plan to include monitoring of performance of the rehabilitation and a reporting schedule. Refer to section 9 of this EMS and to the Rehabilitation and Landscape Management Plan in Appendix 5.

Condition 4 of the EPBC consent specifies that the project must submit for the Ministers approval feral animal, weed and sediment management plans including performance monitoring and reporting schedule. Refer to section 3.6 and 4.4 of this EMS. For additional details refer to the Flora & Fauna Management Plan in Appendix 4 and the Water Management Plan in Appendix 3 and the Erosion and Sediment Control Management Plan in Appendix 11.

Condition 5 of the EPBC consent specifies that an independent audit of compliance be prepared and submitted to the Minister. The independent auditor and the audit criteria

must be approved by the Minister prior to the commencement of the audit. Refer to section 2.8 of this EMS.

Condition 6 of the EPBC consent specifies that any proposed changes to the proposed development, plans, reports or strategies be submitted to the Minister for approval.

Condition 7 of the EPBC consent specifies that the Minister may request revised plans, reports or strategies, if deemed necessary, for the better protection of the World Heritage Area.

Condition 8 of the EPBC consent specifies that if substantial commencement of the project has not been achieved within 5 years of the approval date then the project must not commence without written agreement of the Minister.

2.5 NSW Environmental Planning & Assessment Act Consent

Schedule 5, Condition 1, of the NSW consent specifies that an Environmental Management Strategy must be prepared and implemented which must:

a) provide the strategic context for environmental management of the development,
b) identify the strategic requirements that apply to the development,
c) describe in general how the environmental performance of the development would be monitored and managed during the development,
d) describe the procedures that would be implemented to:
    - keep the local community and relevant agencies informed about the operation and environmental performance of the development
    - receive, handle, respond to and record complaints,
    - resolve any disputes that may arise during the course of the development,
    - respond to any non-compliance
    - manage cumulative impacts and
    - respond to emergencies and
e) describe the role, responsibility, authority and accountability of all the key personnel involved in environmental management of the development and,
f) be updated within 3 months of the completion of each independent environmental audit.

In order to satisfy this condition the EMS addresses the various monitoring and management requirements set out in the Development Consent and incorporates the following management plans prepared pursuant to the Development Consent.

- Water Management Plan
- Soil & Water Management Plan
- Flora & Fauna Management Plan
- Compensatory Habitat Management Plan

- Pest & Weed Management Plan
- Rehabilitation & Landscape Management Plan
- Final Void Management Plan
- Mine Closure Plan

Each of these management plans are discussed in more detail in sections 3 to 9 of this EMS. Additionally the management strategies for Community Relations, Waste Management and Visual Management are set out in sections 10, 11 and 12 respectively.

The other environmental management, monitoring, auditing and reporting requirements as set out in Schedule 5 of the Development Consent are addressed below.

2.6 Annual Environmental Management Report (AEMR)

Schedule 5, Condition 5, of the consent specifies that the applicant shall prepare and submit an AEMR, on an annual basis, to the Director General and the relevant agencies.

Schedule 3 condition 23, of the consent states that the AEMR shall be prepared each year from the date of the consent – that's 14th March - each year.

The AEMR must:

a) identify the standards and performance measures that apply to the development
b) describe the works carried out in the last 12 months
c) describe the works that will be carried out in the next 12 months
d) include a summary of the complaints received during the past year and compare this to the complaints received in previous years
e) include a summary of the monitoring results for the development during the past year
f) include an analysis of these monitoring results against the relevant
    1. impact assessment criteria
    2. monitoring results from previous years and
    3. predictions in the EIS and Supplementary Report
g) identify any trends in the monitoring results over the life of the development
h) identify any non-compliance during the previous year
i) describe what actions were or are being taken to ensure compliance

Additional information to be included in the AEMR includes:

j) continuous improvement – investigate and report on ways to reduce noise generated by the development including rail noise – (schedule 3, condition 12)
k) report on the results of the groundwater monitoring program (schedule 3, condition 23)
l) report on waste management and minimisation (schedule 3, condition 48)
m) provide annual production data (schedule 3, condition 53)

It is noted that the proponent has applied to modify the consent in relation to the annual reporting which has been required sine 14th March 2007. It is anticipated that the consent will be modified to ensure that the annual reporting begins on 2011, once the operation has commenced.

2.7 Environmental Monitoring Program

Schedule 5, conditions 2 and 3, specify that prior to carrying out any development the applicant shall prepare an Environmental Monitoring Program which must consolidate the various monitoring requirements specified in schedule 3 of the consent into a single document.

The Environmental Monitoring Program shall include the following:

- Surface Water monitoring program
- Groundwater monitoring program
- Noise monitoring program
- Air quality monitoring program
- Flora & Fauna monitoring program
- Aboriginal Cultural Heritage monitoring program

Refer to Appendix 13 of this EMS

Within 3 months of each Independent Environmental Audit (see below) the applicant shall review and update if necessary the Environmental Monitoring Program.

2.8 Incident Reporting

Schedule 5, condition 4 of the NSW consent specifies that within 7 days of detecting an exceedance of the limits/performance criteria in the consent or an incident causing or threatening to cause material harm to the environment, the applicant shall report the exceedance/incident to the Department and any relevant agency. The report must:

a) describe the date, time, and nature of the exceedance/incident;
b) identify the cause or likely cause;
c) describe the action that has been taken to date;
d) describe the proposed measures to address the exceedance/incident.

Condition 2a of the EPBC consent specifies that in the event of an incident that immediate action be taken with notification to the Commonwealth Department of the Environment & Heritage (DEH) within 24 hours and a report to DEH within 7 days.

2.9 Environmental Manager

Schedule 5, condition 8 of the consent specifies that prior to the carrying out of any development the applicant shall employ a suitably qualified Environmental Manager, whose appointment has been endorsed by the Director General (DG) for the duration of the development to oversee the environmental performance of the development in accordance with the conditions of consent.

The Environmental Manager will be responsible for implementing the EMS and ensuring compliance with the conditions of the Development Consent.

2.10 Independent Environmental Audit

Condition 5 of the Commonwealth EPBC consent specifies that an independent audit of compliance be prepared and submitted to the Minister. The independent auditor and the audit criteria must be approved by the Minister prior to the commencement of the audit.

