Project Approval

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

As delegate of the Minister for Planning, the Planning Assessment Commission approves 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.

Alan Coutts
Member of the Commission

David Johnson
Member of the Commission

Sydney 17 June 2014

SCHEDULE 1

Application Number:	09_0175
Proponent:	Karuah East Quarry Pty Limited
Approval Authority:	Minister for Planning
Land:	Lot 12 DP 1024564 Lot 13 DP 1024564 Lot 202 DP 1042537 Lot 26 DP 1024341 Lot 27 DP 1024341 Lot 16 DP 1024564 Lot 17 DP 1024564
Project:	Karuah East Quarry Project

Green text represents Mod 1 (Increased disturbance area) – April 2018
Red text represents Mod 2 (Increased disturbance area) – December 2018

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DEFINITIONS

Annual review	The review required under condition 4 of Schedule 5
BCA	Building Code of Australia
Biodiversity offset strategy	The conservation and enhancement strategy described in the EA, and depicted conceptually in the figure in Appendix 4
CCC	Community Consultative Committee
Conditions of this approval	Conditions contained in Schedules 2 to 5 inclusive
Council	MidCoast Council
CPI	Australian Bureau of Statistics Consumer Price Index
Department	Department of Planning and Environment
DoI-Water	Department of Industry – Crown Lands and Water Division
DRG	Division of Resources and Geoscience within the Department
EA	Environmental Assessment titled *Environmental Assessment Report, Proposed Karuah East Hard Rock Quarry*, prepared by ADW Johnson Pty Limited and dated 31 January 2013, including the response to submissions prepared by ADW Johnson Pty Limited and dated 31 May 2013 and the Preferred Project Report titled *Preferred Project Report Proposed Karuah East Quarry*, prepared by ADW Johnson Pty Limited and dated 30 July 2013
EA (MOD 1)	Environmental Assessment titled *Karuah East Quarry Section 75W Application (MOD 1) Minor Increase to Approved Disturbance Area* prepared by ADW Johnson Pty Limited and dated 18 January 2018; including the response to submissions prepared by ADW Johnson Pty Limited and dated 9 March 2018
EA (MOD 2)	Environmental Assessment titled *Karuah East Quarry Section 75W Application (MOD 2) Minor Increase to Approved Disturbance Area* prepared by ADW Johnson Pty Limited and dated 30 August 2018, including the response to submissions prepared by ADW Johnson Pty Limited and dated 25 October 2018
EPA	NSW Environment Protection Authority
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPL	Environment Protection Licence under the *POEO Act*
Extraction Area	Extraction Area shown in Figure 1 in Appendix 1
Feasible	Feasible relates to engineering considerations and what is practical to build
Incident	The occurrence of a set of circumstances that causes or threatens to cause material harm which may or may not be or cause a non-compliance
Land	As defined in the EP&A Act, except where used in the noise and air quality conditions in schedules 3 and 4 of this approval where it is defined to mean 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	Is harm that: • involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial; or • results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)

	This definition excludes “harm” that is authorised under either this consent or any other statutory approval.
Minister	Minister for Planning, or delegate
Mitigation	Activities associated with reducing the impacts of the project
Modification 1	The modification to the project, as described in EA (MOD 1)
Modification 2	The modification to the project, as described in EA (MOD 2)
Planning Secretary	Planning Secretary under the EP&A Act, or nominee
POEO Act	*Protection of the Environment Operations Act 1997*
Privately-owned land	Land that is not owned by a public agency or the Proponent (or its subsidiary)
Project	The development as described in the EA
Project layout	The layout of the project as shown in the figures in Appendix 1
Proponent	Karuah East Quarry Pty Limited, or its successors in title, or any other person who seeks to carry out the project
Public infrastructure	Linear and other infrastructure that provides services to the general public, such as roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc.
Quarrying operations	Includes the removal of overburden and extraction, processing, handling, storage and transportation of quarry products on the site
Quarry products	Extractive material which extracted from and transported from the site
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 an appropriately revegetated, safe, stable and non-polluting environment
Residence	Existing or approved dwelling at the date of approval of Modification 1
RMS	Roads and Maritime Services
Site	The land listed under “Land” in schedule 1
Statement of commitments	The Proponent’s commitments in Appendix 6
Waste	Has the same meaning as the definition of the term in the Dictionary to the POEO Act

SCHEDULE 2
ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance criteria established under this approval, the Proponent must implement all reasonable and feasible measures to prevent and/or minimise any material harm to the environment that may result from the construction, operation, or rehabilitation of the project.

TERMS OF APPROVAL

2. The Proponent must carry out the project generally in accordance with the:
   (a) EA;
   (b) statement of commitments;
   (c) EA (MOD 1); and
   (d) EA (MOD 2).

2A The Proponent must carry out the project in accordance with the conditions of this approval.

3. The conditions of this approval and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document referenced in condition 2 of this Schedule. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency.

   Note: For the purposes of this condition, there will be an inconsistency between documents if it is not possible to comply with both documents, or in the case of a condition of approval or direction of the Planning Secretary, and a document, if it is not possible to comply with both the condition or direction, and the document.

4. Consistent with the requirements of this approval, the Planning Secretary may make written directions to the Proponent in relation to:
   (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this approval, including those that are required to be, and have been, approved by the Planning Secretary; and
   (b) the implementation of any actions or measures contained in any such document referred to in (a) above.

LIMITS ON APPROVAL

Quarrying Operations

5. The Proponent may carry out quarrying operations on the site until 31 December 2034.

   Note: Under this approval, the Proponent is required to rehabilitate the site and carry out additional undertakings to the satisfaction of the Planning Secretary. Consequently, this approval will continue to apply in all other respects other than the right to conduct quarrying operations until the rehabilitation of the site and those undertakings have been carried out to a satisfactory standard.

Production Limit

6. The Proponent must not extract, process and transport more than 1.5 million tonnes of quarry products from the site in any calendar year.

Hours of Operation

7. The Proponent must comply with the operating hours in Table 1.

Table 1: Operating hours

Activity	*Operating Hours*
Quarrying Operations	7.00 am to 6.00 pm, Monday to Friday; and 7.00 am to 1.00 pm, Saturdays. No quarrying operations on Sundays or Public Holidays.
Construction activities	7.00 am to 6.00 pm, Monday to Friday; and 8.00 am to 1.00 pm, Saturdays, unless noise from these activities does not exceed 35dB(A)$L_{Aeq(15\ min)}$ at any privately-owned residence.
Maintenance activities	24 hours a day, 7 days per week, providing maintenance activities are inaudible at any privately-owned residence

Note: This condition does not apply in the event of a direction from police or other relevant authority for safety or emergency reasons regarding works which may need to be undertaken to avoid loss of life, property loss and/or to prevent environmental harm.

STRUCTURAL ADEQUACY

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

Notes:
- *Under Part 6 of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for proposed building works.*
- *Part 8 of the EP&A Regulation* sets out the requirements for the certification of the project.

DEMOLITION

9. The Proponent must ensure that all demolition work on site is carried out in accordance with *AS 2601-2001: The Demolition of Structures*, or its latest version.

PROTECTION OF PUBLIC INFRASTRUCTURE

10. The Proponent must:
    (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the project; and
    (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the project.

DEVELOPER CONTRIBUTIONS

11. The Proponent must pay Council, in accordance with Council's *Great Lakes Wide Development Contributions Plan (November 2007) – Amended*:
    (a) a one-off Headquarters Building contribution of $1.00 per $1,000.00 of capital value of the project; and
    (b) annual road maintenance contributions of $.037 per tonne per km, for every tonne of quarry products transported from the site on local roads in accordance with Council's *Great Lakes Wide Development Contributions Plan (November 2007) – Amended.* Each payment must be: (i) paid to Council at the end of each calendar year;
        i based on weighbridge records of the quantity of quarry products transported from the site; and
        ii increased annually over the life of the project in accordance with the CPI.

Note: If the parties are not able to agree on any aspect of the road maintenance contributions, either party may refer the matter to the Planning Secretary for resolution.

OPERATION OF PLANT AND EQUIPMENT

12. The Proponent must ensure that all plant and equipment used at the site is:
    (a) maintained in a proper and efficient condition; and
    (b) operated in a proper and efficient manner.

STAGED SUBMISSION OF ANY STRATEGY, PLAN OR PROGRAM

13. With the approval of the Planning Secretary, the Proponent may submit any strategy, plan or program required by this approval on a progressive basis.

    Notes:
    - *While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times; and*
    - *If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.*

PRODUCTION DATA

14. The Proponent must:
    (a) provide annual quarry production data to DRG using the standard form for that purpose; and
    (b) report this data in the Annual Review (see condition 4 of Schedule 5).

COMPLIANCE

15. The Proponent must ensure that all employees, contractors and sub-contractors are made aware of, and instructed to comply with, the conditions of this approval relevant to activities they carry out in respect of the development.

APPLICABILITY OF GUIDELINES

16. References in the conditions of this approval to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, standards or policies in the form they are in as at the date of this approval.

    However, consistent with the conditions of this approval and without altering any limits or criteria in this approval, the Planning Secretary may, when issuing directions under this approval in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, standard or policy, or a replacement of them.

EVIDENCE OF CONSULTATION

17. Where conditions of this approval require consultation with an identified party, the Proponent must:

    (a) consult with the relevant party prior to submitting the subject document for approval; and
    (b) provide details of the consultation undertaken including;
        (i) the outcome of that consultation, matters resolved and unresolved: and
        (ii) details of any disagreement remaining between the party consulted and the Proponent and how the Proponent has addressed the matters not resolved.

SCHEDULE 3
ENVIRONMENTAL PERFORMANCE CONDITIONS

IDENTIFICATION OF APPROVED LIMITS OF EXTRACTION

1. The Proponent shall, prior to carrying out quarrying operations on the site:
   (a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction within the Extraction Area; and
   (b) submit a survey plan of the extraction boundaries,
   to the satisfaction of the Planning Secretary.

2. The Proponent must ensure that the extraction boundaries are clearly marked at all times while quarrying operations are being carried out, in a manner that allows the limits of extraction to be clearly identified.

NOISE

Operational Noise Criteria

3. The Proponent must ensure that the operational noise generated by the project does not exceed the criteria in Table 2.

Table 2: Operational noise criteria (dB(A) $L_{Aeq(15\ min)}$)

Location	***Criteria (day)***
Residence on Lot 11 DP 1024564	43
A	40
B	37
G	38
All other residences	35

Notes:
- *Receiver locations are shown in Appendix 2.*
- *Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.*
- *Appendix 4 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.*

However, the noise criteria in Table 2 do not apply if the Proponent has an agreement with the relevant landowner to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of the agreement.

Road Traffic Noise Criteria

4. The Proponent must take all reasonable and feasible measures to ensure that the traffic noise generated by the project does not cause additional exceedances of the criteria in Table 3 at any residence on privately-owned land.

Table 3: Road traffic noise criteria (dB(A) $L_{Aeq(period)}$)

Road	***Criteria (day)***
Pacific Highway	60
Local roads	55

Cumulative Noise Criteria

5. The Proponent must implement all reasonable and feasible measures to ensure that the noise generated by the project combined with the noise generated by adjacent quarrying operations does not cause any exceedances of the criteria in Table 4.

