

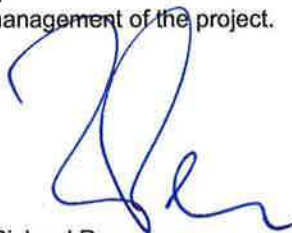
Project Approval

Section 75J of the *Environmental Planning & Assessment Act 1979*

As delegate of the Minister for Planning and Infrastructure, I approve the project application referred to in Schedule 1, subject to the conditions in Schedules 2 to 5.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.



Richard Pearson
Deputy Director-General, Development Assessment and
Systems Performance

Sydney

27th September 2011

SCHEDULE 1

Application Number:	10_0014
Proponent:	Boral Bricks Pty Ltd
Approval Authority:	Minister for Planning and Infrastructure
Land:	See Appendix 1
Project:	Boral Badgerys Creek Quarry and Brick Making Project

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DEFINITIONS

Annual review	The review required by Condition 3 of Schedule 5
BCA	Building Code of Australia
Conditions of this approval	Conditions contained in Schedules 2 to 5 inclusive
Council	Liverpool City Council
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Infrastructure
Director-General	Director-General of the Department of Planning and Infrastructure, or delegate
EA	Environmental assessment titled <i>Environmental Assessment - Boral Badgerys Creek Continued Operation of Quarry and Brick Making Facility</i> Volumes 1 – 3, dated November 2010, prepared by AECOM, including the Response to Submissions
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence issued under <i>POEO Act</i>
Evening	The period between 6pm to 10pm on any day
Feasible	Feasible relates to engineering considerations and what is practical to build or carry out
Incident	A set of circumstances that causes or threatens to cause material harm to the environment, and/or breaches or exceeds the limits or performance measures/criteria in this approval
Land	In general, the definition of land is consistent with the definition in the EP&A Act. However, in relation to the noise and air quality conditions in Schedules 3 and 4 it means the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Minister	Minister for Planning and Infrastructure, or delegate
Minor	Small in quantity, size and degree
Mitigation	Activities associated with reducing the impacts of the project
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
NOW	NSW Office of Water (within the Department of Primary Industries)
OEH	Office of Environment and Heritage (within the Department of Premier and Cabinet)
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency or a extractive industry company (or its subsidiary)
Project	The development described in the EA
Proponent	Boral Bricks Pty Limited, or its successors
Quarry Water	Water that accumulates within active quarrying areas, overburden emplacement areas and infrastructure areas, synonymous with dirty water
Quarrying Operations	The extraction, processing and transportation of extractive materials and the associated removal of vegetation, topsoil and overburden
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Rehabilitation	The treatment or management of land disturbed by the project for the purpose of establishing a safe, stable and non-polluting environment, and includes remediation
Response to Submissions	The proponent's responses to issues raised in submissions, including those titled <i>Boral Badgerys Creek Continued Operation of Quarry and Brick Making Facility – Submissions Report</i> , dated June 2011, prepared by AECOM
RTA	Roads and Traffic Authority
Site	The land to which the project application applies, as listed in Appendix 1
Statement of Commitments	The Proponent's commitments in Appendix 6

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. The Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation or rehabilitation of the project.

TERMS OF APPROVAL

2. The Proponent shall carry out the project in accordance with the:
 - (a) EA;
 - (b) Statement of Commitments; and
 - (c) conditions of this approval.

Notes:

- The general layout of the project is shown in Appendix 3; and
- The Statement of Commitments is reproduced in Appendix 6.

3. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this approval shall prevail to the extent of any inconsistency.
4. The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
 - (a) any reports, strategies, plans, programs, reviews, audits or correspondence that are submitted in accordance with this approval; and
 - (b) the implementation of any actions or measures contained in these documents.

LIMITS ON APPROVAL

5. The Proponent may carry out quarrying operations and brick making on the site until 27 September 2031.

Note: Under this approval, the Proponent is required to rehabilitate the site and carry out additional undertakings to the satisfaction of the Director-General. Consequently, this approval will continue to apply in all other respects - other than the right to conduct quarrying and brick making operations - until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.

6. The Proponent shall not:
 - (a) extract more than 420,000 tonnes of clay shale from the site in any calendar year;
 - (b) produce more than 252,000 tonnes of bricks at the site in any calendar year;
 - (c) extract any clay shale or carry out any work in the extraction area below 35 metres below the pre-existing natural surface of the ground, other than construction of bores approved by NOW; and
 - (d) receive more than 20,000 tonnes of raw materials required for brick making to the site in any calendar year.

STRUCTURAL ADEQUACY

7. The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures, are constructed in accordance with the relevant requirements of the BCA.

Notes:

- Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for the proposed building works; and
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.

DEMOLITION

8. The Proponent shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601-2001: The Demolition of Structures*, or its latest version.

OPERATION OF PLANT AND EQUIPMENT

9. The Proponent shall ensure that all the plant and equipment used on site, or to transport brick and other clay product from the site, is:
 - (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

STAGED SUBMISSION OF ANY STRATEGY, PLAN OR PROGRAM

10. With the approval of the Director-General, the Proponent may submit any strategy, plan or program required by this approval on a progressive basis.

Note: While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations of the site are covered by suitable strategies, plans or programs at all times.

11. The Proponent shall continue to implement the existing strategies, plans or programs that apply to any development on site until they are replaced by an equivalent strategy, plan or program approved under this approval.
-

SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

NOISE

Construction Noise Criteria

- The Proponent shall ensure that noise generated during the construction of acoustic bunds does not exceed the criteria in Table 1.

Table 1: Construction Noise Criteria dB(A)

Construction Activity	Location	Day <i>L_{Aeq} (15 min)</i>
Bund 3C	Residence 9	55
Bund 4A	Residences 27 and 31	
Bund 4B	Residence 28	
Bund 4A	Residences 26, 28 and 42	60
Bund 4A	Residences 5 and 25	65
Bund 4A	Residence 9	68
Bunds 3C, 4A and 4B	All other residences	50

Notes:

- To identify the locations referred to in Table 1, see the figure and associated table in Appendix 2;
- Noise generated by the project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.