Schedule 5 conditions 6, 7 & 8 of the NSW consent specify that within 1 year of the commencement of operations and every 2 years thereafter the applicant shall commission an Independent Environmental Audit (IEA) which must:

a) be conducted by a team comprising suitably qualified, experienced and independent specialists including a hydrogeologist, hydrologist and ecologist endorsed by the DG;
b) be consistent with ISO 19011:2002 – Guidelines for Quality and/or Environmental Systems Auditing
c) assess the environmental performance of the development and its effects on the surrounding environment including protected areas;
d) assess whether the development is complying with the relevant standards, performance measures and statutory requirements;
e) review the adequacy of the applicants Environmental Management Strategy and environmental management plans and protocols and if necessary;
f) include visual inspections of the site including the Greater Blue Mountains WHA and the Wollangambe River and its tributaries and;
g) recommend measures or actions to improve the environmental performance of the development and/or the environmental management and monitoring systems.

Within 6 months of each IEA the applicant shall review, and if necessary revise, each environmental management plan/protocol/program in schedules 3 and 5 of the consent.

2.11 Independent Review

Schedule 4, conditions 2 to 6 specify that if a landowner considers that the operations of the development are exceeding the impact assessment criteria contained in schedule 3 of the consent then he/she may ask the applicant in writing for an independent review of the impacts of the development on his/her land.

Schedule 4 of the consent outlines a detailed process for any such independent review.

3 Flora and Fauna Management Strategy

3.1 Introduction

The site adjoins the Blue Mountains National Park (BMNP) which is part of the Greater Blue Mountains World Heritage Area (GBMWHA)

The Flora and Fauna Management Strategy addresses the requirements of the development consent including strategies such as vegetation clearing protocols, a compensatory habitat management plan, a pest and weed management plan and a flora and fauna monitoring program.

Mitigation of the impact of the Newnes Junction development will be provided by both on-site and off-site offsets. The intention is to ensure that the final result of the operations produce a net gain for the community and the environment.

On-site offsets include innovative rehabilitation and final landform design that will be employed to create an area which is aesthetically pleasing and consistent with the surrounding landscape in terms of native flora occurrence and subsequent flora and fauna habitat. This design is modelled on the local natural feature known as Gooches Crater.

The green offsets will be as follows:

(1) Rehabilitation of a nearby area of the Newnes Plateau Shrub Swamp, an important plant community in the region and a potential habitat for endangered species.

(2) Rehabilitation and on-going management of a scenic and historically significant area of vacant crown land – the Dargan's Creek Reserve.

(3) Funding for the Lithgow and District Native Plant Community Nursery (L&DNPCN) which will collect seed, propagate and supply native seeds for the rehabilitation of the mine site and offset areas.

(4) Establishment, conservation and maintenance of an additional area of at least 25 hectares of eucalypt vegetation habitat within proximity of the GBMWHA.

The proponent will provide upfront funding for these offsets and will continue to fund them for the life of the project. It is proposed that the Hawkesbury-Nepean Catchment Management Authority (HNCMA) becomes the Scheme Manager, holding and dispersing the funds, and using its existing standard reporting processes to report to the company, government departments and other relevant stakeholders.

This document provides the strategies and general guidelines regarding flora and fauna management works and processes necessary to successfully undertake the offset projects, onsite and offsite management and rehabilitation.

The RPS Group have prepared a Flora and Fauna Management Plan (FFMP) which addresses the relevant conditions in the consent. Refer to Appendix 4.

3.2 Compensatory Habitat

Schedule 3 condition 25 specifies that the proponent shall:

a) implement the offset measures identified in the Supplementary Report including:
    - assistance in rehabilitation and conservation of Newnes Plateau Shrub Swamplands located north of Lithgow
    - assistance in rehabilitation and conservation of the Dargans Creek Crown lands located south of the site
    - establishment and maintenance of a community nursery and
b) establish, conserve, and maintain an additional area of at least 25 hectares of eucalypt vegetation habitat within proximity of the GBMWHA.

The project has agreed to provide funding to the existing L&DNPCN instead of establishing a new community nursery. Refer to the FFMP – pages 27 to 33

3.3 Flora and Fauna Management Plan

Schedule 3, condition 26 specifies that prior to any development a Flora and Fauna Management Plan (FFMP) must be prepared and implemented. This plan prepared by a suitably qualified ecologist should include:

a) a Vegetation Clearing Protocol
b) a Compensatory Habitat Management Plan
c) a Pest and Weed Management Plan
d) a Flora and Fauna Monitoring Program.

Refer to Appendix 4 for the FFMP by RPS Group.

3.4 Vegetation Clearing Protocol

Schedule 3 condition 27 details the requirements of the Vegetation Clearing Protocol (VCP).

The protocol has been formulated to ensure that the vegetation clearing required for the proposed development will be undertaken in an environmentally sensitive manner. It includes pre-clearance surveys to manage environmentally important attributes such as Hollow-bearing Trees and other habitat attributes which could be providing nesting or breeding habitat for a range of flora and fauna species. This protocol includes the progressive clearing of vegetation throughout the life of the mine, fauna management, conservation and storage of topsoil, seed collection from the site and managing waste vegetation. Refer to the FFMP – pages 16 to 26.

3.5 Compensatory Habitat Management Plan

Schedule 3 condition 28 details the requirements of the Compensatory Habitat Management Plan (CHMP).

Three separate offset projects will be undertaken off-site:

(1) A nearby area of Newnes Plateau Shrub Swamp (NPSS) will be rehabilitated. NPSS is an Endangered Ecological Community (EEC) listed within the NSW Threatened Species Conservation Act (1995). NPSS is also a component of Temperate Highland Peat Swamps on Sandstone (THPSS) which is an Endangered Ecological Community (EEC) listed within the commonwealth Environment Protection and Biodiversity Conservation Act (1999).

(2) A local area of scenic and historically significant bushland known as Dargan's Creek Reserve will be rehabilitated and managed. This area is currently Vacant Crown Land.

(3) The final objective of projects 1 and 2 is to have them classified as Reserve Crown Land.

(4) The third project involves the establishment of a local community plant nursery to provide native plant stock for the extractive operations rehabilitation, and to supply the community with a variety of locally occurring native flora.

Clause 25(b) of the Conditions of Consent also requires that the applicant shall establish, conserve and maintain an additional area of at least 25 hectares of eucalypt vegetation habitat within proximity to the Greater Blue Mountains World Heritage Area, to the satisfaction of the Director-General.

To this end, a CHMP has been created to ensure that the compensatory package is achieved through best-practice strategies and methods aimed at establishing, managing, improving and keeping the conservation area and its habitats in the best possible condition in perpetuity. Refer to FFMP – pages 27 to 38.