Table 4: Cumulative noise criteria (dB(A) $L_{Aeq(period)}$)

Location	Criteria (day)
F	50
G	50
All other privately-owned residences, except the residence on Lot 11	55

Notes:

- *Receiver locations are shown in Appendix 2.*
- *The structure used as a residence on Lot 11 is excluded from Table 4 because the other major contributor to cumulative noise totals is quarrying operations conducted on this Lot, under agreement with the Lot owner.*
- *Cumulative noise is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy.*
- *Appendix 4 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.*

Operating Conditions

6. The Proponent must:
   (a) implement best management practice, to minimise the construction, operational and traffic noise of the project;
   (b) minimise the noise impacts of the project during meteorological conditions when the noise limits in this approval do not apply; and
   (c) regularly assess noise monitoring data and relocate, modify, and/or stop operations on site to ensure compliance with the relevant conditions of this approval;
   (d) apply and enforce a speed limit of 40 km/hour for all project-related vehicles on site;
   (e) ensure that project-related trucks slowing to use the intersection of Branch Lane and Andesite Road do not use engine or compression braking systems,

   to the satisfaction of the Planning Secretary.

Noise Management Plan

7. The Proponent must prepare a Noise Management Plan for the project to the satisfaction of the Planning Secretary. This plan must:
   (a) be prepared by a suitably qualified expert whose appointment has been approved by the Planning Secretary;
   (b) be prepared in consultation with EPA, and submitted to the Planning Secretary for approval prior to the commencement of construction activities;
   (c) describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this approval;
   (d) describe the proposed noise management system in detail; and
   (e) include a monitoring program that:
      - uses attended and unattended monitoring to evaluate the compliance of the project against the noise criteria in this approval;
      - evaluates and reports on:
        - the effectiveness of the on-site noise management system; and
        - compliance against the noise operating conditions; and
      - defines what constitutes a noise incident and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.

   The Proponent must implement the plan as approved by the Planning Secretary.

BLASTING

Blasting Criteria

8. The Proponent must ensure that blasting on the site does not cause exceedances of the criteria in Table 5.

Table 5: Blasting criteria

Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance
Any residence on privately-owned land, or any public infrastructure	120	10	0%
	115	5	5% of the total number of blasts over a period of 12 months

However, these criteria do not apply if the Proponent has a written agreement with the relevant landowner or infrastructure provider/owner, and the Proponent has advised the Department in writing of the terms of this agreement.

Blasting Hours

9. The Proponent must ensure that blasting on site is only carried out during the hours in Table 6.

Table 6: Blasting hours

Day	Blasting hours
Monday – Friday	9.00 am to 4.00 pm
Saturdays, Sundays and Public Holidays	No blasting

Blasting Frequency

10. The Proponent must not carry out more than 2 blasts a week on the site, unless an additional blast is required following a blast misfire.

Note: A blast may involve a number of explosions within a short period, typically less than two minutes.

Operating Conditions

11. The Proponent must:
    (a) implement best blast management practice to:
        - protect the safety of people and livestock in the surrounding area;
        - protect public or private infrastructure/property in the surrounding area from any damage; and
        - minimise the dust and fume emissions of any blast;
    (b) schedule blasts to avoid the blasting schedule of any nearby quarrying operation;
    (c) operate a suitable system to enable the public to get up-to-date information on the proposed blasting schedule on the site, and
    (d) not undertake blasting within 500 metres of:
        (i) any public road without the approval of the relevant road authority; or
        (ii) any land outside the site not owned by the Proponent, unless:
            - the Proponent has a written agreement with the relevant landowner to allow blasting to be carried out closer to the land, and the Proponent has advised the Department in writing of the terms of this agreement, or
            - the Proponent has:
                - demonstrated to the satisfaction of the Planning Secretary that the blasting can be carried out closer to the land without compromising the safety of the people or livestock on the land, or damaging the buildings and/or structures on the land; and

- updated the Blast Management Plan to include the specific measures that would be implemented while blasting is being carried out within 500 metres of the land,

to the satisfaction of the Planning Secretary.

Blast Management Plan

12. The Proponent must prepare a Blast Management Plan for the project to the satisfaction of the Planning Secretary. This plan must:
    (a) be prepared by a suitably qualified expert whose appointment has been approved by the Planning Secretary;
    (b) be prepared in consultation with Council and EPA, and submitted to the Planning Secretary for approval prior to the commencement of construction activities;
    (c) describe the measures that would be implemented to ensure:
        • best management practice is being employed; and
        • compliance with the relevant conditions of this approval;
    (d) include a road closure protocol if blasting occurs within 500 metres of a public road;
    (e) include a specific blast fume management protocol, to demonstrate how emissions will be minimised including risk management strategies if blast fumes are generated; and
    (f) include a monitoring program for evaluating the performance of the project including:
        • compliance with the applicable criteria; and
        • minimising fume emissions from the site.

    The Proponent must implement the plan as approved by the Planning Secretary.

AIR QUALITY

Air Quality Criteria

13. The Proponent must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the project do not exceed the criteria in Tables 7 to 9 at any residence on privately-owned land.

Table 7: Long-term impact assessment criteria for particulate matter

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

Table 8: Short-term impact assessment criteria for particulate matter

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

Table 9: Long-term Impact Assessment Criteria for Deposited Dust

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

Notes to Tables 7-9:

- [a] Total impact (ie incremental increase in concentrations due to the project plus background concentrations due to all other sources);
- [b] Incremental impact (ie 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.

- [d] Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal *activities or any other activity agreed by the Planning Secretary in consultation with EPA.*

Greenhouse Gas Emissions

14. The Proponent must implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site.

Operating Conditions

15. The Proponent must:
    (a) implement best management practice to minimise dust emissions by the project;
    (b) regularly assess air quality monitoring data and relocate, modify, and/or stop operations on site as may be required to ensure compliance with the air quality criteria in this approval;
    (c) minimise the air quality impacts of the project during adverse meteorological conditions and extraordinary events (see note d under Tables 7-9); and
    (d) minimise surface disturbance of the site, other than as permitted under this approval.

Air Quality Management Plan

16. The Proponent must prepare an Air Quality Management Plan for the project to the satisfaction of the Planning Secretary. This plan must:
    (a) be prepared by a suitably qualified expert whose appointment has been approved by the Planning Secretary;
    (b) be prepared in consultation with Council and EPA, and submitted for approval to the Planning Secretary prior to the commencement of construction activities;
    (c) describe the measures that would be implemented to ensure:
        - compliance with the relevant air quality conditions of this approval;
        - best management practice is employed; and
        - the air quality impacts of the project are minimised during adverse meteorological conditions and extraordinary events;
    (d) describe the proposed air quality management system; and (e) include a monitoring program that:
        - is capable of evaluating the performance of the project;
        - includes a protocol for determining any exceedances of the relevant conditions of approval;
        - effectively supports the air quality management system; and
        - evaluates and reports on the adequacy of the air quality management system.

The Proponent must implement the plan as approved by the Planning Secretary.

METEOROLOGICAL MONITORING

17. For the life of the project, the Proponent must ensure that there is a suitable meteorological station operating in the vicinity of the site that complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline.

SOIL & WATER

Note: The Proponent is required to obtain the necessary water licences for the project under the Water Act 1912 and/or the Water Management Act 2000.

Water Supply

18. The Proponent must ensure it has sufficient water during all stages of the project, and if necessary, adjust the scale of quarrying operations on site to match its available supply.

Surface Water Discharges

19. The Proponent must comply with the discharge limits in any EPL, or with Section 120 of the POEO Act.

Effluent Management

20. The Proponent must:
    (a) not irrigate, discharge or dispose of sewage or bathroom effluent from the site; and
    (b) operate and maintain a suitable effluent storage facility, to the satisfaction of Council and EPA.

Water Management Plan

21. The Proponent must prepare a Water Management Plan for the project to the satisfaction of the Planning Secretary. This plan must:
    (a) be prepared in consultation with the EPA and NOW by suitably qualified and experienced person/s whose appointment has been approved by the Planning Secretary;
    (b) be submitted to the Planning Secretary for approval prior to the commencement of construction activities;
    (c) include:
        (i) a Site Water Balance that includes details of:
            - sources and security of water supply, including contingency planning;
            - water use on site; and
            - measures that would be implemented to minimise use of clean water and maximise recycling of dirty water on the site;
        (ii) a Surface Water Management Plan, that includes:
            - baseline data on surface water flows and quality in the watercourses that could be affected by the project;
            - a detailed description of the surface water management system on the site, including the design objectives and performance criteria for the:
                - clean water diversions;
                - erosion and sediment controls;
                - water storages (including Maximum Harvestable Rights requirements); and
                - control of water pollution from areas of the site that have been rehabilitated;
            - surface water impact assessment criteria, to be developed following analysis of baseline data, including trigger levels for investigating any potentially adverse surface water quality impacts;
            - a program to monitor:
                - any surface water discharges;
                - the effectiveness of the water management system;
                - surface water flows and quality in local watercourses; and
                - ecosystem health of local watercourses; and
            - an assessment of appropriate options to improve storage and retention times in accordance with *Managing Urban Stormwater: Soils and Construction* (Landcom);
        (iii) a Groundwater Monitoring Program that includes:
            - baseline data of groundwater levels surrounding the site;
            - groundwater impact assessment criteria, to be developed following analysis of baseline data, including trigger levels for investigating any potentially adverse groundwater impacts; and
            - a program to monitor and/or validate the impacts of the project on groundwater resources; and
        (iv) a Surface and Ground Water Response Plan that describes the measures and/or procedures that would be implemented to:
            - respond to any exceedances of the surface water impact assessment criteria and groundwater impact assessment criteria; and
            - mitigate and/or offset any adverse impacts on surface water and groundwater resources located within and adjacent to the site.

The Proponent must implement the plan as approved by the Planning Secretary.

TRANSPORT

Roadworks

22. The Proponent must, at its own cost, complete the following roadworks shown conceptually in Figure 2 of Appendix 1, prior to transporting quarry products from the site:
    (a) extending Blue Rock Close, with tar seal and appropriate pavement, road markings and advance warning signage, to the satisfaction of Council and RMS;
    (b) realigning and upgrading the Blue Rock Close/Andersite Road intersection with appropriate road markings, pavement thickening and advance warning signage, to the satisfaction of Council;
    (c) upgrading the Branch Lane/Andersite Road intersection with appropriate road markings and advance warning signage, to the satisfaction of Council;
    (d) constructing the site access road on Lots 12 and 13 DP 1024564 with appropriate pavement and advance warning signage, to the satisfaction of Council; and (e) installing a wheel-wash facility on the site.

Monitoring of Product Transport

23. The Proponent must:
    (a) keep accurate records of:
        • the amount of quarry products transported from the site (per calendar month and year); and
        • the number of laden truck movements from the site (per hour, day, week, calendar month and year); and
    (b) publish these records on its website quarterly.

Parking

24. The Proponent must provide sufficient parking on-site for all project-related traffic, in accordance with Council's parking codes, to the satisfaction of the Planning Secretary.

Operating Conditions

25. The Proponent must ensure that all project-related heavy vehicles:
    (a) enter and exit the site in a forward direction; and
    (b) exit the site with loads covered.

Transport Management Plan

26. The Proponent must prepare a Transport Management Plan for the project to the satisfaction of the Planning Secretary. This plan must:
    (a) be prepared by a suitably qualified traffic consultant whose appointment has been approved by the Planning Secretary;
    (b) be prepared in consultation with RMS and Council, and submitted to the Planning Secretary for approval prior to the commencement of construction activities;
    (c) include a Driver Code of Conduct;
    (d) describe the measures that would be implemented to ensure:
        • compliance with the relevant conditions of this approval;
        • that drivers of project-related heavy vehicles are aware of potential safety issues along the haulage routes; and
        • that drivers of project-related heavy vehicles comply with the Driver Code of Conduct; and
    (e) include a program to monitor the effectiveness of these measures.