- The Proponent shall notify the Department in writing of:
 - prior to the commencement of construction of each acoustic bund, the expected date of commencement and estimated period of construction of the bund/s; and
 - within 2 weeks of completion of construction of each bund, the date of completion of construction of the bund/s.

Operational Noise Criteria

- The Proponent shall ensure that the operational noise generated by the project does not exceed the criteria in Table 2 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.

Table 2: Noise Criteria dB(A)

Activity	Location	Day <i>L_{Aeq} (15 min)</i>	Evening <i>L_{Aeq} (15 min)</i>	Night	
				<i>L_{Aeq} (15 min)</i>	<i>L_{A1} (1 min)</i>
Quarrying	All residential premises	44	NA	NA	NA
Brick making and storage yard activities		44	38	35	45

Notes:

- To identify the locations referred to in Table 1, see the figure and associated table in Appendix 2;
- Noise generated by the project is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.

However, these criteria do not apply if the Proponent has a written agreement with the relevant landowner to exceed the criteria, and the Proponent has advised the Department in writing of the terms of this agreement.

Traffic Noise Criteria

- The Proponent shall ensure that the traffic noise generated by the project does not exceed the criteria in Table 3.

Table 3: Traffic noise impact assessment criteria dB(A)

Road	Day / Evening <i>L_{Aeq} 1 hour</i>
Martin Road	55

Note:

- Traffic noise generated by the project is to be measured in accordance with the relevant procedures in the DECCW's Environmental Criteria for Road Traffic Noise.

Operating Hours

5. The Proponent shall comply with the operating hours in Table 4.

Table 4: Operating hours

Activity	Operating Hours / Day
Removal of overburden and construction of noise bunds	7am to 6pm / Monday to Friday 8am to 1pm / Saturday
Quarrying	7am to 6pm / Monday to Saturday
Brick making and storage yard	24 hours / Monday to Sunday
Deliveries and dispatch	6am to 10pm / Monday to Friday 6am to 6pm / Saturday

Operating Conditions

6. The Proponent shall:
- implement best practice noise management, including all reasonable and feasible noise mitigation measures to minimise the construction, operational and road traffic noise generated by the project; and
 - implement all noise management and mitigation measures that were committed to in the EA, to the satisfaction of the Director-General.

Noise Management Plan

7. The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must:
- be prepared in consultation with OEH and Council, and submitted to the Director-General for approval by the end of January 2012;
 - describe the noise mitigation measures that would be implemented to ensure compliance with the relevant conditions of this approval;
 - describe measures to ensure that all the commitments in the EA in relation to noise are implemented;
 - include an acoustic bund construction plan to specify the mitigation and management measures that will be implemented during the construction of the acoustic bunds;
 - include an operational noise management plan that includes mitigation and management measures that will be implemented during the operation of the quarry and brick making works;
 - include a consultation plan detailing:
 - procedures for notifying and consulting nearby residents prior to the commencement of the construction of the noise bunds and during quarrying and brick making works;
 - details of a telephone complaints line (all hours) and relevant site persons responsible for following up complaints;
 - procedures for handling and monitoring all complaints received;
 - contingency measures that would be implemented where complaints are received; and
 - include a noise monitoring program for construction and operation that:
 - uses attended monitoring to evaluate the performance of the project; and
 - includes a protocol for determining exceedances of the relevant conditions of this approval.

AIR QUALITY & GREENHOUSE GAS

Odour

8. The Proponent shall ensure that no offensive odours, as defined by the POEO Act, are emitted from the site.

Greenhouse Gas Emissions

9. The Proponent shall implement all reasonable and feasible measures to maintain greenhouse gas emissions on site at 2007 levels, and offset any increases above this level by implementing efficiency measures to the satisfaction of the Director-General.

Air Quality Criteria

10. The Proponent shall ensure compliance with stack emission limits and gaseous pollutant load limits included in any EPL applicable to the site.
11. The Proponent shall ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the particulate emissions generated by the project do not exceed the criteria listed in Tables 5, 6 and 7 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.

Table 5: Long term criteria for particulate matter

Pollutant	Averaging period	^dCriterion
Total suspended particulate (TSP) matter	Annual	^a 90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µg/m ³

Table 6: Short term criterion for particulate matter

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

Table 7: Long term criteria for deposited dust

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

Notes for Tables 5-7:

- ^a Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to other sources);
- ^b Incremental impact (i.e. incremental increase in concentrations due to the project on its own);
- ^c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method; and
- ^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, fire incidents, illegal activities or any other activity agree to by the Director-General in consultation with OEH.

Operating Conditions

12. The Proponent shall:
 - (a) implement best practice air quality management on site, including all reasonable and feasible measures to minimise the off-site odour, gaseous emissions, fume and dust emissions generated by the project;
 - (b) implement all air management and mitigation measures that were committed to in the EA; and
 - (c) ensure that real-time air quality monitoring for 24-hour average PM₁₀ and meteorological monitoring data are assessed regularly, and that quarrying operations are relocated, modified and/or stopped as required to ensure continuing compliance with the relevant criteria in this approval, to the satisfaction of the Director-General.
13. Prior to the commencement of quarrying operations in Pit 5, the Proponent shall undertake an Air Quality Audit to the satisfaction of the Director-General. The audit must:
 - (a) be undertaken in consultation with OEH by suitably qualified and experienced persons whose appointment has been approved by the Director-General;
 - (b) review the effectiveness of existing air quality management and control measures; and
 - (c) describe any additional air quality control measures, including operational controls, required to ensure continuing compliance with air quality criteria during the quarrying activities associated with Pit 5.