3.6 Pest and Weed Management Plan

Schedule 3 condition 29 details the requirements for the Pest and Weed Management Plan (PWMP).

The PWMP has been created to manage any existing or possible occurrence of pest species such as foxes, rabbits or other fauna species as well as noxious weeds or other exotic flora species capable of invading the bushland on or adjoining the proposed mine site. The methods employed are to be environmentally sensitive and humane throughout the operation of this plan and its required works. Refer to FFMP – pages 39 to 49.

3.7 Flora and Fauna Monitoring Program

Schedule 3 condition 30 details the requirements of the Flora and Fauna Monitoring Program.

The Flora and Fauna Monitoring Program is required to initially provide baseline data regarding the flora and fauna composition currently present within the subject site, the habitats present within the adjoining Greater Blue Mountains World Heritage Area and habitats present along the Wollangambe River and tributaries. The initial survey will provide baseline data to be used for comparison with other data gathered via regular monitoring during and subsequent to the mine operations. Baseline data will include structural and floristic vegetation descriptions, hydrological observations, occurrence and extent of weeds, presence or absence of pests or introduced fauna. Refer to FFMP – pages 57 to 70.

4 Water Management Strategy

4.1 Introduction

It is estimated that the total project reserves will be in the order of 20Mt and the pit life will exceed 21 years. Approximately 1.1Mt per annum will be extracted on average with a maximum expected of 1.4Mtpa. Areas adjacent to the quarry have been extensively quarried/mined for construction sands and coal. The Clarence Colliery located to the west of the site continues to operate while the Rocla quarry located to the south of the site has recently ceased operations.

The proposed quarry operation will be located on the ridgeline between the Rocla Quarry and the Clarence Colliery pit top. The proposed disturbance area is approximately 25 hectares. Bordering to the east of the site is the Blue Mountains National Park (BMNP) which is part of the Greater Blue Mountains World Heritage Area, containing the headwaters of the Wollangambe and Coli Rivers wilderness areas. The proximity to, and importance of, the BMNP has been the driver for conservative and sustainable water and soil management for the development. This resulted in the principle underlying design criteria set by the proponent to protect potential receiving waters.

A key component of the proposed quarry operations and environmental considerations is that all the crushed sandstone will be transported off site, by rail. There will be no on site processing so there will be no need for settlement ponds or other infrastructure normally associated with sandstone quarry operations.

GSS Environmental have prepared a Water Management Plan (WMP) which addresses the relevant conditions in the consent. Refer to Appendix 3.

4.2 Water Management Plan – Monitoring and Management

Schedule 3 condition 18 details the requirements of the Water Management Plan (WMP)

The WMP for the project has been prepared to guide the management of water resources through the construction and operational life of the project including through to site rehabilitation. Refer to Appendix 3 for the WMP by GSS Environmental.

4.3 Water Balance

Schedule 3 condition 19 details the requirements for the Water Balance for the development.

In order to verify the performance of the proposed water management system, a daily water balance model was developed specifically for the site. Refer to Section 4 of the WMP – pages 13 to 17.

4.4 Soil and Water Management Plan

Schedule 3 condition 20 details the requirements for the Soil and Water Management Plan.

Given the significant sensitivity of the site's soils to erosion processes and the sensitivity of the potential receiving waters of the National Park, the principal objective of soil and water management for the project is to ensure that there is no uncontrolled discharge of water from the site whatsoever and that the controlled water quality leaving the site meets the appropriate quality standards. Refer to section 5 of the WMP – pages 18 to 29.

4.5 Surface Water Monitoring Program

Schedule 3 condition 21 details the requirements for the Surface Water Monitoring Program.

The Surface Water Monitoring Program has been designed to meet the specific requirements of the Director Generals Requirements listed in table 1 of the WMP. Refer to section 6 of the WMP – pages 30 to 32.

4.6 Groundwater Monitoring Program

Schedule 3 condition 22 details the requirements for the Groundwater Monitoring Program.

The groundwater monitoring program has been developed to meet the specific requirements of the project. As part of the groundwater monitoring program Aquaterra have provided an analysis and assessment of all groundwater monitoring data available for bores developed specifically for the project. Refer to Section 7 of the WMP – pages 33 to 35. Refer to Appendix 2 for the Groundwater Monitoring Plan by Aquaterra.

4.7 Groundwater Reporting

Schedule 3 condition 23, requires that each year from the date of the consent (that's 14th March each year) the applicant shall review and if necessary update the Water Management Plan and report the results in the AEMR.

5 Air Quality Management Strategy

5.1 Introduction

The site is adjacent to Newnes Junction which is a community of approximately 6 dwellings served by Sandham Road located approximately 100 metres south of the proposed quarry. The area accommodates two sand quarries and one colliery which are in the immediate vicinity of the proposed quarry.

Clarence Colliery and the Rocla Quarry operate a meteorological station which is located on the access road to the village to the south west of the proposed quarry.

5.2 Air Quality Monitoring Program

Schedule 3 condition 15 specifies that prior to undertaking the development the applicant shall prepare and implement an Air Quality Monitoring Program (AQMP) which must include an air monitoring protocol for evaluating compliance with the air quality impact assessment criteria in the consent.

PAEHolmes have prepared an AQMP for the development – refer to Appendix 7.

5.3 Meteorological Monitoring

Schedule 3 condition 24 states that prior to carrying out the development a meteorological station shall be established and maintained in the vicinity of the development.

As stated in the AQMP referred to above, the adjacent Clarence colliery and Rocla quarry already operate a meteorological station on the site and a data sharing arrangement will be investigated. If this is not possible a suitable monitoring site will be selected in accordance with the relevant standard.

6 Noise Management Strategy

6.1 Introduction

The site is bounded by a number of existing potential sources of noise including the Clarence Colliery to the west, the Rocla quarry to the south and the main railway to the south west.

Newnes Village comprising approximately 6 dwellings is located adjacent to the site to the south.

6.2 Noise Mitigation

Schedule 3 condition 9 specifies that prior to undertaking any material extraction an acoustic barrier will be provided in accordance with the design in the Supplementary Report.

Schedule 3 condition 10 specifies that the proponent shall only extract and haul material using a surface miner and self loading scrapers to mitigate noise emissions.

6.3 Acoustic Barrier

The Supplementary Report dated April 2005 states the following:

During the initial stages of the mine development an acoustic/visual barrier will be constructed along the western, south-western and southern limits of the pit. The barrier will assist in reducing noise emissions from infrastructure development, site preparation, pollution control and mining operations.