    The Proponent must implement the plan as approved by the Planning Secretary.

LANDSCAPE

Tetratheca Juncea Translocation

27. The Proponent must develop a translocation program for *Tetratheca juncea* to the satisfaction of the Planning Secretary. This program must:
    (a) be prepared in consultation with OEH, by a suitably qualified and experienced ecologist whose appointment has been approved by the Planning Secretary;
    (b) be submitted to the Planning Secretary for approval prior to the commencement of construction
    activities that involve clearing of or potential harm to *Tetratheca juncea*;
    (c) include measures for the translocation of all *Tetratheca juncea* stems in the area of disturbance to nearby areas with similar physical and biological habitat features;
    (d) include a monitoring program to study the *Tetratheca juncea* stems before and after translocation;
    (e) include short and long-term goals and performance criteria to measure the effectiveness of the program; and
    (f) provide for the transfer of information obtained as a result of implementing the program to OEH and the Department.

    The Proponent must implement the program as approved by the Planning Secretary.

Biodiversity Offset Strategy

28. The Proponent must, prior to the commencement of vegetation clearing activities, finalise the Biodiversity Offset Strategy, as described in documents listed in condition 2 of Schedule 2, summarised in Table 10 and shown conceptually in Figure 1 of Appendix 4, in consultation with OEH and Council, and to the satisfaction of the Planning Secretary.

Table 10: Biodiversity Offset Strategy

Area	***Offset Type***	***Minimum Size (ha)***
Offset Area	Existing vegetation to be managed and enhanced	130.36 ha

Note: The Biodiversity Offset Strategy must direct that the land proposed as the Biodiversity Offset must be free of any dwelling-houses and associated sheds, bushfire asset protection zones and other related utilities or structures so as to preserve the integrity and function of that offset area. The Biodiversity Offset Strategy must also provide details of the revegetation of any parts of the offset area that are cleared of native vegetation or are in an otherwise substantially modified state, other than required management trails and boundary fencing buffer distances.

The Proponent must implement the strategy as approved by the Planning Secretary.

Long Term Security of Offsets

29. The Proponent must, within 12 months of the finalisation of the Biodiversity Offset Strategy, make suitable arrangements to provide appropriate long-term security for the offset area, in consultation with OEH and Council, and to the satisfaction of the Planning Secretary.

Note: In order of preference, mechanisms to provide appropriate long-term security to the land within the Biodiversity Offset Strategy include transfer to the National Park Estate, Biobanking Agreement, Voluntary Conservation Agreement, or restrictive covenant on land titles.

Rehabilitation Objectives

30. The Proponent must rehabilitate the site to the satisfaction of the Planning Secretary. This rehabilitation must:
    (a) be generally consistent with the rehabilitation strategy as described in the EA and shown conceptually in Figure 1 in Appendix 5; and
    (b) comply with the objectives in Table 11.

Table 11: Rehabilitation Objectives

Feature	***Objective***
Site (as a whole)	Safe, stable & non-polluting.
Surface Infrastructure	To be decommissioned and removed, unless the Planning Secretary agrees otherwise.
Quarry Wall Benches	Landscaped and revegetated utilising native tree and understorey species, ensuring that the tree canopy is restored and integrated with the surrounding tree canopy.
Quarry Pit Floor	Landscaped and revegetated with wetland vegetation.
Other land affected by the project	Restore ecosystem function, including maintaining or establishing self-sustaining eco-systems comprised of: • native endemic species; and • a landform consistent with the surrounding environment.
Community	Ensure public safety. Minimise the adverse socio-economic effects associated with quarry closure.

Progressive Rehabilitation

31. The Proponent must:
    (a) rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance;
    (b) take all reasonable and feasible measures to minimise the total area of the site exposed at any time; and
    (c) implement interim rehabilitation strategies where areas prone to dust generation cannot yet be permanently rehabilitated.

Landscape and Rehabilitation Management Plan

32. Within 6 months of the date of approval of Modification 1, the Proponent must prepare a Landscape and Rehabilitation Management Plan for the project to the satisfaction of the Planning Secretary. This Plan would relate to the area of the quarry and all perimeter lands. This plan must:
    a. be prepared by a suitably qualified expert whose appointment has been approved by the Planning Secretary;
    b. be prepared in consultation with OEH and Council, and submitted to the Planning Secretary for approval prior to the commencement of construction activities;
    c. describe how the implementation of the Tetratheca juncea Translocation Program would be integrated with the overall rehabilitation of the site;
    d. describe the short, medium and long-term measures that would be implemented to:
        - manage remnant vegetation and habitat on the site; and
        - ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations of this approval.
    e. include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, including triggers for any remedial action;
    f. include a detailed description of the measures that would be implemented over the next 3 years (to be updated for each 3 year period following initial preparation of the plan), including the procedures to be implemented for:
        - ensuring compliance with the rehabilitation objectives and progressive rehabilitation obligations of this approval;
        - enhancing the quality of remnant vegetation and fauna habitat;
        - restoring native endemic vegetation and fauna habitat within the rehabilitation area, including details of the target revegetation communities of the rehabilitated landform;
        - coordinating the relocation of native fauna to protected habitats associated with pre-clearing fauna surveys;
        - maximising the salvage of environmental resources within the approved disturbance area - including tree hollows, vegetative and soil resources - for beneficial reuse in the enhancement of the rehabilitation area;
        - collecting and propagating seed;

- ensuring minimal environmental consequences for threatened species, populations and habitats;
- minimising the impacts on native fauna on site, including the details and implementation of appropriate pre-clearance surveys;
- minimising the impacts on fauna movement between undisturbed areas of the site and nearby vegetation (including potential fauna crossings);
- controlling weeds and feral pests;
- controlling erosion;
- controlling access and providing for management trails; and
- bushfire management and implementation of ecologically appropriate bushfire intervals.

g. include a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria;
h. identify the potential risks to successful implementation of the Tetratheca juncea Translocation Program and rehabilitation of the site, and include a description of the contingency measures that would be implemented to mitigate these risks;
i. include details as to how the rehabilitated land would be permanently conserved and managed as part of the broader Biodiversity Offset Area approved in these conditions;
j. include details of who would be responsible for monitoring, reviewing, and implementing the plan; and
k. include details as to the timing of actions set-out in the plan

The Proponent must implement the plan as approved by the Planning Secretary.

Biodiversity Offset Area Management Plan

33. The Proponent must prepare a Biodiversity Offset Area Management Plan for the project to the satisfaction of the Planning Secretary. This Plan would relate to the area of the Biodiversity Offset Area required in these Conditions. This plan must:
    a. be prepared by a suitably qualified expert whose appointment has been approved by the Planning Secretary;
    b. be prepared in consultation with OEH and Council, and submitted to the Planning Secretary within 12-months of the approval of the Biodiversity Offset Strategy required in these conditions;
    c. describe how the implementation of the Tetratheca juncea Translocation Program would be integrated with the Biodiversity Offset Area management;
    d. describe the short, medium and long-term measures that would be implemented to manage remnant vegetation and habitat on the Biodiversity Offset Area;
    e. include detailed performance and completion criteria for evaluating the performance of the conservation, restoration and management of the Biodiversity Offset Area, including triggers for any remedial action;
    f. providing for the transfer of environmental resources from the approved disturbance area - including tree hollows, vegetative and soil resources - for beneficial reuse in the enhancement of the Biodiversity Offset Area;
    g. providing for the incorporation of the final rehabilitated landform into the Biodiversity Offset Area and its management;
    h. include a detailed description of the measures that would be implemented over the next 3 years (to be updated for each 3 year period following initial preparation of the plan), including the procedures to be implemented for:
        - enhancing the quality of remnant vegetation and fauna habitat;
        - restoring native endemic vegetation and fauna habitat within the parts of the Biodiversity Offset Area that are cleared or modified, including details of the target revegetation communities of the restored landform;
        - coordinating the relocation of native fauna to protected habitats associated with pre-clearing fauna surveys;
        - collecting and propagating seed;
        - maximising the protection and restoration of threatened species, populations and habitats in the Biodiversity Offset Area;
        - maximising fauna movement between the Biodiversity Offset Area and adjacent habitats;

- controlling weeds and feral pests;
- controlling erosion;
- controlling access and providing for management trails; and
- bushfire management and implementation of ecologically appropriate bushfire intervals.

i. include a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria;
j. identify the potential risks to successful implementation of the Biodiversity Offset program, and include a description of the contingency measures that would be implemented to mitigate these risks;
k. include details of who would be responsible for monitoring, reviewing, and implementing the plan;
l. include details of the indicative costs of management actions; and
m. include details as to the timing of actions set-out in the plan

The Proponent must implement the plan as approved by the Planning Secretary.

Conservation & Rehabilitation Bond

34. The Proponent must lodge a Conservation and Rehabilitation Bond with the Department within 6 months of the approval of the Landscape and Rehabilitation Management Plan, to ensure that the Biodiversity Offset Strategy and the rehabilitation of the site is implemented in accordance with the performance and completion criteria set out in the Landscape and Rehabilitation Management Plan. The sum of the bond must be determined by:
(a) calculating the cost of implementing the Biodiversity Offset Strategy over the next 3 years;
(b) calculating the cost of rehabilitating disturbed areas of the site, taking into account the likely surface disturbance over the next 3 years of quarrying operations; and
(c) employing a suitably qualified quantity surveyor or other expert to verify the calculated costs, to the satisfaction of the Planning Secretary.

Notes:
- *If capital and other expenditure required by the Landscape and Rehabilitation Management Plan is largely complete, the Planning Secretary may waive the requirement for the lodgement of a bond in respect of the remaining expenditure.*
- *If the Biodiversity Offset Strategy and rehabilitation of the site area are completed to the satisfaction of the Planning Secretary, then the Planning Secretary will release the bond. If the Biodiversity Offset Strategy and rehabilitation of the site are not completed to the satisfaction of the Planning Secretary, then the Planning Secretary will call in all or part of the bond, and arrange for the completion of the relevant works.*
- *The component of the bond relating to the implementation of the Biodiversity Offset Strategy may be waived, if a separate arrangement is entered into between the Proponent and OEH which satisfactorily replaces that component, to the satisfaction of the Planning Secretary.*

35. Within 3 months of each Independent Environmental Audit (see condition 9 of schedule 5), the Proponent must review, and if necessary revise, the sum of the Conservation and Rehabilitation Bond to the satisfaction of the Planning Secretary. This review must:
(a) consider the performance of the implementation of the Biodiversity Offset Strategy and rehabilitation of the site to date;
(b) consider the effects of inflation; and
(c) calculate the cost of implementing the Biodiversity Offset Strategy and rehabilitating the disturbed areas of the site (taking into account the likely surface disturbance over the next 3 years of quarrying operations); and

HERITAGE

Heritage Management Plan

36. The Proponent must prepare a Heritage Management Plan for the project to the satisfaction of the Planning Secretary. This plan must:
(a) be prepared by a suitably qualified expert whose appointment has been approved by the Planning Secretary;

(b) be prepared in consultation with the local Aboriginal community and OEH, and submitted to the Planning Secretary for approval prior to the commencement of construction activities;
(c) describe the measures that would be implemented to:
- monitor initial surface disturbance on site for Aboriginal cultural heritage sites or objects;
- manage the discovery of Aboriginal cultural heritage sites, objects or human remains on site; and
- ensure ongoing consultation with Aboriginal stakeholders in the conservation and management of Aboriginal cultural heritage values on site.