Air Quality & Greenhouse Gas Management Plan

14. The Proponent shall prepare and implement a detailed Air Quality & Greenhouse Gas Management Plan for the project to the satisfaction of the Director-General. This plan must:
 - (a) be prepared in consultation with OEH and Council, and submitted to the Director-General for approval by the end of January 2012;
 - (b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval;
 - (c) describe measures to ensure that all the commitments in the EA in relation to air quality are implemented;
 - (d) include a program to ensure surface disturbance associated with quarrying operations is minimised;
 - (e) include an air quality monitoring program, that uses a combination of real-time monitors, high volume samplers and dust deposition gauges, to evaluate the performance of the project at potential receivers and on-site;
 - (f) include a program to:
 - notify affected landowners of the potential health-related impacts associated with dust; and
 - respond effectively to enquiries or complaints; and
 - (g) include a protocol for determining any exceedance with the relevant conditions of this approval.

METEOROLOGICAL MONITORING

15. During the life of the project, the Proponent shall ensure that there is a suitable meteorological station operating in the vicinity of the site that:
- (a) complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline; and
 - (b) is capable of continuously recording wind speed and direction, temperature and rainfall.

SOIL & WATER

Water Discharges

16. The Proponent shall ensure that all quarry water from the site is contained wholly within the site.
17. The Proponent shall ensure that all surface water discharges from the site comply with the limits (both volume and quality) set in any EPL applicable to the site.

Riparian Buffer Distance

18. The Proponent shall maintain a minimum setback width of 60 metres (measured from the top of bank) between extraction areas and both Badgerys Creek and Badgerys Creek tributary.

Alluvial Aquifers

19. The Proponent shall ensure that the project has no impact on alluvial aquifers associated with South Creek, Badgerys Creek or Badgerys Creek tributary.
20. The Proponent shall prepare and implement an Alluvial Aquifer Assessment for the project to the satisfaction of the Director-General. This plan must:
- (a) be prepared in consultation with NOW by suitably qualified and experienced persons whose appointment has been approved by the Director-General;
 - (b) be submitted to the Director-General for approval within 12 months of the date of this approval; and
 - (c) include:
 - a program to monitor groundwater from boreholes to be constructed in the alluvial sediments adjacent to Badgerys and South Creeks and in the Bringelly Shale bedrock aquifer;
 - alluvial mapping to delineate the presence and extent of alluvial sediments and alluvial aquifers between Badgerys Creek and the proposed Pit 5 extraction area (refer to Appendix 3);
 - mitigation and management measures to ensure alluvial sediments and alluvial aquifers are not impacted by the project, including:
 - appropriate buffer setback distances between the alluvial sediments and the Pit 5 extraction area; and
 - any resulting adjustments to the Pit 5 extraction area.

Water Management Plan

21. The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan must be prepared in consultation with OEH and NOW by suitably qualified and experienced persons whose appointment has been approved by the Director-General, and submitted to the Director-General by the end of March 2012.

In addition to the standard requirements for management plans (see Condition 2 of Schedule 5), this plan must include:

- (a) a Site Water Balance that:
 - includes details of:
 - sources and security of water supply;
 - water use on site;
 - adequacy of water storage facilities to contain all surface water runoff; and
 - reporting procedures; and
 - describes what measures would be implemented to minimise potable water use on site.
- (b) a Surface Water Management Plan, that includes:
 - a detailed description of the water management system on site, including the:
 - clean water diversion systems;
 - erosion and sediment controls; and
 - water storages;
 - detailed plans, including design objectives and performance criteria, for:
 - reinstatement of drainage lines on the rehabilitated areas of the site; and
 - control of any potential water pollution from rehabilitated areas of the site;
 - performance criteria for the following, including trigger levels for investigating any potentially adverse impacts on:

- the water management system;
- surface water quality in creeks and other water bodies that could potentially be affected by the project (including Badgerys Creek and Badgerys Creek tributary);
- the stream health, vegetation health and channel stability of water bodies that could potentially be affected by the project; and
- a program to monitor:
 - the effectiveness of the water management system;
 - surface water flows and quality in creeks and other water bodies that could potentially be affected by the project;
 - the stream health, riparian vegetation health and channel stability of creeks and other water bodies that could potentially be affected by the project; and
- a plan to respond to any exceedances of the performance criteria, and mitigate and/or offset any adverse surface water impacts of the project; and
- (c) a Groundwater Management Plan, which includes:
 - groundwater assessment criteria, including trigger levels for investigating and potentially adverse groundwater impacts;
 - a program to monitor:
 - groundwater inflows to the quarrying operation;
 - the impacts of the project on baseflows to Badgerys Creek and Badgerys Creek tributary; and
 - a plan to respond to any exceedances of the performance criteria.

HERITAGE

22. The Proponent shall ensure that:
- (a) archaeological salvage of site BC-01-09 is undertaken in accordance with recommendation 1 of Appendix C, Section 6.0 of the Response to Submissions; and
 - (b) regeneration works in the area of the archaeological deposit identified adjacent to Badgerys Creek (see Appendix 4) are either avoided, or else undertaken in a manner that will minimise harm to Aboriginal objects, to the satisfaction of the Director-General.

Aboriginal Heritage Management Plan

23. The Proponent shall prepare and implement an Aboriginal Heritage Management Plan for the project to the satisfaction of the Director-General. The Plan must:
- (a) be prepared in consultation with OEH and the Aboriginal community;
 - (b) be submitted to the Director-General for approval prior by the end of March 2012; and
 - (c) include a:
 - program for the recording, salvage and surface collection of any Aboriginal objects/sites that have been identified and may be encountered within the project area;
 - describe measures that will be implemented to ensure Aboriginal objects in the area adjacent to Badgerys Creek are not impacted during regeneration operations;
 - description of the measures that would be implemented if any Aboriginal skeletal remains are discovered during the project; and
 - protocol for the ongoing consultation and involvement of the Aboriginal community in the conservation and management of the Aboriginal heritage of the objects/sites.

TRAFFIC & TRANSPORTATION

Road Haulage

24. By the end of March 2012, the Proponent shall:
- (a) erect signage on Elizabeth Drive advising of "trucks turning";
 - (b) install a wheel wash on the quarry access road to prevent material being deposited in Martins Road; and
 - (c) ensure the access driveway from Martin Road is capable of catering for all heavy vehicles associated with the project in accordance with AS2890.2, to the satisfaction of Council.