The proposed acoustic barrier shall be constructed of pre-cast concrete panels erected to a height of five metres above the existing ground level as detailed in the Noise Impact Assessment by Atkins Acoustics dated May 2004.

6.4 Noise Monitoring Program

Schedule 3 condition 13 specifies that prior to undertaking the development a Noise Monitoring Program (NMP) shall be prepared and implemented.

The NMP must include a combination of attended and unattended noise monitoring and a noise monitoring protocol for evaluating compliance with the noise impact assessment in the consent.

Atkins Acoustics have prepared a NMP for the project – refer to Appendix 8

7 Aboriginal Cultural Management Strategy

7.1 Introduction

The Aboriginal Cultural Management Strategy has been prepared as a guiding document for the management of Aboriginal heritage within the Newnes Kaolin project area which is intended to be developed as a Kaolin mine and sand quarry. Approval of this development has been granted under section 80 of the Environmental Planning and Assessment Act 1979 (S04/01016) and this document has been prepared to meet the heritage requirements of the consent.

The Aboriginal Cultural Heritage Management Plan (ACHMP) should be used by land manager/s and relevant on-site personnel to ensure areas are monitored prior to pre-clearing, clearing or initial excavation activities. It outlines an Aboriginal cultural heritage management strategy which includes a monitoring program, methodology for undertaking monitoring, as well as procedures for managing Aboriginal heritage (if identified during monitoring). The Aboriginal stakeholders (Bathurst Local Aboriginal Land Council) and the heritage consultation should undertake the monitoring in accordance with the monitoring methodology. The monitoring program includes also a monitoring process flow chart to assist in its implementation. An Aboriginal cultural heritage monitoring log to track monitoring events and progress has been included and should be updated by the land manager, as necessary. The roles and responsibilities of key personnel and organisations are outlined, as well as a contact list for relevant organisations. It is intended that this ACHMP can be finalised and closed once all areas within the projected area have been monitored and cleared for pre-clearing, clearing and initial excavation activities.

7.2 Aboriginal Cultural Heritage Monitoring Program

Schedule 3 condition 38 specifies that prior to undertaking the development an Aboriginal Cultural Heritage Monitoring Program (ACHMP) shall be prepared and implemented.

The ACHMP shall include:

a) a program to monitor for the presence of Aboriginal relics during pre-clearing, clearing and excavation stages of the development with the involvement of the Bathurst Local Aboriginal Land Council;
b) detailed methodology for conducting the monitoring program
c) procedures for managing any Aboriginal relics discovered during the development.

RPS have prepared the ACHMP – refer to appendix 6

8 Traffic Management Strategy

8.1 Introduction

The quarry product, crushed sandstone, will be transported from the Newnes rail loop by train to a processing site in Sydney. The existing rail loop is associated with the Clarence Colliery and used to transport coal to Port Kembla and is under-utilised and can easily accommodate the proposed maximum production rate at the proposed quarry. Clarence Colliery will have priority over the use of the rail loop and may on occasion load up to 3 trains a day, equivalent to 3 hours in a day, leaving adequate time for the proponent of the proposed quarry to load 2 trains on the same day.

Plant and infrastructure required to support the proposed quarry will be minimal given that all the sandstone mined at the site will be crushed on site then transported off site for processing. The crushed sandstone will be transported to the rail loop by a conveyor system.

8.2 Site Access

Schedule 3 condition 39 specifies that the internal access road from the site entrance to the site office including the carpark be sealed.

Schedule 3 condition 40 requires that all vehicles leaving the site are cleaned of materials that may fall on the road before they leave the site.

Schedule 3 condition 41 specifies that truck warning signs are erected on both sides of Main Road 516, otherwise known as the Bells Line of Road, on each approach to the access road in consultation with the RTA.

8.3 Parking

Schedule 3 condition 42 requires that there be sufficient on-site parking provided for all quarry related traffic and visitors in accordance with the parking codes of Lithgow City Council.

9 Rehabilitation Management Strategy

9.1 Introduction

The site currently supports an open eucalyptus woodland forest. The broad rehabilitation objective for the post –quarry landform is to establish a similar land use. The topography of the final landform will consist of a large number of small, stepped sandstone benches formed in an amphitheatre configuration each with a revegetated bench. The final void will be approximately 450m wide and 400m long at the western edge and 650m long at the eastern edge.

The stepped sandstone benches will be revegetated using directly applied seed with re-spread topsoil. A plant nursery will be established at the site to propagate all tube stock to be used during the rehabilitation process.

GSS Environmental have prepared a RLMP for the site. Refer to Appendix 5.

9.2 Rehabilitation and Landscape Management Plan

Schedule 3 condition 32 specifies that prior to the commencement of the development a Rehabilitation and Landscape Management Plan (RLMP) shall be prepared and implemented which must include the following:

a) Rehabilitation Management plan
b) Final Void Management plan and
c) Mine Closure Plan

Refer to RLMP for the site in Appendix 5.

9.3 Rehabilitation Management Plan

Schedule 3 condition 33 specifies that the Rehabilitation Management Plan must include:

a) rehabilitation objectives for the site;
b) description of the short, medium and long term measures that will be implemented to rehabilitate the site;
c) detailed assessment and completion criteria for the rehabilitation of the site;
d) detailed description of how the performance of the rehabilitation of the mine would be monitored over time to achieve the stated objectives;
e) describe in detail the measures that would be implemented over the next 3 years to rehabilitate and manage the landscape of the site.

Refer to sect ion 2 of the RLMP – pages 6 to 15.

9.4 Final Void Management Plan

Schedule 3 condition 34 specifies that the Final Void Management Plan (FVMP) must:

a) justify the planned final location and nature of the final void;
b) incorporate design criteria and specifications for the final void based on verified groundwater modelling predictions and re-assessment of post-extraction groundwater equilibration;
c) assess potential interactions between surrounding water bodies and the final void and
d) describe what actions and measures will be implemented to;
    1. minimise and potential adverse impacts associated with the final void
    2. manage and monitor the potential impacts of the final void until the mining lease for the development is relinquished.

Refer to section 3 of the RLMP – pages 16 to 19.

9.5 Mine Closure Plan

Schedule 3 condition 35 specifies that the Mine Closure plan must:

a) define the objectives and criteria for mine closure and post-extraction management
b) investigate options for future use and conservation of the site
c) describe the measures that will be implemented to minimise or manage the ongoing environmental effects of the development and
d) describe how the performance of these measures will be monitored over time.