The Proponent must implement the plan as approved by the Planning Secretary.

VISUAL

37. The Proponent must:
(a) ensure that clearing vegetation from any visually prominent ridgeline is undertaken in a progressive manner, to provide for a maximum of 6 months of future quarrying operations; and
(b) mitigate the visual impact of the project through the progressive and early rehabilitation of the upper quarry benches in accordance with the objectives in Table 11,
to the satisfaction of the Planning Secretary.

Advertising Signage

38. The Proponent must not erect or display any advertising structure or sign on the site without the written approval of the Planning Secretary.

Note: This condition does not apply to business identification, traffic management, and/or safety or environmental signs.

EMEGENCY AND HAZARDS MANAGEMENT

Dangerous Goods and Hazardous Materials

39. The Proponent must ensure that the storage, handling, and transport of dangerous goods and hazardous materials is conducted in accordance with the relevant *Australian Standards*, particularly AS1940 and AS1596, and the *Dangerous Goods Code*.

Safety

40. The Proponent must secure the site to ensure public safety at all times, to the satisfaction of the Planning Secretary.

Bushfire Management

41. The Proponent must:
(a) ensure that the project is suitably equipped to respond to any fires on site; and
(b) assist the Rural Fire Service and emergency services as much as possible if there is a fire in the surrounding area.

WASTE

42. The Proponent must:
(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 Planning Secretary.

SCHEDULE 4
ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. As soon as practicable after obtaining monitoring results showing an:
   (a) exceedance of any relevant criteria in Schedule 3, the Proponent must notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the project is again complying with the relevant criteria; and
   (b) an exceedance of the relevant air quality criteria in Schedule 3, the proponent must send a copy of the NSW Health fact sheet entitled *"Mine Dust and You"* (as may be updated from time to time) to the affected landowners and/or existing tenants of the land.

INDEPENDENT REVIEW

2. If an owner of privately-owned land considers the project to be exceeding the relevant criteria in schedule 3, then the landowner may ask the Planning Secretary in writing for an independent review of the impacts of the project on its land.

   If the Planning Secretary is satisfied that an independent review is warranted, then within 2 months of the Planning Secretary's decision the Proponent must:
   (a) commission a suitably qualified, experienced and independent expert, whose appointment has been approved by the Planning Secretary, to:
      - consult with the landowner to determine its 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 identify the measures that could be implemented to ensure compliance with the relevant criteria; and

   (b) give the Planning Secretary and landowner a copy of the independent review.

3. 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 Planning Secretary.

   If the independent review determines that the project is not complying with the relevant criteria in Schedule 3, then the Proponent must:
   (a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent expert, 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 Planning Secretary.

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Proponent must prepare an Environmental Management Strategy for the project to the satisfaction of the Planning Secretary. This strategy must:
   (a) be submitted to the Planning Secretary for approval prior to the commencement of construction activities;
   (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; and
   - 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.

   The Proponent must implement the strategy as approved by the Planning Secretary.

Adaptive Management

2. The Proponent must assess and manage project-related risks to ensure that there are no exceedances of the criteria and/or performance measures in schedule 3. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

   Where any exceedance of these criteria and/or performance measures has occurred, the Proponent must, at the earliest opportunity:
   (a) take all reasonable and feasible measures to ensure that the exceedance ceases and does not recur;
   (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and
   (c) implement remediation measures as directed by the Planning Secretary; to the satisfaction of the Planning Secretary.

Management Plan Requirements

3. The Proponent must 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; and
   - 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; and
- effectiveness of any management measures (see (c) above);

(e) a contingency plan to manage any unpredicted impacts and their consequences;
(f) a program to investigate and implement ways to improve the environmental performance of the 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 Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.

Annual Review

4. By the end of March each year, the Proponent must review the environmental performance of the project to the satisfaction of the Planning Secretary. This review must:
(a) describe the development (including rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;

include a comprehensive review of the monitoring results and complaints records of the project over the previous calendar year, which includes a comparison of these results against:
- the relevant statutory requirements, limits or performance measures/criteria;
- the monitoring results of previous years; and
- the relevant predictions in the EA;

(b) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
(c) identify any trends in the monitoring data over the life of the project;
(d) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and
(e) describe the measures that would be implemented over the current calendar year to improve the environmental performance of the project.

Revision of Strategies, Plans and Programs

5. Within 3 months of:
(a) the submission of an annual review under Condition 4 above;
(b) the submission of an incident report under Condition 7 below;
(c) the submission of an audit report under Condition 9 below; or
(d) any modification to the conditions of this approval, (unless the conditions require otherwise),

the Proponent must review the strategies, plans, and programs required under this approval, to the satisfaction of the Planning Secretary. Where this review leads to revisions in any such document, then within 4 weeks of the review the revised document must be submitted for the approval of the Planning Secretary.

Note: The purpose of this condition is to ensure that strategies, plans and programs are regularly updated to incorporate any measures recommended to improve environmental performance of the project.

Community Consultative Committee

6. The Proponent must establish and operate a Community Consultative Committee (CCC) for the project. The CCC must:
(a) be established and operated in general accordance with the *Community Consultative Committees Guidelines for State Significant Projects* (Department of Planning and Environment, 2016); and
(b) be established prior to the commencement of construction activities, to the satisfaction of the Planning Secretary.

Notes:

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval.*
- *In accordance with the guideline, the Committee should comprise an independent chair and appropriate representation from the Proponent, Council, recognised environmental groups and the local community.*

REPORTING

Incident Notification

7. The Proponent must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing to compliance@planning.nsw.gov.au and identify the Project (including the project application number and name) and set out the location and nature of the incident.

Non-compliance Notification

7A. Within seven days of becoming aware of a non-compliance, The Proponent must notify the Department of the non-compliance. The notification must be in writing to compliance@planning.nsw.gov.au and identify the Project (including the project application number and name), set out the condition of this approval that the Project is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

Note: *A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.*

Regular Reporting

8. The Proponent must regularly report 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

9. Within 12 months of the commencement of development on the site, and every 3 years thereafter, unless the Planning Secretary directs otherwise, the Proponent must 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 Planning Secretary;
   (b) include consultation with the relevant agencies;
   (c) assess the environmental performance of the project and whether it is complying with the relevant requirements in this approval and any relevant EPL and/or Water Licence (including any assessment, plan or program required under these approvals);
   (d) review the adequacy of any approved strategy, plan or program required under these approvals; and
   (e) recommend measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under these approvals.

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

10. Within three months of commencing an Independent Environmental Audit, or within another timeframe agreed by the Planning Secretary, the Proponent must submit a copy of the audit report to the Planning Secretary, and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations. The recommendations must be implemented to the satisfaction of the Planning Secretary.

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

ACCESS TO INFORMATION

11. The Proponent must:
    (a) make the following information publicly available on its website:
        - the EA;
        - any statutory approvals for the project;
        - approved strategies, plans and/ programs;
        - a summary of the monitoring results of the project, which have been reported in accordance with the various plans and programs approved under the conditions of this approval;
        - a complaints register, updated quarterly;
        - minutes of CCC meetings;
        - annual reviews;
        - any independent environmental audit, and the Proponent's response to the recommendations in any audit; and
        - any other matter required by the Planning Secretary; and
    (b) keep this information up-to-date, to the satisfaction of the Planning Secretary.