Transport Management Plan

25. By the end of March 2012, the Proponent shall prepare and implement a Transport Management Plan, to the satisfaction of Council. The plan must include:
- (a) a safety audit of project-related truck transport on local roads;
 - (b) a drivers' code of conduct to minimise the impacts of project-related trucks on local residents; and
 - (c) the measures that would be put in place to ensure compliance with the drivers' code of conduct.

Monitoring of Brick Transport

26. The Proponent shall:
- (a) keep accurate records of the:
 - number and weight of bricks transported from the site (on a monthly basis); and
 - the date and time of loaded truck movements from the site; and
 - (b) provide the Director-General with a summary of these truck movements on a quarterly basis.

Operating Conditions

27. The Proponent shall ensure that:
- (a) bricks are only transported from the site by road;
 - (b) a maximum of 60 laden brick trucks (ie 120 movements) exit the site per day, Monday to Friday; and
 - (c) a maximum of 20 laden brick trucks (ie 40 movements) exit the site per day on Saturdays.

Road Upgrade and Maintenance Contribution

28. The Proponent shall:
- (a) within 3 months of the date of this approval, provide the Director-General with evidence of an agreement with Council for the:
 - upgrade and widening of Martin Road from the site entrance to the entrance of Australian Native Landscape; and
 - annual road maintenance contributions to be paid to Council, based on the weight of brick products and associated materials transported from and to the site, for the life of the project; and
 - (b) implement this agreement to the satisfaction of the Director-General.

If there is any dispute between the Proponent and Council, then either of the parties may refer the matter to the Director-General for resolution.

VISUAL

Visual Amenity and Lighting

29. The Proponent shall:
- (a) minimise the visual impacts, and particularly the off-site lighting impacts, of the project;
 - (b) take all practicable measures to further mitigate off-site lighting impacts from the project; and
 - (c) ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1995 - Control of Obtrusive Effects of Outdoor Lighting*, to the satisfaction of the Director-General.

WASTE

30. The Proponent shall:
- (a) minimise the waste generated by the project; and
 - (b) ensure that the waste generated by the project is appropriately stored, handled and disposed of, to the satisfaction of the Director-General.
31. The Proponent shall prepare and implement a Waste Management Plan for the project to the satisfaction of the Director-General. This plan must be submitted to the Director-General by the end of January 2012.

FIRE MANAGEMENT

32. The Proponent shall:
- (a) ensure that the development is suitably equipped to respond to any fires on-site; and
 - (b) assist the emergency services as much as possible if there is a fire on-site during the development.

SAFETY

33. The Proponent shall secure the project to ensure public safety to the satisfaction of the Director-General.

REHABILITATION

Rehabilitation Objectives

34. The Proponent shall rehabilitate the site to the satisfaction of the Director-General. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA and shown on the figure in Appendix 4, and include:
- (a) stabilising and revegetating existing stockpiles and unused haul roads;
 - (b) stabilising and revegetating acoustic bunds;
 - (c) returning Pit 2 to natural ground level and revegetating;
 - (d) stabilising voids; and
 - (e) fencing, planting and weed control along Badgerys Creek and Badgerys Creek tributary.

Progressive Rehabilitation

35. The Proponent shall carry out the rehabilitation of the site progressively, that is, as soon as reasonably practicable following disturbance.

Rehabilitation Strategy

36. The Proponent shall prepare a Rehabilitation Strategy for the project to the satisfaction of the Director-General. The strategy must:
- (a) be prepared by a team of suitably qualified and experienced experts whose appointment has been endorsed by the Director-General;
 - (b) be submitted to the Director-General by the end of January 2012;
 - (c) be prepared in consultation with relevant stakeholders, including Council and OEH;
 - (d) investigate options for the future use of disturbed areas including voids after completion of quarrying operations;
 - (e) describe and justify the proposed rehabilitation strategy for the site, including post-operations landform and use; and
 - (f) define the rehabilitation objectives for the site, as well as the proposed completion criteria for this rehabilitation.

Rehabilitation Management Plan

37. The Proponent shall prepare and implement a Rehabilitation Management Plan for the project to the satisfaction of the Director-General. This plan must:
- (a) be submitted to the Director-General by the end of March 2012.
 - (b) be prepared in consultation with OEH and NOW;
 - (c) be prepared in accordance with any relevant guideline(s);
 - (d) achieve the Rehabilitation Objectives specified in the Rehabilitation Strategy (Condition 36);
 - (e) take into account any relevant strategic planning limitations in the local and regional areas; and
 - (f) build, to the maximum extent practicable, on the other management plans required under this approval.
-

SCHEDULE 4 ADDITIONAL PROCEDURES

INDEPENDENT REVIEW

1. If an owner of privately-owned land considers the project to be exceeding the relevant criteria in Schedule 3, then he/she may ask the Director-General in writing for an independent review of the impacts of the project on his/her land.

If the Director-General is satisfied that an independent review is warranted, then within 2 months of the Director-General's decision the Proponent shall:

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to:
 - consult with the landowner to determine his/her concerns;
 - conduct monitoring to determine whether the project is complying with the relevant criteria in Schedule 3; and
 - if the project is not complying with these criteria then:
 - determine if more than operation is responsible for the exceedance, and if so the relative share of each operation towards the impact on the land;
 - identify the measures that could be implemented to ensure compliance with the relevant criteria; and
 - (b) give the Director-General and landowner a copy of the independent review.
2. If the independent review determines that the project is complying with the relevant criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.