Refer to section 4 of the RLMP – pages 20 to 24.

10 Community Relations Strategy

10.1 Introduction

The purpose of the Community Relations Strategy is to keep the local community informed about the development and to foster and to maintain good relations with the nearby residents, the local Council and existing mining and quarry operations for the duration of the quarry life.

There are 6 existing dwellings located along Sandham Road, which is approximately 100 metres south of the site.

Clarence colliery adjoins the site the west, while the Rocla quarry, which adjoins the site to the south, has recently ceased operations.

The site abuts the Blue Mountains National Park to the east.

10.2 Community Consultative Committee

Schedule 5 conditions 9 and 10 specify the creation of the Community Consultative Committee and how it will operate.

Specifically, condition 9 requires the establishment of a Community Consultative Committee (CCC) within 3 months of the consent. The proponent has lodged an application to modify this condition requiring that the CCC be established prior to the commencement of work and that application has yet to be determined.

Nevertheless the CCC shall:

a) be comprised of at least:
    1) 2 representatives from the proponent including the person responsible for the environmental management at the quarry.
    2) 1 representative from Council and
    3) at least 2 representatives from the local community

b) be chaired by an independent chairperson whose appointment has been endorsed by the Director General of Planning
c) meet at least twice a year
d) undertake regular inspections of the mine operations
e) review and provide comment on the environmental performance of the development including any construction or environmental management plans, monitoring results, audit reports or complaints
f) be operated in accordance with any guidelines the Department may publish in regard to the operation of CCCs for mining projects.

Condition 10 of the consent specifies that the applicant shall at its own expense:

a) ensure that 2 of its representatives attend the Committee's meetings
b) provide the committee with regular information on the environmental performance and management of the development
c) provide meeting facilities for the CCC
d) arrange site inspections for the CCCs meetings
e) take minutes of the CCC meetings
f) make these minutes available to the public
g) respond to any advice or recommendations the CCC may have in relation to the environmental management or performance of the development and
h) forward a copy of the minutes of each committee meeting and any responses to the Committees recommendations to the Director General within a month of the CCC meeting.

10.3 Access to Information

Schedule 5 conditions 11 & 12 outline the information access procedures that shall apply.

Specifically, condition 11 requires that within 1 month of the approval of any management plan, strategy or monitoring program required under the consent the completion of the independent audits or the completion of the AEMR, the applicant shall:

a) provide a copy of the relevant documents to the Council relevant agencies and the CCC
b) ensure that a copy of the relevant documents is made publicly available, and
c) put a copy of the relevant documents of the applicants website.

Schedule 5 Condition 12 of the consent specifies that during the life of the development the applicant shall:

a) make a summary of the results of all monitoring required under this consent publicly available both at the site and on the applicants website and
b) update these results on a regular basis – at least every 3 months.

10.4 Independent Dispute Resolution Process

Schedule 5 Appendix 3 to the consent contains a flow chart which outlines the indicative independent dispute resolution process which will commence with a referral to an Independent Dispute facilitator in consultation with Lithgow Council. Refer to Appendix 9.

11 Waste Management Strategy

11.1 Waste Management

Schedule 3 condition 48 and 49 outline the waste management procedures which shall apply to the development.

Specifically condition 48 specifies that the applicant shall:

a) monitor the amount of waste generated by the development
b) investigate ways to minimise waste generated by the development
c) implement reasonable and feasible measures to minimise waste generated by the development and
d) report on waste management and minimisation in the AEMR

Condition 49 specifies that an on-site sewage treatment facility will be installed to the satisfaction of Council and the DEC.

Refer to Appendix 10 for the Waste Management Plan.

12 Visual Management Strategy

12.1 Introduction

The site is on a ridge top with the visual catchment of the proposed mine extending around the site for various distances. The site may be viewed from a number of places with the best view of the site from a readily accessible site being from Bald Trip located in the Newnes State Forest some 2kms to the northwest of the site.

Views of the proposed quarry will be available from the rock pagodas located immediately opposite the site and on the edge of the National Park.

The site will be visible by residents in Newnes Junction particularly on the north side of the road. Although the quarry benches will not be visible in the early stages of the development, the removal of trees will be noticeable and may open up views to the Clarence Colliery.

During the initial stages of the mine development an acoustic/visual barrier will be constructed along the western, south-western and southern limits of the pit. The barrier will assist in reducing noise emissions from infrastructure development, site preparation, pollution control and mining operations.

The proposed acoustic barrier shall be constructed of pre-cast concrete panels erected to a height of five metres above the existing ground level as detailed in the Noise Impact Assessment by Atkins Acoustics dated May 2004.

12.2 Visual Impact

Schedule 3 condition 43, 44 and 45 specify measures to be undertaken to minimise the visual impacts of the development.

Schedule 3 condition 43 specifies that the visual impacts of the development will be minimised to the satisfaction of the Director General of Planning.

Schedule 3 condition 44 specifies that the proponent shall not undertake any development within 10 metres of the northern boundary of the site. The remnant tree cover in this area shall be maintained and conserved.

Schedule 3 condition 45 specifies that the proponent shall retain a 10 metre wide remnant tree screen on either side of the acoustic barrier referred to in part 6.3 of this EMS.

The remnant tree screen on both sides of the acoustic barrier shall be maintained and conserved.

13 Erosion and Sediment Management & Control

13.1 Water Management Plan

The management of runoff and the control of sediment will be an essential component of the on-going environmental management of the project.

The principle objective of soil and water management for the project is to ensure that there is no uncontrolled discharge of water from the site whatsoever and that the controlled water quality leaving the site meets the appropriate quality standards.

As detailed in the Water Management Plan, runoff from the quarry area will be directed to the dirty water management system consisting of retention ponds and treatment plant. The Main Retention Pond and Lower Retention Pond will be responsible for optimising the retention of sediment suspensions by the Water Treatment Plant prior to either offsite discharge or transfer to the water storage on the hill to the west.

Refer to section 5.5.5 Sediment Control in the WMP in Appendix 3.

Additional erosion and sediment control works will be implemented including windrows which will act as ‘contour banks’ which will reduce the erosion potential within the working area and allow pond water behind the bank and allow settling of the coarser sand.

Refer to section 5.5.6 Additional Erosion & Sediment Control in the WMP in appendix 3.

13.2 Erosion and Sediment Control Management Plan

Construction details of the proposed erosion and sediment control works are included in the Erosion and Sediment Control Management Plan in Appendix 11.