APPENDIX 1
PROJECT LAYOUT

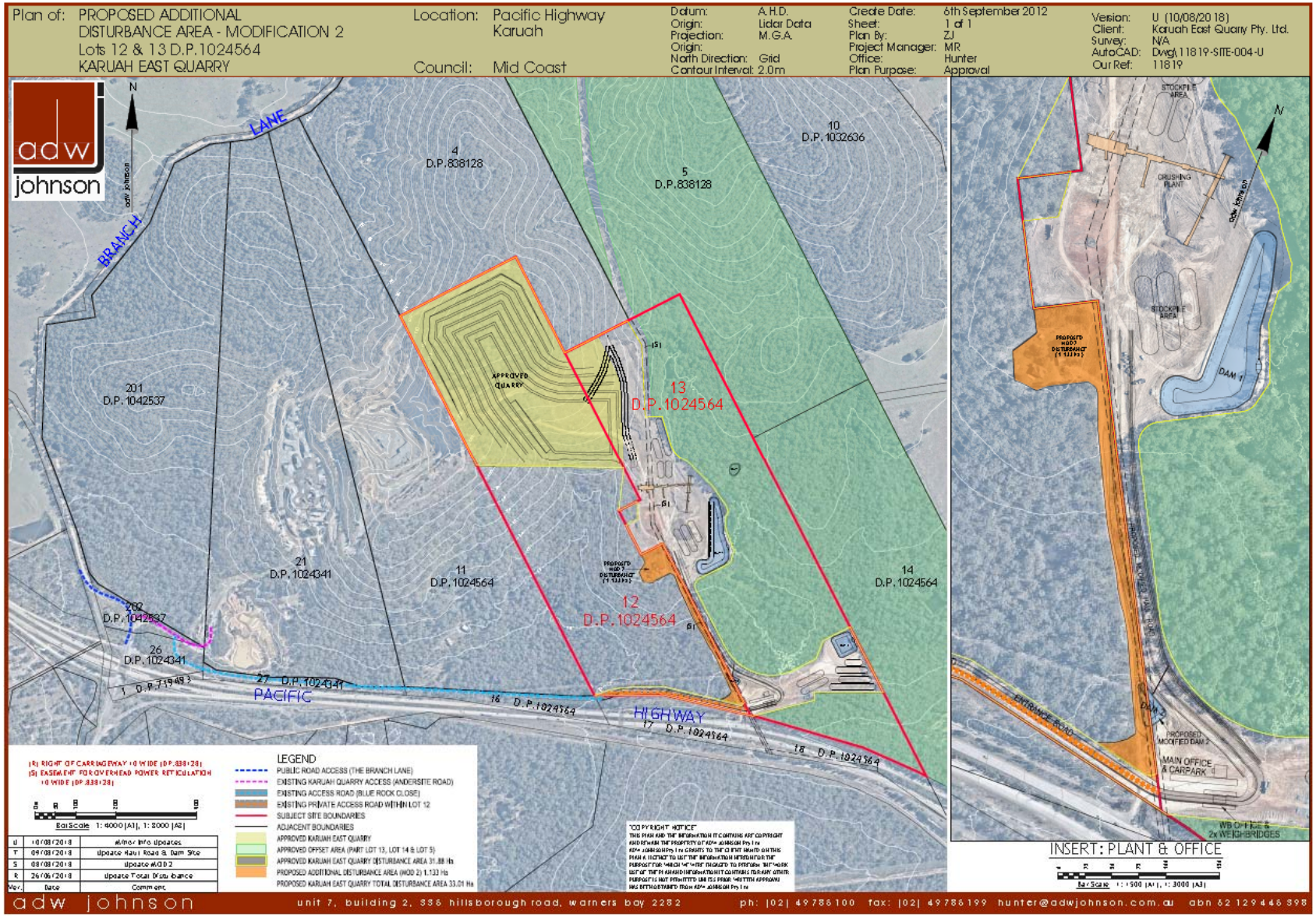

***Figure 1**: Project Layout*

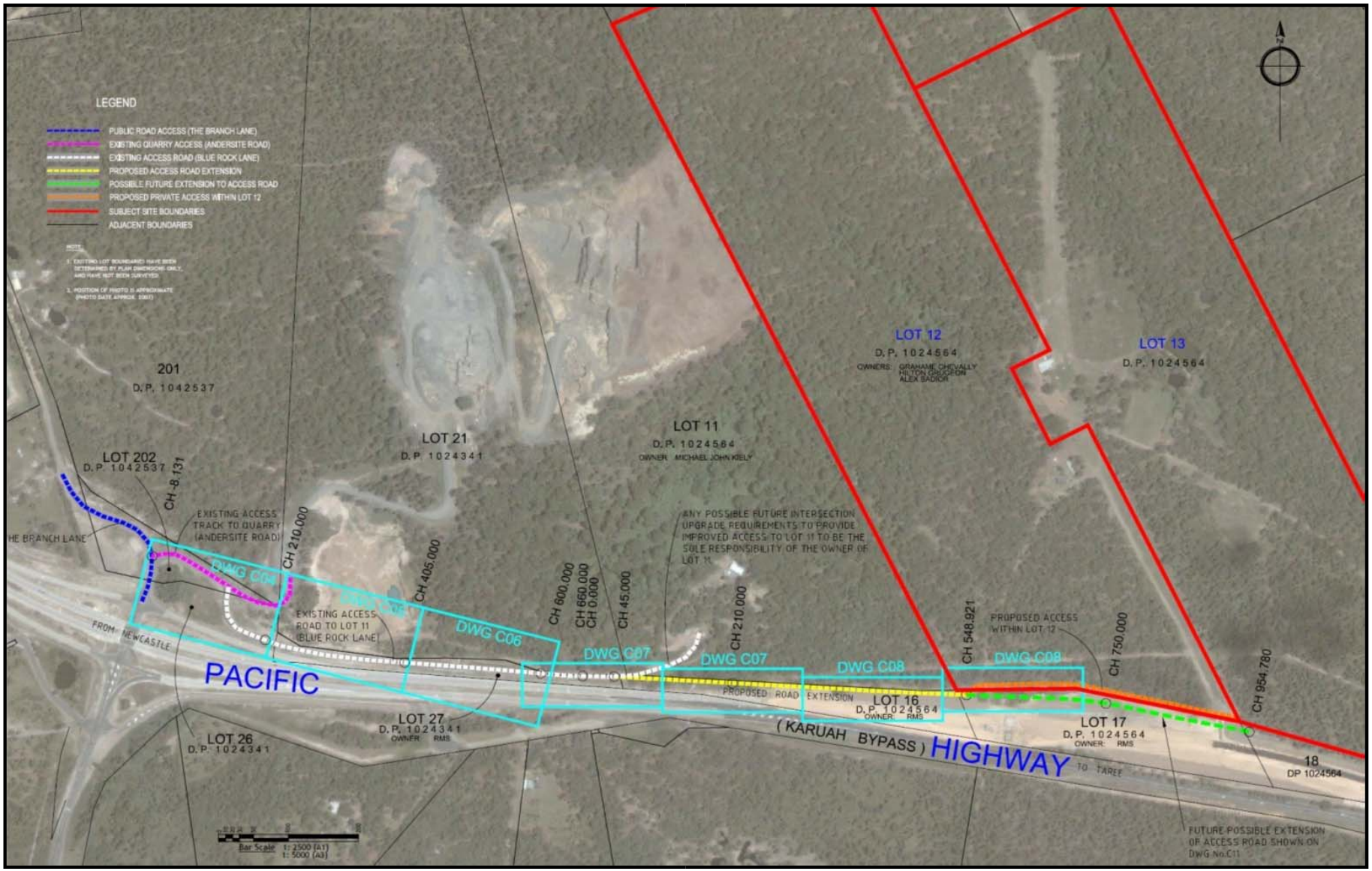

Figure 2: *Proposed roadworks*

APPENDIX 2
NOISE RECEIVER LOCATIONS

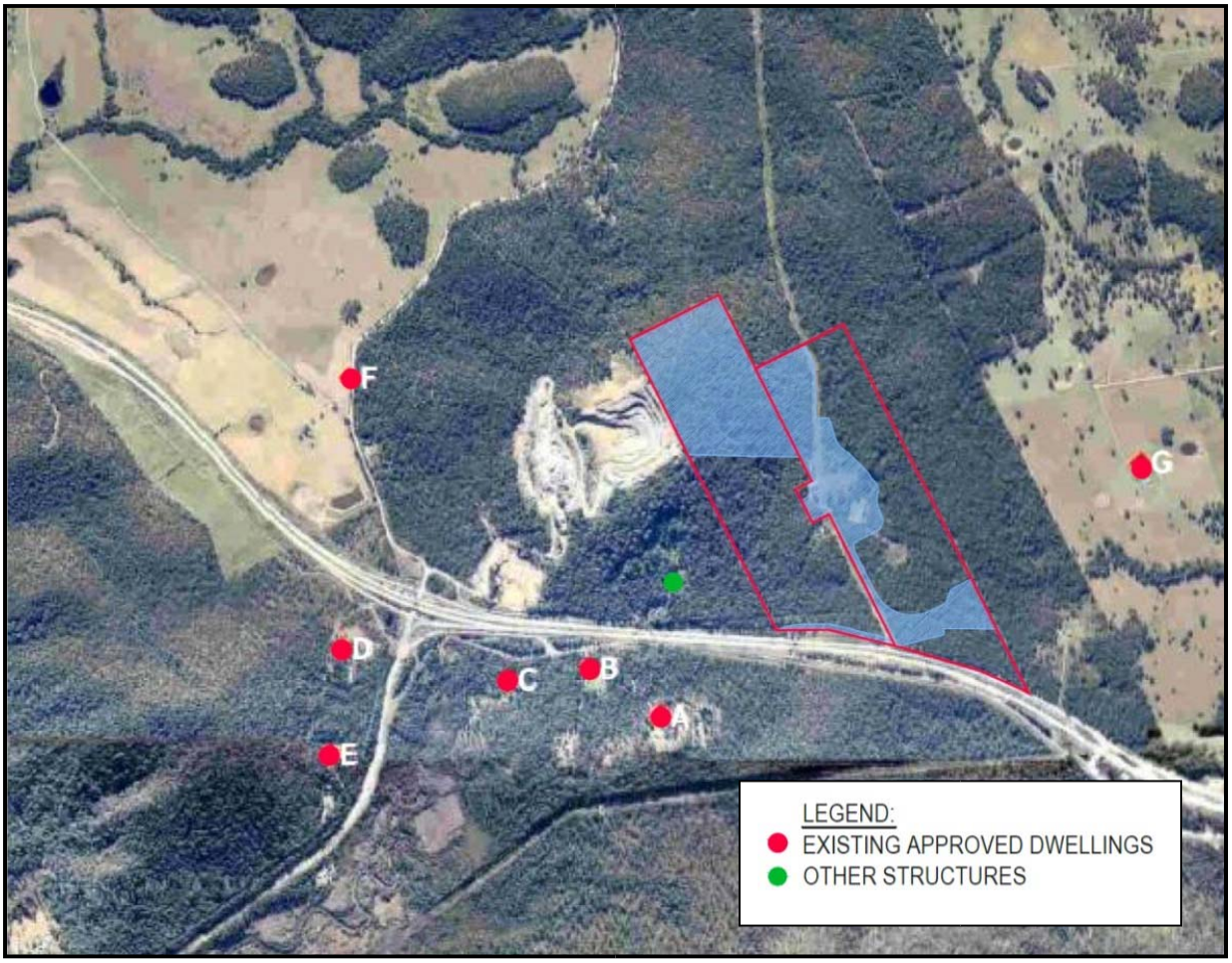

Figure 1: *Closest residences*

APPENDIX 3
NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Tables 2 and 4 are to apply under all meteorological conditions except the following:
   (a) during periods of rain or hail; or
   (b) wind speeds greater than 3 m/s measured at 10 m above ground level.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions must be that recorded by the meteorological station in the vicinity of the site.

Compliance Monitoring

3. Attended monitoring is to be used to evaluate compliance with the relevant conditions of this approval.

4. Unless otherwise agreed with the Planning Secretary, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (as amended from time to time), in particular the requirements relating to:
   (a) monitoring locations for the collection of representative noise data;
   (b) meteorological conditions during which collection of noise data is not appropriate;
   (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
   (d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.