If the independent review determines that the project is not complying with the relevant impact assessment criteria in Schedule 3, and that the project is primarily responsible for this non-compliance, then the Proponent shall:

- (a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent person, and conduct further monitoring until the project complies with the relevant criteria; or
 - (b) secure a written agreement with the landowner to allow exceedances of the relevant criteria, to the satisfaction of the Director-General.
-

SCHEDULE 5

ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must:
 - (a) be submitted to the Director-General for approval by 31 March 2012;
 - (b) provide the strategic framework for environmental management of the project;
 - (c) identify the statutory approvals that apply to the project;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;
 - (e) describe the procedures that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the project;
 - receive, handle, respond to, and record complaints;
 - resolve any disputes that may arise during the course of the project;
 - respond to any non-compliance;
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this approval; and
 - a clear plan depicting all the monitoring required to be carried out under the conditions of this approval.

Management Plan Requirements

2. 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;
 - (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;
 - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:
 - impacts and environmental performance of the project;
 - effectiveness of any management measures (see c above);
 - (e) a contingency plan to manage any unpredicted impacts and their consequences;
 - (f) a program to investigate and implement ways to improve the environmental performance of the project over time;
 - (g) a protocol for managing and reporting any:
 - incidents;
 - complaints;
 - non-compliances with statutory requirements; and
 - exceedances of the impact assessment criteria and/or performance criteria; and
 - (h) a protocol for periodic review of the plan.

Note: The Director-General may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

Annual Review

3. By the end of September 2012, and annually thereafter, the Proponent shall review the environmental performance of the project to the satisfaction of the Director-General. This review must:
 - (a) describe the development (including any rehabilitation) that was carried out in the past year, and the development that is proposed to be carried out over the next year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the project over the past year, which includes a comparison of these results against the
 - the relevant statutory requirements, limits or performance measures/criteria;
 - the monitoring results of previous years; and
 - the relevant predictions in the EA;
 - (c) identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance;
 - (d) identify any trends in the monitoring data over the life of the project;

- (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and
- (f) describe what measures will be implemented over the next year to improve the environmental performance of the project.

Revision of Strategies, Plans and Programs

4. Within 3 months of:
 - (a) the submission of an annual review under Condition 3 above;
 - (b) the submission of an incident report under Condition 6 below;
 - (c) the submission of an audit report under Condition 8 below; and
 - (d) any modification to the conditions of this approval, (unless the conditions require otherwise), the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.

REPORTING

Incident Reporting

5. The Proponent shall notify the Director-General and any other relevant agencies of any incident associated with the project as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident.

Regular Reporting

6. The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval.

INDEPENDENT ENVIRONMENTAL AUDIT

7. By the end of September 2012, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:
 - (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;
 - (b) include consultation with the relevant agencies;
 - (c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any EPL or Mining Lease EPL applicable to the site (including any assessment, plan or program required under these approvals);
 - (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals; and
 - (e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under the abovementioned approvals.

Note: This audit team must be led by a suitably qualified auditor and include experts in any field specified by the Director-General.

8. Within 6 weeks of the completion of this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.

ACCESS TO INFORMATION

9. Prior to the commencement of construction on site, the Proponent shall:
 - (a) make copies of the following publicly available on its website:
 - the documents referred to in Condition 2 of Schedule 2;
 - all current statutory approvals for the project;
 - all approved strategies, plans and programs required under the conditions of this approval;
 - the monitoring results of the project, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs;
 - a complaints register, updated on a monthly basis;
 - the annual reviews of the project;
 - any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit;
 - any other matter required by the Director-General; and
 - (b) keep this information up-to-date, to the satisfaction of the Director-General.