14 Development Consent Compliance Table

Development Consent Schedule and Condition	Subject	Relevant EMS Section
Schedule 3		
condition 9	noise mitigation	6.2
condition 10	as above	6.2
condition 12	continuous improvement	2.2
condition 13	noise monitoring program	6.4
condition 15	air quality monitoring program	5.2
condition 18	monitoring & management	4.2
condition 19	water balance	4.3
condition 20	soil and water management plan	4.4
condition 21	surface water monitoring program	4.5
condition 22	groundwater monitoring program	4.6
condition 23	reporting	4.7
condition 24	meteorological monitoring	5.3
condition 25	compensatory habitat	3.2
condition 26	flora and fauna management plan	3.3
condition 27	vegetation clearing protocol	3.4
condition 28	compensatory habitat management plan	3.5
condition 29	pest and weed management plan	3.6
condition 30	flora and fauna monitoring program	3.7
condition 32	rehabilitation and landscape management plan	9.2
condition 33	rehabilitation management plan	9.3
condition 34	final void management plan	9.4
condition 35	mine closure plan	9.5
condition 38	Aboriginal cultural heritage monitoring program	7.2
conditions 39, 40 ,41	traffic and transport	8.2
condition 42	parking	8.3
condition 43	visual impact	12.2
conditions 44 , 45	tree screens	12.2
conditions 48, 49	waste management	11.1
condition 53	production data	2.2
Schedule 4		
conditions 2 to 6	independent review	2.7
Schedule 5		
condition 1	environmental management strategy	2.1
condition 2, 3	environmental monitoring program	2.3

Development Consent Schedule and Condition	Subject	Relevant EMS Section
condition 4	incident reporting	2.4
condition 5	annual reporting	2.2
condition 6, 7 , 8	independent environmental audit	2.6
condition 8 (again)	environmental manager	2.5
conditions 9, 10	community consultative committee	10.2
conditions 11, 12	access to information	10.3

Appendix 1

Locality Plan

Appendix 2

Groundwater Monitoring Plan

By Aquaterra

Appendix 3

Water Management Plan

by GSS Environmental dated December 2010

Appendix 4

Flora & Fauna Management Plan

By RPS dated December 2010

Appendix 5

Rehabilitation and Landscape Management Plan

By GSS Environmental dated December 2010

Appendix 6

Aboriginal Cultural Heritage Management Plan

By RPS

Appendix 7

Air Quality Monitoring Program

By Pae Holmes

Appendix 8

Environmental Noise Monitoring Program

by Atkins Acoustics

Appendix 9

Independent Dispute Resolution Process

Detailed Dispute Resolution Process
and Extract from Development Consent (schedule 5 appendix 3)

Dispute Resolution Process

Step 1
Complainant to formally write to Newnes Kaolin (NK) setting out the nature of the dispute, and if required, identifying the person who has the authority to negotiate the dispute on behalf of the complainant, if the complainant does not wish to negotiate directly.

Step 2
Newnes Kaolin must appoint an employee who is independent of the area, or issue, that the complaint relates to, to mediate the dispute with the complainant. The dispute party must be notified by NK of the name of the employee and contact details, who has been authorised to negotiate the dispute within five working days from the receipt of the written notice from the dispute party.

Step 3
The NK employee must contact the dispute party or their representative within ten working days after the dispute party has received notification under step 2 and arrange a time and place to meet and discuss the dispute. NK must negotiate in good faith with a view to reaching an agreement with the dispute party.

Step 4
In the event that resolution cannot be agreed between NK and the dispute party an independent mediator (or dispute facilitator), agreed between both parties, will be appointed.

This process will generally be in accordance with the flowchart attached.

The agreed independent mediator must be appointed within ten working days of one or both the parties determining their desire that mediation is to proceed.

Once the mediator is appointed then the mediation process must commence within ten days after the appointment of the mediator or at a later date mutually agreed by both parties.

The costs of the mediator are to be shared equally between both parties.

The mediator must:

- have a detailed understanding and experience of dispute resolution practice and procedures which do not involve litigation;
- have the capacity to determine the most appropriate dispute resolution procedures in the particular circumstances;
- have an understanding of the mining and quarrying industry or the capacity to quickly acquire such an understanding and
- not be associated either directly or indirectly with either NK or the dispute party.

Appendix 10

Compliance with EPBC approval

Letter by GSS Environmental and amended development plans by RPS

Appendix 11

Erosion and Sediment Control Management Plan

By RPS

Appendix 12

Waste Management Plan

By RPS

Waste Minimisation Strategy

Outline of Proposal

Site Address:	**Sandham Rd, Newnes Junction**
Applicant's name:	**Sydney Construction Materials**
Phone:	
Prepared by:	**RPS**
Phone:	**(02) 49404200**
Buildings & other structures on site:	**vacant**
Brief description of the proposal:	**Sand quarry with projected life of 21 years**

The details provided on this form are for the Waste Minimisation Strategy relating to this project only.

Signature of Applicant: **Date:**

Site Clearing/demolition Phase

The site is vacant and may be described as undisturbed bushland. All materials including vegetation and top soil will be recycled or reused as set out in the Table 1 Demolition Phase Waste Minimisation Strategy.

Table 1 – Demolition Phase Waste Minimisation Strategy

Destination				
		Reuse & Recycle		**Disposal**
Type of Material		**On-site**		
Green Waste		Green waste mulched and reused on-site.		
Top soil		will be stored on site and reused for the rehabilitation of the site		
Bricks if any			Broken bricks, concrete & whole mortar bricks will be recycled	
Concrete if any			Broken bricks, concrete & whole mortar bricks will be recycled	
Timber Hardwood			Recycled	
Other			Will be recycled	

Construction Phase

During the construction phase a supervisor (Waste Management Officer) should be appointed to oversee the waste management of materials. The Waste Minimisation Strategy should follow the waste minimisation hierarchy of Avoid (waste at source), Reuse (materials and components), Recycle (materials into new products) and Dispose (in a responsible manner).

The proposed development requires significant excavation of the site over time. Most of the material created during the excavation will be reused on site; the remainder will be transported off site as clean fill.