APPENDIX 4
CONCEPTUAL BIODIVERSITY OFFSET AREA

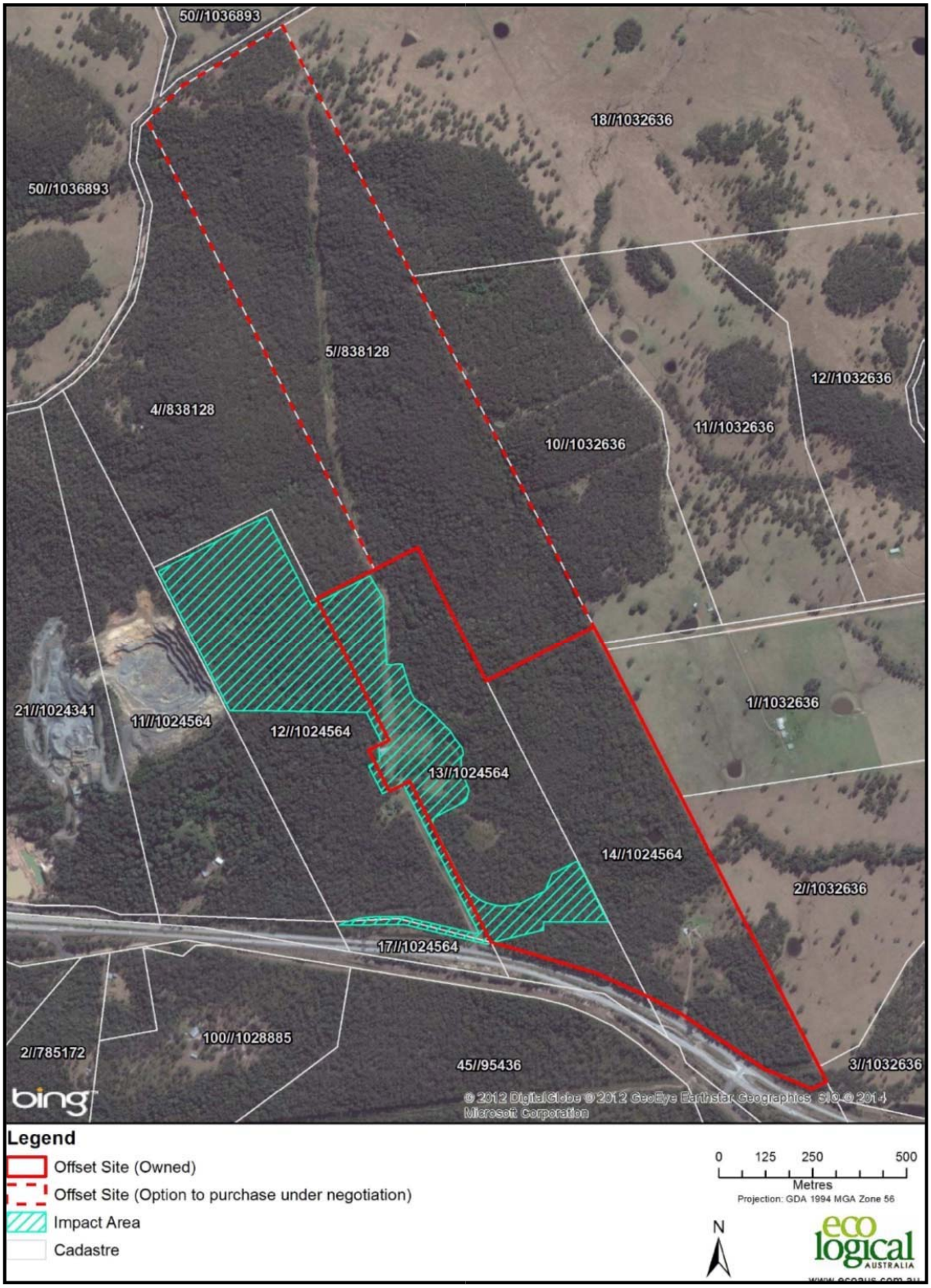

Figure 1: *Conceptual Biodiversity Offset Area*

APPENDIX 5
REHABILITATION STRATEGY

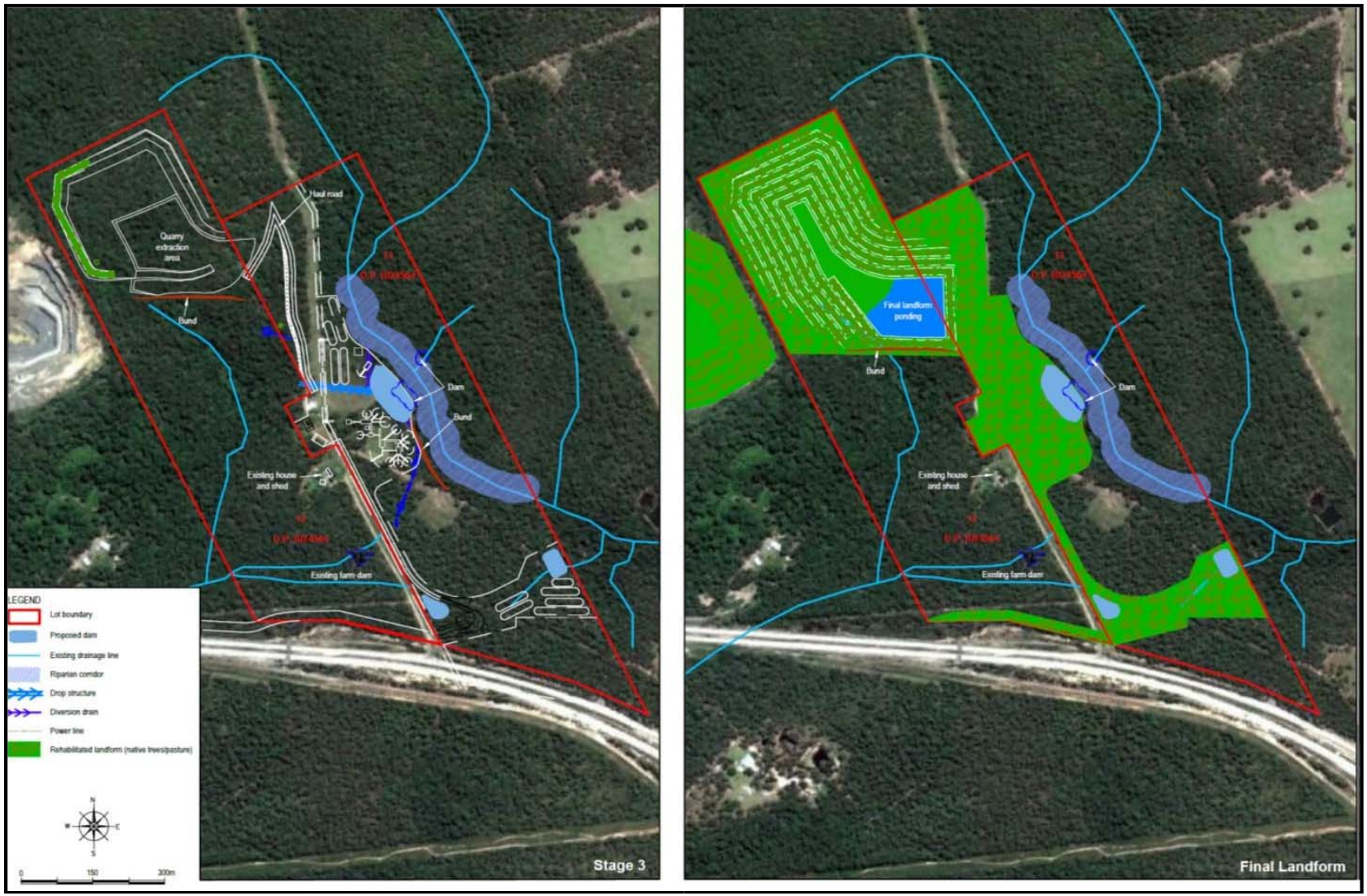

Figure 1: *Conceptual Rehabilitated Landform*

APPENDIX 6
STATEMENT OF COMMITMENTS

STATEMENT OF COMMITMENTS

The following section outlines the proponent's commitment to implement construction and operational strategies relating to environmental management and mitigation measures. This section details how the proposal and its environmental safeguards will be implemented and managed in an integrated and feasible manner.

1.0 PLANS, DOCUMENTS AND APPROVALS

The proposed development will be completed in accordance with the submitted plans and descriptions of the proposed development provided in the Environmental Assessment Report (31 January 2013) and the Preferred Project Report (30 July 2013).

Any changes to the proposed development will require further approval of the relevant authorities.

The proposed development will be carried out in accordance with all approvals granted by relevant authorities.

2.0 SUMMARY OF MANAGEMENT PLANS

The following management plans will be prepared prior to commencement of construction works:

- Construction Environmental Management Plan (CEMP);
- Environmental Management Plan (EMP). The EMP will ensure that the commitments made in the EA Report and Preferred Project Report and the requirements under subsequent approval and license conditions are fully implemented. The EMP will confirm who is responsible and when the commitments associated with the mitigation and monitoring strategies should be implemented/undertaken;
- Annual Environmental Management Report (AEMR);
- Pre- clearing survey;
- Vegetation Management / Monitoring Plan;
- Conservation Management Plan;
- Soil Management Plan;
- Groundwater Monitoring Plan;
- Surface Water Management Plan (including erosion and sediment control and monitoring);
- Noise Monitoring Plan;
- Blasting Management Plan;
- Air Quality Monitoring Plan;
- Construction Traffic Management Plan;
- Environmental Management Strategy;
- Quarry Closure and Rehabilitation Plan; and
- Waste Management Plan.

3.0 SOIL AND WATER

3.1 Soil Management

Soil Management

The following will be undertaken:

- Topsoil will be stripped in accordance with the recommended stripping depth for each soil type, together with area of land and calculated volume which are provided in the table below;

Table 1 - Recommended Stripping Depths

Soil Type	Project Soil Name	Soil Layer	Recommended Stripping Depth (m)	Area (ha)	Volume (m^3)
1	Brown Chromosols	Topsoil	0.30	8.63	25,890
		Subsoil	0.90	8.63	77,670
2	Red Dermosols	Topsoil	0.10	4.55	4,550
		Subsoil	1.10	4.55	50,050
3	Leptic Tenosols	Topsoil	0.0	16.4	0
		Subsoil	0.0	16.4	0
Total Volume					**158,160**

Total Volume (10% handling loss allowance)	**142,344**

- Topsoil disturbance resulting from the excavation of the open cut pit will not be stripped. Areas to be disturbed within the infrastructure boundary will be stripped and stockpiled for re-use in rehabilitation for the area from where it was stripped;
- Only the sandy clay loam topsoil of Soil Type 1 will be used as the final surface topdressing in rehabilitation;
- Rehabilitation involving topsoil respreading will occur on the entire infrastructure area. The open cut footprint will be rehabilitated through direct tree planting and more specific rehabilitation measures; and
- Topsoil will be respread on final landforms at a minimum of 15cm, and an intermediate layer will be established at a minimum of 30cm.

Where topsoil stripping and transportation is required, the following topsoil handling techniques will be implemented to prevent excessive soil deterioration, note this also applies to subsoil stripping:

- Strip material to the depths stated in the table above, subject to further investigation as required;
- Topsoil will be maintained in a slightly moist condition during stripping. Material will not be stripped in either an excessively dry or wet condition;
- Place stripped material directly onto reshaped overburden and spread immediately to avoid the requirement for stockpiling;
- Clay material will be applied first to create an intermediate layer. The loam topsoil will then be spread to overlie this layer;
- The surface of soil stockpiles will be left in as coarsely structured a condition as possible in order to promote infiltration and minimise erosion until vegetation is established, and to prevent anaerobic zones forming;
- Maintain a maximum stockpile height of 3m;
- If long-term stockpiling is planned (i.e. greater than 12 months), stockpiles will be seeded and fertilised as soon as possible; and
- Prior to re-spreading stockpiled topsoil onto reshaped overburden an assessment of weed infestation on stockpiles will be undertaken to determine if individual stockpiles require herbicide application and/or "scalping" of weed species prior to topsoil spreading.

An inventory of available soil will be maintained to ensure adequate topsoil materials are available for planned rehabilitation activities.

The respread topsoil surface will be scarified prior to, or during seeding, to reduce run-off and increase infiltration.

3.2 Groundwater Management

- Prior to commencement of works, further investigation of groundwater conditions will be conducted in consultation with the NSW Office of Water;
- Benches and the pit floor will be graded to promote drainage toward the entrance to the pit;
- Minor seepage and ponding water from excessive rainfall will be managed by conventional drainage measures within the quarry such as periodic pumping out to the surrounding drainage controls. Water will be retained on site for quarry operations and for environmental mitigation;
- Only emergency vehicles repairs will be carried out onsite and any major vehicle repairs/maintenance will occur offsite;
- Refuelling will be undertaken in a designated non-permeable (compacted clay or concrete) area;
- Runoff water from the Project site will be collected and monitored for environmental mitigation to prevent chemicals and hydrocarbon pollutants such as petroleum, diesel, and oil seeping into the groundwater system;
- Fuel storage facilities will be installed in accordance with relevant statutory requirements. Handling and storage of fuel and oil within the project site will be in accordance with Australian Standards, AS 1940-2004 (Storage and Handling of Flammable and Combustible Liquids) and NSW Work Cover 2005 Code of Practice for Storage and Handling of Dangerous Goods to reduce the risk of any spills or environmental release. Above ground storage in a bunded facility will be used;
- Material Safety Data Sheets (MSDS) will be kept in the site safety system for all chemicals used on site. The MSDS will contain information on the environmental impacts of the use of certain chemicals and include detail on emergency response, clean up and disposal. Handling and storage of all chemicals within the project site will be in accordance with Dangerous Goods Act 1975 (NSW), and Australian standards, including AS 1940-2004 (Storage and Handling of Flammable and Combustible Liquids); and
- Quarry rehabilitation will use spoil, and clean fill fit for purpose and in accord with relevant statutory requirements.

Contingency, Monitoring and Reporting for Groundwater Management

Contingency Plans

Emergency Response Procedures will be developed and implemented for the proposed Karuah East quarry.

Contingency plans will be developed to address actions that are required where unforeseen events occur. Contingency plans will consider the following:

- Groundwater levels: If groundwater level monitoring indicates abrupt changes, additional investigations will be carried out to implement necessary measures; and

- Groundwater quality: In the event that the groundwater quality monitoring indicates a deteriorating change of groundwater quality in relation to the proposed quarrying operations, the appropriate authority will be contacted to discuss the implementation of necessary measures.

Monitoring Plan

Monitoring of groundwater levels and groundwater quality will be conducted prior to the start of quarry operations. The existing monitoring bores at BH205, BH207, BH208 and BH303 will be used for monitoring groundwater of the quarry area.