APPENDIX 1 SCHEDULE OF LAND

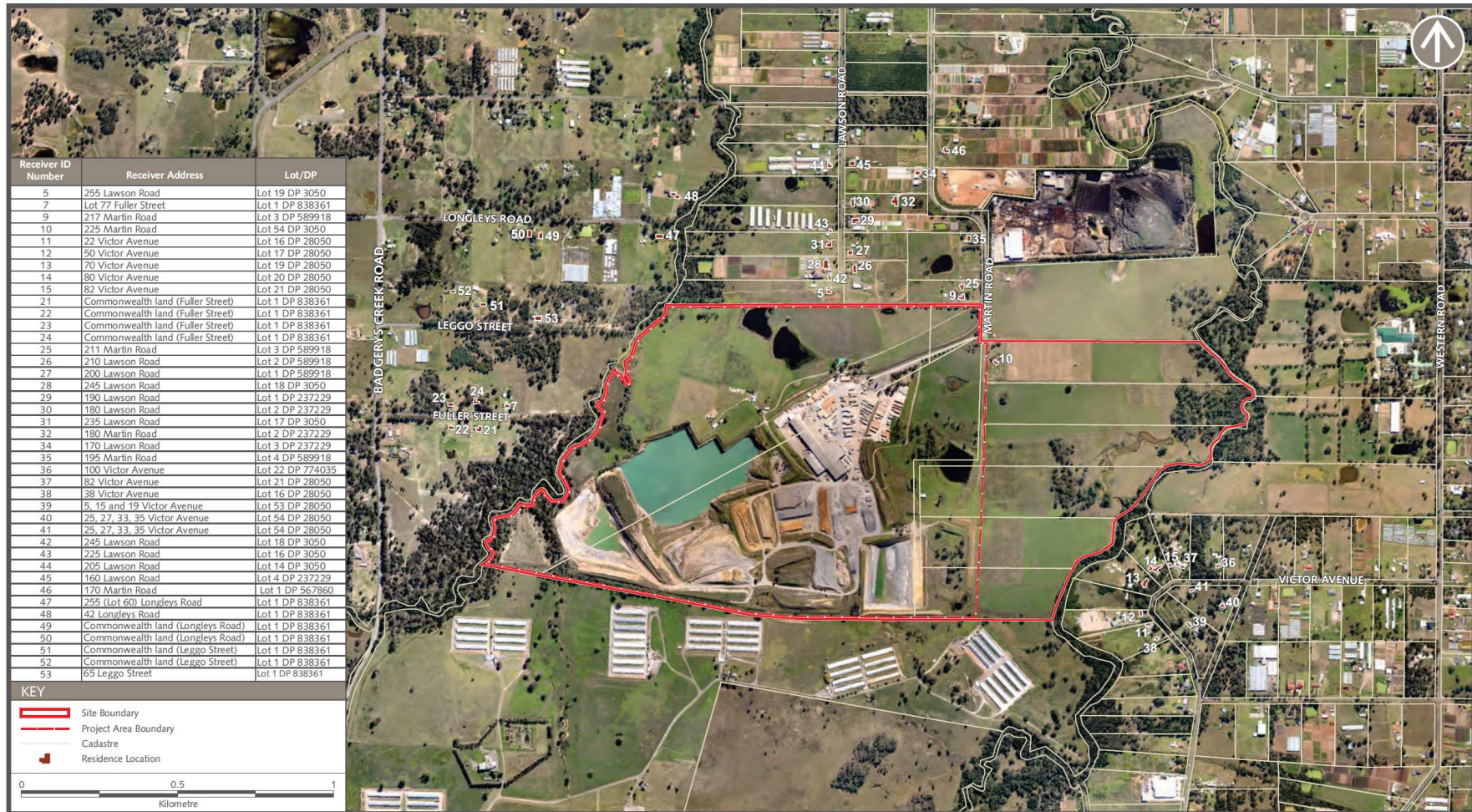


AECOM

Schedule of Land
Environmental Assessment
Boral Quarry and Brick Making Facility, Badgerys Creek

Appendix 1

APPENDIX 2 LAND OWNERSHIP SURROUNDING THE PROJECT



AECOM

Land Ownership Surrounding the Project
Environmental Assessment
Boral Quarry and Brick Making Facility, Badgers Creek

Appendix 2

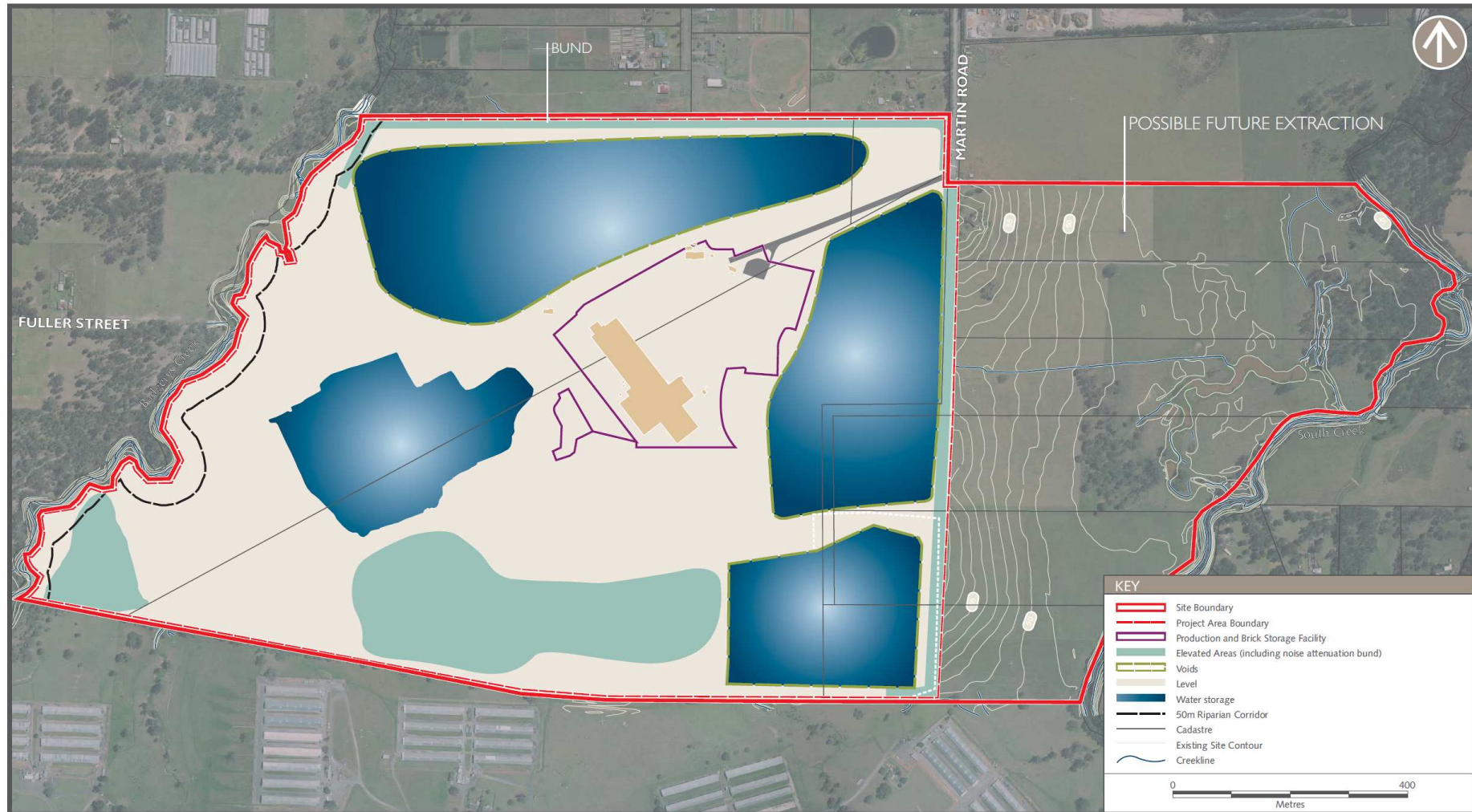
APPENDIX 3 PROJECT LAYOUT PLAN



AECOM

Proposed Operations
Environmental Assessment
Boral Quarry and Brick Making Facility, Badgerys Creek

APPENDIX 4 REHABILITATION PLAN



AECOM

Conceptual Final Landform - 2030
Environmental Assessment
Boral Quarry and Brickworks, Badgerys Creek

APPENDIX 5 ARCHAEOLOGICAL DEPOSIT AVOIDANCE ZONE



AECOM

Archaeological Deposit Avoidance Zone
Environmental Assessment
Boral Quarry and Brick Making Facility, Badgerys Creek