Table 2 lists the Waste Minimisation Plan for the construction phase of the development. As listed in the *Waste Planning Guide for Development Application* published NSW Waste Boards, the Waste Management Officer should:

- identify waste material before work commences;
- consider site areas and day to day waste produced by staff and sub-contractors;
- identify any reusable and recyclable materials during construction of the proposed development
- involve waste contractors to ensure records are kept and waste targets are met;
- develop a disposal procedure:
    - specify the number and type of waste containers, allowing for different stages in the project;
    - organise signage and location of bins, skips and stockpiles;
    - designate areas for reusables, returnables and recyclables;
    - keep separated waste material clean;
    - provide training and education to ensure waste management objectives are met.

During the fit out and finishing the waste management officer should:

- provide areas for dedicated cardboard skips for packaging waste;
- separate plasterboard and keep it clean for recycling
- arrange for waste pickups as needed; and
- maintain a clean waste stream and ensure new sub-contractors are aware of waste minimisation strategy.

Table 2 – Construction Phase Waste Minimisation Strategy

Destination				
		Reuse & Recycle		**Disposal**
Type of Material		**On-site**	**Off-site**	
Excavation Material		Reuse majority on site for landscaping. Stockpile on site until needed.	Surplus spoil to be recycled	
Bricks & Concrete			Broken bricks, concrete & whole mortar bricks will be recycled	
Timber - Hardwood			Sorted & Recycled	
Other				
Plasterboard			Sorted & Recycled	
Metals - Gal Pipes			Sorted & Recycled	
Gutters				
Copper				
Lead				
Other -				
Doors/windows			Sorted & Recycled	
Fittings				
Glass			Sorted & Recycled	
Synthetic Rubber			Sorted & Recycled	

Operational Phase

The proposed quarry will have sufficient space on site to store all waste and recycling that will be generated by the development. Generation rates are shown in Table 3 Post Construction Waste Minimisation Strategy.

Table 3 – Post Construction Waste Minimisation Strategy

a) Post Construction Stage			
Type of Waste Generated		**Proposed on-site storage and Treatment Facilities**	**Destination**
Glass Paper/Cardboard		240L Mobile Garbage Bin	Recycled in Council's weekly mobile garbage bin service
Garbage - food wastes, off-cuts etc.		240L Mobile Garbage Bin	Collected in Council's weekly mobile garbage bin service

Recycling and garbage rates used for calculations are derived from figures published in *Better Practice Guide for Waste Management in Multi-Unit Dwellings*, published by Resource NSW (2002).

Storage – space and location

Waste cupboards: each unit should have a waste cupboard located in the space below the kitchen sink. This should hold one day's waste and enable the separation of garbage and recyclables.

Worm Farm and/or Compost Bin: the units should utilise a worm farm or compost bin for food scraps and reuse produce in the landscape.

Appendix 13

Environmental Monitoring Program

By RPS

Environmental Monitoring Program

Background

Schedule 5 condition 2 specifies that prior to carrying out any development the Applicant shall prepare an **Environmental Monitoring Program (EMoP)** for the development. This EMoP must consolidate the various monitoring requirements in schedule 3 of the consent into a single document.

Schedule 3 condition 3 specifies that within 3 months of the completion of each Independent Environmental Audit the Applicant shall review and if necessary update the EMoP.

Refer to the Monitoring Locations plan attached.

Noise Monitoring Program

Schedule 3 condition 13 specifies that prior to undertaking the development a Noise Monitoring Program (NMP) shall be prepared and implemented.

The NMP must include a combination of attended and unattended noise monitoring and a noise monitoring protocol for evaluating compliance with the noise impact assessment in the consent.

Response: Atkins Acoustics have prepared an Environmental Noise Monitoring Program for the project which is listed as Appendix 8 in this EMS.

Visual and aural inspections will be undertaken quarterly, site attended noise monitoring undertaken annually and/or to assess noise complaints received by the Newnes Kaolin Environmental Manager.

Noise measurements will be conducted at exposed property boundary or within 30 metres of any residential dwelling on that property. The measurements will be conducted with the sound level meter microphone at a height of between 1.2 and 1.5 metres above the ground.

Quarterly audits will be conducted by an Accredited Noise Consultant, Acoustic Engineer or the site Environmental manager which will conduct visual and aural inspections and evaluations of plant and equipment, installed noise controls and review the operational management procedures.

Air Quality Monitoring Program

Schedule 3 condition 15 specifies that prior to undertaking the development the applicant shall prepare and implement an Air Quality Monitoring Program (AQMP) which must include an air monitoring protocol for evaluating compliance with the air quality impact assessment criteria in the consent.

Response: Pae Holmes have prepared an Air Quality Monitoring Program for the proposal which is listed as Appendix 7 in this EMS.

The monitoring proposed will include:

1) Four dust deposition gauges (DDGs) measuring nuisance dust fallout. One DDG should be located at the closest affected residential receptor to the southwest of the site with another installed beyond the northern boundary of the site to allow for upwind and downwind comparisons in dust levels. Two DDGs should be installed along the eastern boundary of the site at the border of the Blue Mountains WHA at assess amenity impacts on the WHA.
2) One high volume air sampler (HVAS) measuring PM10 concentrations at the closest affected residential receptor to the site, the location depending on the stage of operations and the proximity of extraction to residences to the southwest.

The Environmental Manager will ensure that proposed dust control measures are effectively implemented and have the intended outcome, that is, no off-site nuisance or health effects due to air pollution are experienced.

Meteorological Monitoring

Schedule 3 condition 24 states that prior to carrying out the development a meteorological station shall be established and maintained in the vicinity of the development.

Response: A meteorological monitoring station has been installed on the hill top, on the corner of the road, approximately 300 metres west of the proposed mine and quarry. The installation date was Friday 11th March 2011. The meteorological station has been sited in accordance with the Australian Standard. The weather station was installed and will be operated in accordance with the Manufacturers instructions.

Surface Water Monitoring Program

Schedule 3 condition 21 specifies that the Surface Water Monitoring Program (SWMP) shall include;

a) detailed baseline data on surface water flows and quality in water bodies that could potentially be impacted by the development including the Wollangambe River and its tributaries.
b) surface water and stream health impact assessment criteria
c) a program to monitor surface water flows and quality
d) a program to monitor water releases from the site
e) a program to monitor bank and bed stability and
f) a protocol for the investigation, notification and mitigation of identified exceedances of the surface water and stream health assessment criteria.

Response: GSS Environmental have prepared a Water Management Plan for the project which is listed as Appendix 3 in this EMS.

The objectives of the SWMP are to ensure that:

- dirty water is adequately being directed to and detained in sediment basins.