New monitoring bores will be installed if any existing monitoring bores are destroyed during the quarry operations, or are subject to general failure. Surface runoff water will also be monitored.

Groundwater Levels

Groundwater levels will be monitored on a quarterly basis to identify any adverse impacts arising from the operation of the quarry in the future, and to identify long-term groundwater level trends.

Groundwater Quality

Groundwater samples will be collected for laboratory analysis on a 6-monthly basis. The groundwater quality results will be laboratory analysed for the parameters below and compared to background water quality results. The groundwater sampling will be carried out by an experienced groundwater professional or environmental scientist in accordance with Australian sampling standards.

The basic analyte and parameter suite applies to all samples. The additional extended analytic suite should apply annually together with the basic suite.

Basic Analytes and Parameters – 6 monthly (every sample):

- ph, Electrical Conductivity (EC), Total Dissolved Solids (TDS); Alkalinity;
- Total nitrogen, total phosphorus;
- Major ions, calcium, magnesium, sodium, potassium, chloride, sulphate, carbonate, bicarbonate;
- Total Petroleum Hydrocarbon (TPH); and
- BTEX (benzene, toluene, ethyl benzene, exylene).

Additional Analysis – 12 monthly (every second sample only):

- Nutrient suite: total nitrogen, nitrate, total Kjeldahl nitrogen, total phosphorus, phosphate;
- Metals (arsenic, cadmium, chromium, copper, lead, zinc, nickel, manganese, mercury, total iron, filterable iron);
- Polycyclic Aromatic Hydrocarbon (PAH); and
- Organophosphorus pesticides, phenoxy acid herbicides.

Reporting

The recording date, time and parameters of monitoring data will be collected and tabulated. All original laboratory reports will be maintained on file. Monitoring records will be kept until the closure stage of the quarry for inspection on request by government agencies.

3.3 Surface Water – Proposed Water Management System

The following surface water management measures will be implemented:

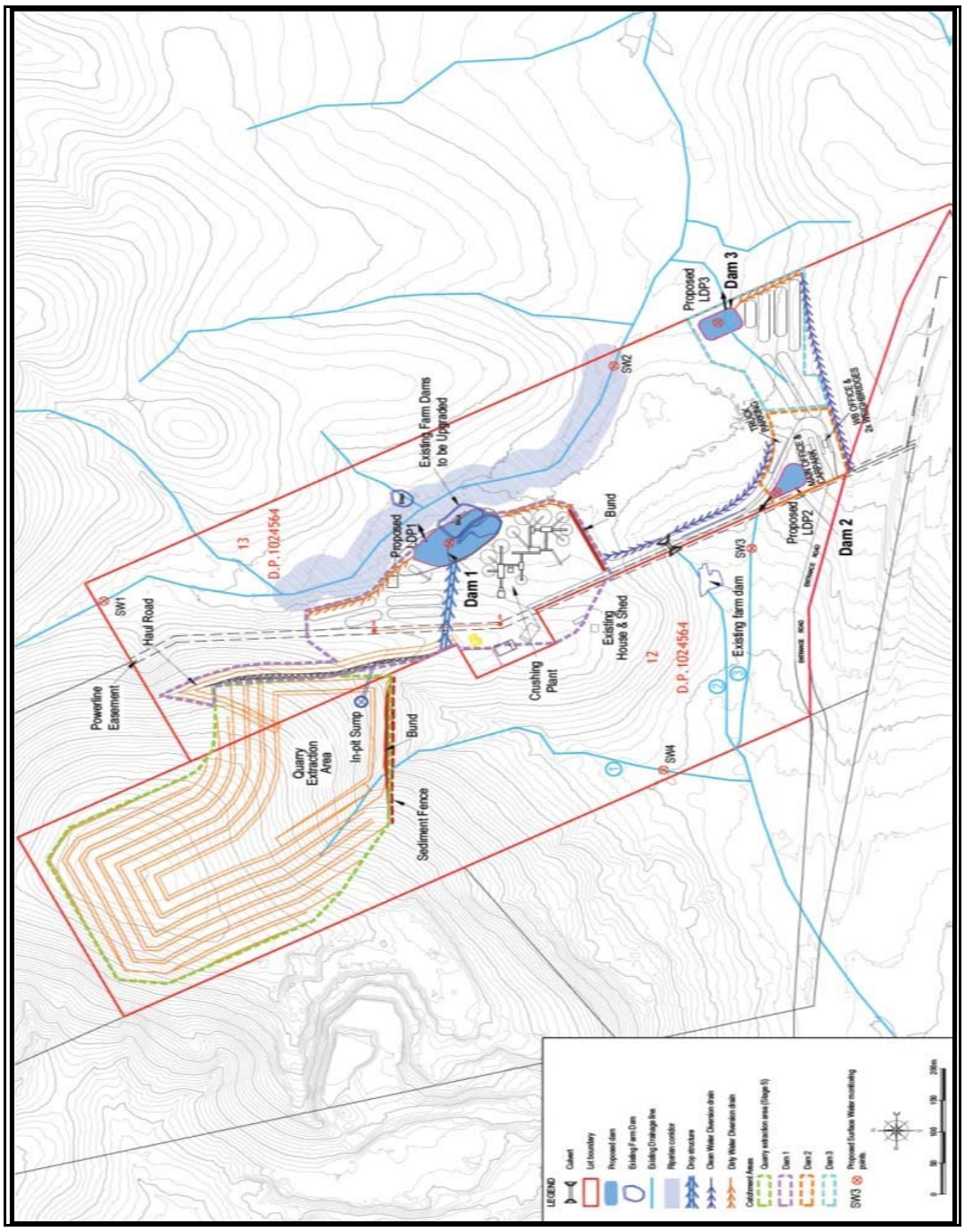

Figure 1: Surface Water Management Plan.

Quarry Extraction Area

- Runoff generated within the active quarry extraction area will be directed into an inpit sump where it will be contained and pumped out as required so as not to impede quarrying activity;
- A bund and sediment fence will be maintained along the southern boundary of the quarry, to minimise the risk of sediment being washed downstream of the quarry;
- Construction of the quarry floor will be managed in such a way so as to direct all runoff to the in-pit sump. The location of this sump will change as quarrying progresses, however it will generally be located in the south east corner of the quarry;
- Water collected in the in-pit sump will be pumped out as required into a rock lined table drain adjacent to the main haul road. The water will flow down this drain to the main dirty water dam, Dam 1, via a rock lined drop structure; and
- Progressive rehabilitation of all formed surfaces, such as quarry benches and long-term soil stockpiles, will occur wherever possible to reduce the amount of total suspended solids (TSS) in runoff from disturbed areas.

Dam 1 Catchment (crushing plant and product stockpiles)

- An existing farm dam will be upgraded and used as a sediment dam (Dam 1);
- The crushing plant area will be graded such that runoff from this area will flow into Dam 1;
- Water for haul road and some stockpile dust suppression, as well as for the crushing plant will be sourced from Dam 1; and
- A diversion bund will be constructed along the eastern boundary of this catchment area, to direct runoff from the area into Dam 1.

Dam 2 Catchment (product stockpiles and office infrastructure area)

- A second sediment dam, Dam 2, will be constructed adjacent to the main haul road to capture runoff from this area. Water collected in Dam 2 will be re-used for dust suppression on the product stockpiles.

Dam 3 Catchment (product stockpiles)

- A third sediment dam, Dam 3, will be constructed in the north-east corner of the southern stockpile area. Water collected in dam 3 will be re-used for dust suppression on the adjacent product stockpiles.

During Construction

Sediment laden runoff from disturbed areas during construction will be managed by implementing the following erosion and sedimentation control principles:

- Conducting best practice land clearing procedures for all proposed disturbance areas;
- Minimising the disturbance footprint;
- Coordinating construction sequences to minimise exposure of disturbed soils to the elements;
- Separate/diversion of upslope 'clean' water catchment runoff prior to land disturbance;
- Ensuring sediment-laden runoff is treated via designated sediment control devices;
- Appropriate storage of topsoil stockpiles in areas away from roadways and other drainage lines;
- Revegetation of disturbed areas as soon as possible following the completion of construction activities; and
- Implementing an effective maintenance period.

Surface Water Management – Final Landform

- Dams 1, 2 & 3 will remain in place for post-mining landuse. Consultation will be undertaken with relevant government agencies in relation to licensing conditions at that time; and
- If deemed necessary by the relevant government agency, the dams will be removed.

Dam Design

Each dam will be constructed to the following capacity in accordance with 'Blue Book' requirements:

Table 2 – Summary of Proposed Dams

Dam	Sediment Zone (ML)	Settling Zone (ML)	Additional water storage capacity (ML)	Total Capacity (ML)
Dam 1	3.4	5.4	3.6	12.4
Dam 2	0.4	0.9	0	1.3
Dam 3	0.6	1.7	0	2.3

Management and Maintenance of Dams

- In the event that water is required to be discharged offsite, the water will be tested prior to discharge to ensure appropriate discharge criteria are met, such as Total Suspended Solids (TSS) below a concentration of 50mg/L. Where this is not the case, water will be treated, for example through the use of chemical flocculation, to achieve a suitable water quality; and
- An inspection of the sediment dams will be undertaken as part of the routine site environmental inspection program or following significant rainfall. Various information, such as the general condition of the dam, evidence of overflow, condition of downstream catchments, water colour, evidence of eroding surfaces and approximate retained capacity, will be recorded.

Mitigation Measures for Drainage Lines

- A sediment fence will be installed along the downstream side of the entire southern face of the quarry as a sediment control measure to minimise the transport of any sediment into the remaining section of the first order drainage line to the south of the extraction area;

  This drainage line will be reinstated as close as possible to its original path following completion of extraction activities at the quarry as part of the final rehabilitation of the site;

- A Site Water Management Plan (SWMP) for Karuah East will be prepared and include details on the drainage line rehabilitation works. Works within the restored drainage lines will be generally undertaken in accordance with Section 5.3.3 of the Blue Book (Volume 1) and the 'Guidelines for Controlled Activities – In-Stream Works' (DWE, 2008) for watercourse rehabilitation and riparian zone rehabilitation. Key design elements of channel establishment works will include:
  - Implement temporary erosion controls to provide for the short-term stabilisation of the channel;
  - Design and construct the stream channel so that it will be stable for the longterm and minimizes the potential for the migration of any erosion upstream or downstream;
  - The drainage line will be re-instated as a compound channel with a main channel conveying the small to medium flows, and a floodplain used to convey the high overbank flows;
  - The main channel forming part of the re-instated central drainage line will be generally trapezoidal in shape with 3:1 (H:V) bank batters;
  - Natural meanders will be used instead of straight lines to reflect natural stream characteristics;
  - Where there are high erosive forces (such as high flow velocity or steep grades) the channel bed will be rock lined where required and constructed in accordance with the 'Blue Book', including the placement of appropriately sized rocks above a filter layer of suitable geotextile; and
  - Soil will be packed in between rocks to allow sedges and grasses to be established within the channel to provide for long-term channel stability.

  Following earthworks and channel establishment, a riparian corridor will be established with a minimum width of 10 m, measured horizontally and at right angles to the flow from the top of both banks on the streams. Key design elements of the riparian corridor establishment will include:
  - Implement temporary erosion controls to provide for the short-term stabilisation of the riparian corridor;
  - Restore a vegetated riparian corridor along the stream channel (10 m from top of bank);
  - Establish a diverse range of locally occurring vegetation species;
  - Establish a full range of vegetation types, including trees, shrubs and grass covers;
  - No exotics species are to be introduced; and
  - Maintain the rehabilitated riparian corridor for two years after initial rehabilitation.