APPENDIX 6 STATEMENT OF COMMITMENTS

Issue	Commitment
General	
General	1) The Proponent will implement all practicable measures to prevent or minimise harm to the environment that may result from the construction, operation or rehabilitation of the Project.
Air Quality	2) The Proponent will prepare an Air Quality and Green House Gas Management Plan (AQGHGMP) for the project to the satisfaction of the Director-General. The AQGHGMP will outline the purpose, methodology and expected outcomes of the dust monitoring, and will include the following content: - Dust fraction to be measured, i.e. TSP, PM₁₀, PM_{2.5} etc.; - Equipment to be used to measure selected dust fraction; - Frequency of the monitoring, i.e. sample collection schedule; - Duration of the monitoring program; - Location of the monitoring station/s; - Standards/guidelines that are to be followed for location/construction of the monitoring station, equipment calibration, collection of samples and analysis of samples; - Calibration methodology and schedule; - Reporting procedure; - Regulatory guidelines and compliance criteria; - Action levels and contingency measures in the event that pollutant concentrations approach or are likely to exceed the relevant compliance criteria; and - A consultation program that involves nearby agricultural producers and residents, in order to determine if the dust mitigation measures are being effective. 3) The AQGHGMP will detail measures to control dust and emissions from the Project Site including the following measures: - Haul roads to be watered at a rate equal to or greater than 2 L/m²/hr; - Unloading of trucks containing raw or unusable extracted material to be controlled using water sprays; - Dust from the raw material stockpile to be controlled using water sprays; - Dust from existing stockpiles of unusable material and open pits to be controlled using water sprays with chemical additives (surfactants); - Completed pits to be revegetated as soon as practicable after completion of quarrying activities; - Disturbed soil surfaces to be revegetated in accordance with the RP for the Project Site; - Operational practices to be reviewed to ensure 'best practice' techniques are being employed and that operational equipment is working efficiently; 4) A reactive dust management program will be implemented during quarrying activities. The reactive program will form part of the AQGHGMP. A reactive management program involves the combination of instantaneous dust monitors and an on-site meteorological station. The dust monitors will be located on the boundary of the site between the dust emitting activities and the most affected receptors, and alert the operators when dust levels approach or exceed criteria levels. If the dust levels reach a pre-determined warning or critical concentration and the winds are shown to be blowing from the Site towards the monitor (i.e. the site is likely to be contributing to the elevated dust levels and potentially affecting receptors), pre-arranged actions will be taken to minimise the Site's dust emissions. Once the dust concentrations return below the warning level, the additional mitigation measures can cease and quarrying operations return to normal. The warning or critical concentration levels will be chosen in consultation with OEH and represent levels that provide the Site enough time to implement mitigation measures and/or inform personnel to cease works.

Issue	Commitment
General	
Noise	5) The Proponent will implement all practicable measures to undertake the development in a way that minimises the noise generated. The Proponent has made the following commitments in relation to operation noise management: 6) The Proponent will conduct quarrying activities at the Project Site only between the following hours: • 7.00 am to 6.00 pm Monday to Saturday 7) The Proponent will operate the Brick making facility and conduct activities within the storage yard at the Project Site 24 hours a day, Monday to Sunday. 8) The Proponent will conduct deliveries and dispatch only between the following hours: • 6.00 am to 10.00 pm Monday to Friday • 6.00am to 6.00pm Saturday 9) The Proponent will apply 5 dB(A) of noise reduction treatment to all dozers and excavators used in the quarrying operations. 10) The Proponent will apply 5 dB(A) of attenuation treatment to the front end loader operating as part of the brick works. 11) The Proponent will construct an earth bund of a minimum height of 10 m along the northern and part of the western Project site boundaries, and 7m along the eastern Project Site boundary and part of the southern Project Site boundaries as shown in Figure 6 and Appendix B of the Noise Assessment Addendum Report. The earth mound will be constructed in stages as specified in Figure 6 of the Noise Assessment Addendum Report. 12) The Proponent will remove overburden material using excavators only in pits where the use of a dozer exceeds the noise criteria. 13) The Proponent will use smaller dozers during raw material removal stages where the predicted noise levels from larger dozers exceed the noise criteria. 14) Construction works associated with the earth bund will be limited to 7am to 6pm Monday to Friday and 8am to 1pm on Saturdays. 15) The Proponent will adopt best practicable means of controlling noise during the construction of the noise berm and will include noise mitigation measures in a construction noise and vibration management plan which will form part of the construction management plan to minimise the noise impact at sensitive receivers. This may include the work practices described below as detailed in Section 8 of the Noise Assessment Addendum Report: 16) The Proponent will apply 5 dB(A) of attenuation treatment to dozers operating as part of the noise berm construction activities. 17) All construction activities associated with the construction of the noise berm will be subject to the standard noise and vibration mitigation measures described in Section 8.2 of the Noise Assessment Addendum Report. 18) Unforeseen noisy activities will be subject to additional mitigation measures depending on the extent of predicted or measured impacts. 19) In the case that high impact noise activities, such as those likely to generate noise levels above LAeq 75 dB(A) or activities likely to generate noise with intermittent, impulsive, tonal or low-frequency characteristics are required during the construction of the noise berm, adjacent sensitive receivers will be appropriately notified prior to works commencing and respite periods will be implemented. 20) The mitigation measures described in Section 8.5 of the Noise Assessment Addendum Report will be implemented in order to minimise the impact of noise exceedances from heavy vehicles (i.e. trucks and dump trucks) moving around the site. 21) The Proponent and/or its appointed contractors will select and maintain bulk earthwork machinery as specified in Section 8.6 of the Noise Assessment Addendum Report. 22) Broadband reversing alarms or other non-tonal vehicle movement and warning alarms will be fitted to all machinery on site (quarrying, brick making and storage yard machinery). The potential noise impact associated with reversing alarms will be managed and minimised via a combination of proactive driver/operator training and operational procedures as detailed in Section 8.6 of the Noise Assessment Addendum Report.