- No uncontrolled discharge occurs from the site during operational and rehabilitation phases of the project.
- Any discharge will only be by means of controlled flow from the water treatment plant.
- Clean water is adequately being directed away from the site by clean water diversion channels.
- The quality of the surrounding water bodies are not impacted due to site operations.

Ongoing surface water monitoring will be undertaken within the ephemeral watercourses immediately down stream from the site. Refer to the monitoring locations plan.

The proposed monitoring locations will be in the immediate vicinity of the locations from where baseline water quality samples were obtained. Monitoring will be undertaken for the parameters specified in the DGRs including pH, EC, TSS, selected metals, oil and grease and BOD.

It is proposed to sample the background waters weekly during controlled discharges and monthly at other times. Samples of the water quality within the sediment control dams on site will also be taken prior to discharge.

Groundwater Monitoring Program

Schedule 3 condition 22 specifies that the Groundwater Monitoring Program (GWMP) shall include;

a) detailed baseline data on ground water levels and quality, based on statistical analysis, to benchmark the pre-mining natural variation in groundwater levels, yield and quality.
b) Groundwater impact assessment criteria
c) A program to monitor:
    1 Regional groundwater levels and quality
    2 Impacts on the groundwater supply of potentially affected landowners
    3 Impacts on base flow in downstream water bodies
    4 Impacts on groundwater dependent ecosystems and riparian vegetation and
d) A protocol for the investigation, notification and mitigation of identified exceedances of the groundwater impact assessment criteria.

Response: RPS Aquaterra have prepared a Groundwater Monitoring Program (GWP) for the project which is listed as Appendix 2 in this EMS.

The groundwater monitoring commenced on the proposed Newnes Kaolin mine on the 17th June 2010.

The groundwater monitoring program includes:
▼ Daily measurement of water levels in the existing network of piezometers (NW, NE, S and W) to be monitored through the life of the project.
▼ Quarterly sampling of all standpipe piezometers for analysis of electrical conductivity (EC), total dissolved solids (TDS) and pH.
▼ Biannual collection of water samples from all standpipe piezometers for laboratory analysis of a broader suite of parameters:

- Physical properties (EC, TDS and pH)
- Major cations and anions (Ca, Mg, Na, K, Cl, SO_4, HCO_3 and CO_3)
- Nutrients
- Dissolved metals.

Flora and Fauna Monitoring Program

Schedule 3 condition 30 specifies that the Flora and Fauna Monitoring Program (FFMonP) shall include the following:

a) detailed baseline data on the flora and fauna on the site and adjacent the site including habitat present in the greater Blue Mountains WHA and along the Wollangambe River and its tributaries
b) detailed flora and fauna impact assessment criteria
c) a program to monitor flora and fauna and habitat health on and adjacent site including habitat present in the greater Blue Mountains WHA and along the Wollangambe River and its tributaries
d) a protocol for the investigation, notification and mitigation of identified non-compliances with the flora and fauna impact assessment criteria.

Response: RPS have prepared a Flora & Fauna Management Plan (FFMP) for the project which is listed as Appendix 4 in this EMS.

This plan includes details of the proposed FFMonP which is required to initially provide baseline data regarding the flora and fauna composition currently present within the subject site, the habitats present within the adjoining Greater Blue Mountains World Heritage Area and habitats present along the Wollangambe River and tributaries. The initial survey will provide baseline data to be used for comparison with other data gathered via regular monitoring during and subsequent to the mine operations. Baseline data will include structural and floristic vegetation descriptions, hydrological observations, occurrence and extent of weeds, presence or absence of pests or introduced fauna

The initial monitoring strategy will be to collect a comprehensive set of data to act as a baseline to enable comparison to data from subsequent surveys. Comparison of data from subsequent surveys will highlight any deviation from the baseline data and will be useful for monitoring the health, diversity and structure of the site with respect to flora and fauna.

The overall strategy will be to undertake a series of easily repeatable surveys that will gather a comprehensive set of data each time. Ideally this data gathering will follow a set of easily understood guidelines to simplify the task and to ensure that the data is collected in a similar manner each time.

A standard set of proformas will be used to gather the information.

Aboriginal Cultural Heritage Monitoring Program

Schedule 3 condition 38 specifies that prior to undertaking the development an Aboriginal Cultural Heritage Monitoring Program (ACHMP) shall be prepared and implemented.

The ACHMP shall include:

d) a program to monitor for the presence of Aboriginal relics during pre-clearing, clearing and excavation stages of the development with the involvement of the Bathurst Local Aboriginal Land Council;
e) detailed methodology for conducting the monitoring program and
f) procedures for managing any Aboriginal relics discovered during the development.

Response: RPS has prepared an Aboriginal Cultural Heritage Management Plan (ACHMP) for the project, which includes a monitoring program, and which is listed as Appendix 6 in this EMS.

This monitoring program should be implemented when the following works or activities are proposed within the project area: pre-clearing, clearing, initial excavation. This monitoring program includes key personnel; land manager, on-site personnel, heritage consultant and Aboriginal stakeholders with their roles and responsibilities outlines in the ACHMP.

At the outset, relevant on-site personnel and land manager should have read and understood this document and a copy of this document should be kept on-site for ease of reference. Before the commencement of works the land manager in liaison with on-site personnel should identify whether the following activities are proposed within the project area: pre-clearing, clearing, initial excavation. The location/s of such activities should be identified, as well as the intended start date. The heritage consultant (RPS) should be contacted at least one month prior to the commencement of works so that the location/area can be inspected and monitored in consultation with the Aboriginal stakeholders (Bathurst Local Aboriginal Land Council).

If Aboriginal sites or objects are identified during monitoring, appropriate mitigation strategies should be developed in accordance with the monitoring program methodology in the ACHMP. Such strategies should be implemented and signed off by the heritage consultant and Aboriginal stakeholders. The Land manager should fill out the Aboriginal Cultural Heritage Monitoring Log and append information supplied by the heritage consultant to the back of this document. The activity in the designated area which has been monitored can then proceed. If no Aboriginal sites or objects are identified during monitoring, then the land manager should fill out the Aboriginal Cultural Heritage Log and the activity can proceed in the area which has been monitored. If other areas require monitoring then the monitoring program should be implemented as appropriate, until such time that all land to be impacted has been monitored for pre-clearing, clearing and initial excavation activities. Once the monitoring program is complete for all activity areas this document can be finalised and closed; a copy should be forwarded to the Aboriginal stakeholders.

Attachment: Monitoring Location plan

Appendix 14

Development Consent & Modification

Appendix 15

EPBC consent

Appendix 16

Environment Protection Licence