Issue	Commitment
General	
	23) The Proponent will implement a noise monitoring programme which would involve attended noise monitoring at a number of nearby identified receiver locations. 24) The Proponent will undertake consultation with identified nearby residential receivers (as detailed in Section 8.9 of the Noise Assessment Addendum Report) that are predicted to exceed the recommended noise criteria to inform them of the timing and duration of the work. 25) The Proponent will maintain a noise complaint register.
Surface Water	26) The Proponent will manage surface water on the Project Site in accordance with the SWMP prepared for the Project Site (ERM, 2002), including Addendum dated April 2010 (AECOM, 2010) and included as Appendix C to the EA. 27) If during the operational phase of the quarry or on completion of the quarry operations, the proponent wishes to make use of the water from the pits/dams in the brick making process or for reuse at other premises offsite etc, a licence will be obtained from the NOW.
Groundwater	28) The Proponent will prepare and implement a Groundwater Monitoring Program for the Project Site generally in accordance with the methodology provided in Chapter 11 of the EA, subject to consultation with the NOW and the satisfaction of the Director-General of the DP&I. The program will commence within 12 months of the project proposal approval. 29) The Proponent will report the results of the Groundwater Monitoring Program to the Director-General of the DP&I and the NOW on an annual basis. 30) The Proponent will implement appropriate management measures in relation to groundwater as indicated by the Monitoring Program and agreed with the Director-General. 31) A licence to authorise any groundwater monitoring installation, required as part of this project, will be obtained from the NOW prior to any drilling commencing. 32) The proponent will implement an alluvial aquifer mapping and assessment program to inform: - The definition of the boundaries of the alluvial system; - Adjustment to the extent of proposed pits to avoid impacts to the alluvial aquifer; and - The establishment of further mitigation measures (if required) to minimise potential impacts upon the alluvial aquifer. - This program will commence within 12 months of the project proposal approval and the results will be reported to the NOW and the Director-General of the DP&I.
Rehabilitation	33) The Proponent will carry out rehabilitation works at the Project Site in accordance with the RP prepared for the Project Site and included as Appendix D to the EA. 34) The Proponent will prepare a Final Landform Rehabilitation Plan in consultation with the OEH and DP&I two years prior to the completion of all approved quarrying activities.
Traffic and Transport	35) The Proponent will manage traffic movements to and from the Project Site generally in accordance with the following: - Personnel operating trucks and vehicles to and from the Project Site would be required to undertake a site-specific health and safety induction, specifying operating hours, avoidance of the AM and PM peak periods and vehicle speed limits on Martin Road. - A heavy vehicle protocol would be developed for the Project Site and distributed to relevant staff and contractors during induction procedures. The protocol would deal with such issues as timing of vehicle movements, idling of vehicles, speed limits and parking. - Unnecessary vehicle movements would be minimised where possible. • Deliveries would be scheduled on larger capacity 'Truck and Trailer' vehicles rather than 'Truck Only' vehicles where possible to minimise truck movements.

Issue	Commitment
General	
Cultural Heritage	36) The Proponent will adopt the following measures in relation to the management of cultural heritage on the Project Site: - Isolated find BC-01-09 would be collected prior to works commencing. - The location of quarry pit 5 and the noise attenuation berm would be modified so as to not encroach within 60m of Badgerys Creek. - Salvaged heritage material would be returned to the location they originated from as per the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW</i> and the procedure outlined in the Aboriginal Heritage Assessment Addendum. - Should relics be uncovered during the course of the approved works, works will cease. In cases where historical items have been uncovered, the NSW DP&I's Heritage Branch will be advised or should indigenous items be uncovered the National Parks and Wildlife Service will be advised; - Workers/contractors will be informed of their obligations under the NPW Act 1974, namely that it is illegal to disturb, damage or destroy a relic without the prior approval of the Director General of the OEH; and - Should human remains be found in, on, or under the land during construction, the responsible party will: • Contact the local police; • Not disturb or excavate the remains; • Immediately cease all work at the particular location; • Notify the OEH office as soon as practicable and provide any available details of the remains and their location; and • Not recommence any work at the particular location until authorised in writing by the OEH.
Ecology	37) The Proponent will adopt the following measures in relation to the removal of any trees on the Project Site: - The canopy of the trees to be visually inspected prior to clearing to assess for the presence of fauna. Where bird species are detected the tree is to be nudged prior to felling to encourage the fauna to vacate the tree prior to felling. Trees to be left in situ until the birds leave the canopy; - Felled trees are to be left in-situ for at least 24 hours to allow fauna species to relocate. Qualified personnel are to be on hand to check for wildlife and relocate them; - Felled wood is to be relocated to the remnant woodland (and not placed in piles) or chipped and used in rehabilitation areas; - Should any wildlife be inadvertently injured during the proposed works, WIRES or an accredited veterinarian will be contacted; - A 60m buffer area will be provided along Badgerys Creek and the Badgerys Creek tributary. Rehabilitation works are to be undertaken in this area in accordance with the RP prepared as part of this EA; and - Five native trees will be planted for each mature native tree that is removed. The plantings will be located adjacent to the riparian vegetation along Badgerys Creek and its tributary.
Waste	38) The Proponent will manage waste in relation to the Project in accordance with the existing WMP for the Project Site, included as Appendix M to the EA.
Mineral Resources	39) The proponent will provide annual production data to the Mineral Resources Branch of NSW Industry and Investment, as and when requested.
Environmental Management	40) The Proponent will prepare an EMP for the Project Site to provide environmental management practices and procedures to be followed during the operation of the Project. The EMP will include, but not necessarily be limited to: - identification of statutory and other obligations that the Proponent is required to fulfil in relation to operation of the Project; - a description of the roles and responsibilities for all key personnel involved in environmental management of the Project; - the environmental policies and principles to be applied to the operation of the Project; and - describe in general terms how the environmental performance of the Project would be monitored and managed.