Licensed Discharge Point / Licensing Requirements

- A Licensed Discharge Point (LDP) will be installed is required at the outlets of Dam 1, Dam 2 and Dam 3. An application to the NSW OEH for the establishment of the LDP's will be made; and
- The controlled release of water will preferentially be made from Dam 1 and Dam 3. The water management system will be set up to allow for water to be pumped from Dam 2 to Dam 1 as required for release.

Site Water Balance

- The proposed dams will be built to at least the specified sizes (Table 2 above), and made larger where practical in consultation with NOW;
- That controlled discharge of treated (e.g. flocculated) water be undertaken when total site storage levels are above 4.3ML, which would provide the capacity to contain more rainfall events and reduce wet weather discharges (this assumes the dams are built to the capacities presented in Table 2 above); and
- All water usage will be monitored across the site to enable an update of the water balance using actual metered water usage data after 12 months of operation.

Site Water Management Plan

A Site Water Management Plan (SWMP) will be prepared following project approval in accordance with regulatory requirements and conditions of consent. The SWMP will be developed in accordance with the *Blue Book* (Volume 1 and Volume 2E).
The SWMP will incorporate the following:

- On-site soil and water management principles and objectives, including the following:
  - Containment of dirty water runoff from the active quarry area by directing this water into in-pit sumps;
  - Directing sediment-laden runoff from disturbance areas and rehabilitated areas into designated sediment control dams;
  - Installing temporary erosion and sediment control devices as required (i.e. sediment fences sand bag weirs) to minimise the discharge of sediment laden water from newly disturbed areas;

- Diverting clean water runoff unaffected by the operations away from disturbed areas and offsite, where possible;
- Maintaining sediment control structures to ensure that the designed capacities are maintained for optimum settling of sediments; and
- Implementing an effective revegetation and maintenance program for the site.

- Identification of sources of sedimentation and erosion.
- Soil Best Management Practices (BMPs) to be implemented on-site, including:
  - quarry planning considerations (such as minimising disturbance); o topsoil/subsoil handling and stockpiling procedures; and o topsoil/subsoil respreading procedures.

- Water BMPs to be implemented on-site, including; o clean water diversions;
  - dirty water capture and treatment;
  - additional sediment protection measures to be employed during the life of the Project; and o maintenance of sediment control structures.

- Drainage line rehabilitation.
- Water monitoring procedures.
- Documentation and reporting procedures.

Surface Water Monitoring Program

A Surface Water Monitoring Program will be implemented to monitor both the surface water quality upstream and downstream of the site, and the effectiveness of the Site Water Management Plan, including:

- The results of Surface water monitoring undertaken during quarrying operations at Karuah East will be compared against the baseline data collected as part of the Surface Water Assessment;
- A baseline ecological health condition assessment of Yalimbah Creek will be undertaken prior to commencement of operations, and monitoring of Yalimbah Creek will continue as part of the annual ecological monitoring of offset areas;
- The following parameters (see Table 3 below) will be measured at each monitoring location via collection of a grab sample. The recorded values for the parameters measured will be assessed as a minimum against baseline water quality results as well as the ANZECC trigger values presented below, and plotted to identify any trends over time. The OEH will be notified in the event of increasing levels of any parameter; and
- The range of analytes measured will be reviewed following the first 12 months of monitoring and a diagnostic set of analytes adopted for ongoing monitoring.

Table 3 – Surface Water Monitoring Parameters

Parameter	Unit	ANZECC Guidelines[1]
pH (Field)	--	6.5 – 8.5
Conductivity (Field)	uS/cm	125 – 2200
Conductivity (Lab)	uS/cm	125 – 2200
Total Dissolved Solids	mg/L	-
Parameter	**Unit**	**ANZECC Guidelines[1]**
Total Phosphorus	mg/L	0.025
Ammonia	mg/L	0.02
Nitrogen (Nitrate)	mg/L	0.350
Total Hardness (as CaCO3)	mg/L	--
Oil & Grease	mg/L	--
Arsenic	mg/L	0.024
Cadmium	mg/L	0.0002
Calcium	mg/L	--
Chromium	mg/L	0.001
Copper	mg/L	0.0014
Lead	mg/L	0.0034
Magnesium	mg/L	--
Manganese	mg/L	1.9

Nickel	mg/L	0.011
Potassium	mg/L	--
Sodium	mg/L	--
Vanadium	Mg/L	--
Zinc	mg/L	0.0312

[1] Key default trigger values presented in ANZECC 2000 for slightly disturbed upland rivers in NSW. Heavy metals based on hard water (120-179 mgCaCO3/L)

Surface water monitoring locations will be as follows:

- Dam 1;
- Dam 2;
- Dam 3;
- SW 1 & SW 2 - Existing second order drainage line (within Lot 13 flowing along the eastern boundary of the Study Area); both upstream and downstream of the quarry;
- SW 3 - Existing drainage line downstream of Dam 2; and
- SW 4 - Existing drainage line downstream of the quarry extraction area.

The table below identifies the monitoring point locations, the type of monitoring point, and the frequency of sampling.

Table 4 - Proposed Surface Water Monitoring Locations

Location	Type of Monitoring Point	Description of Location	Frequency
Dam 1	Water Quality	Proposed dam located in crushing plant area	Monthly, and within 24 hours of any discharge. Also prior to any controlled (i.e. planned) discharge.
Dam 2	Water Quality	Proposed dam located in western section of stockpile area	Monthly, and within 24 hours of any discharge. Also prior to any controlled (i.e. planned) discharge.
Dam 3	Water Quality	Proposed dam located in eastern section of stockpile area	Monthly and within 24 hours of any discharge. Also prior to any controlled (ie. planned) discharge.
SW1	Water Quality	Existing second order drainage line upstream of site	Monthly (if creek flowing)
SW2	Water Quality	Existing second order drainage line downstream of site	Monthly (if creek flowing) and within 24 hours of any discharge.

SW3	Water Quality	Downstream of Dam 2	Monthly (if creek flowing) and within 24 hours of any discharge.
SW4	Water Quality	Downstream of quarry extraction area.	Monthly (if creek flowing).
Water management (erosion and sediment	Erosion and Sediment Control	All noted erosion and sediment control structures.	Monthly and after significant rainfall events.

Reporting of Monitoring Data

- Karuah East Quarry Pty Ltd will collate surface water analysis data and maintain an up to date record of analysis both in hard copy (laboratory reports) and electronic (results) format. These results will be interpreted as they are received in order to ensure appropriate operational guidance on maintaining water quality within desired parameters;
- The results of water quality analysis will be reported in the Annual Environmental Management Report (AEMR); and
- In the event that an exceedance in surface water quality criteria is identified, the exceedance will need to be reported to the relevant agencies in accordance with the requirements of the EPL.

4. BIODIVERSITY & CONSERVATION OFFSET

4.1 Flora and Fauna

The following will be implemented by the proponent:

Vegetation Clearing Management

Site Survey and Exclusion Fencing

The extraction area/forest interface will be delineated to protect retained bushland areas on Lot 12 and 13. To achieve this, the quarry footprint boundary will be surveyed and pegged by a Registered Surveyor prior to the conduct of clearing operations. Plastic mesh fencing or star pickets and flagging tape will be installed along the extraction boundary for use as exclusion fencing. The fencing will function as a clearly marked 'exclusion' boundary for the machinery operations.

Permanent chain wire metal exclusion fencing will be installed around the entire perimeter of the quarry footprint (except at the designated aerial fauna crossings) prior to the commencement of quarry operations.

Clearing Protocol

The following protocol will be undertaken as part of the clearing activity on the subject site:

- All contractors conducting clearing, earth works or quarrying activities within the subject site will be informed of the restrictions to the clearing of vegetation outside the 'exclusion fencing'. A construction protocol will be prepared requiring all earthworks, machinery and personnel be strictly controlled and be restricted to the extraction footprint. No storage of materials, vehicle parking or other disturbance will be undertaken outside the exclusion fencing. Contractors will be supplied with the construction protocol regarding the clearing restrictions through a work site induction program;
- Trees will be felled away from the refined bushland on the subject site back into the extraction areas; and
- Domestic fauna (ie. dogs) will be prohibited from entering the subject site with Contractors.

Fauna Management

Pre-Clearing Surveys

Where possible, vegetation clearing activity will be timed so as to avoid the following breeding periods for hollow dependant fauna:

- October – February (microbats); and
- June – August (large forest owls and microbats in torpor).

If restricting the clearing to these limited times is not found to be practical, then ecological pre-clearing surveys will be undertaken within two weeks prior to the commencement of the clearing.

If required, components of the pre-clearing surveys will include:
Threatened Fauna Searches

Within one week prior to commencement of vegetation clearing, searches for signs of Threatened species occurring within the quarry footprint will be undertaken. These searches would include but not be limited to;

- Searches for nests of threatened raptors; and
- Searches for whitewash or other signs of roosting or nesting Powerful and Masked Owls.

If a threatened raptor or owl nest site is recorded within the subject site during the surveys, clearing activity will not take place in the vicinity of the nest (within 50 metres) until the nest is vacated by the affected species (including fledglings). Recorded nest sites would be subject to a monitoring program to ensure that no clearing activity is undertaken until the nest sites are vacated.

Small Mammal Trapping

Elliott trapping will be undertaken within one week prior to commencement of vegetation clearing over a 4 night period, targeting the Brush-tailed Phascogale (Phascogale tapoatafe) and Squirrel Glider (Petaurus norfolcensis). A total of 4 trap lines (equating to 160 arboreal Elliott traps and 400 terrestrial Elliott trap nights) will be established across the subject site (2 lines/stratification unit).

Stag Watching and Anabat Survey

A combined Stag Watching and Anabat survey would be conducted within the subject site over a 4 night period in an attempt to identify potential Microchiropteran bat roost trees. Should further investigations reveal the presence of a maternity colony, no clearing would be undertaken until after the completion of the breeding period (mid October – mid February inclusive).

Reporting

A report detailing the methods and results of the pre-clearing surveys will be prepared and submitted to OEH immediately prior to the commencement of the clearing operations.

Ecological Clearing Supervision

The removal of all identified hollow bearing trees will be undertaken with the presence of a qualified and suitably experienced fauna ecologist.

A tree felling protocol will be developed to minimise harm to hollow obligates during the clearing of trees for the proposal. The tree felling protocol will be developed by a suitably qualified and licenced ecologist with previous experience supervising felling trees. The tree felling protocol will comprise pre-felling identification and mapping of hollow bearing trees, inspections of trees on the day of clearing, procedures for the safe removal of fauna species from trees prior to and post felling, a relocation/release procedure and a methodology for salvaging (and relocating) tree hollows where practicable.

The relevance of the marked hollow bearing trees and requirements for ecological clearing supervision and hollow resource recovery will be communicated to the clearing Contractor as part of a site induction program.

Nest Box Program

One nest box will be installed for each hollow to be lost as a result of the proposal. Softwood pine (plywood) nest boxes will be used and will be specifically designed for Threatened hollow obligates. Nest boxes will have swivel mounts and be fitted with screw lids to prevent damage from brushtail possums.

Nest boxes will be placed in retained habitats in the study area onto host trees that do not already support hollows at a minimum height of 3 metres (aboveground) in an orientation other than west and north-west to minimise exposure to the afternoon sun.

Nest boxes will be erected prior to the commencement of clearing operations and will be subject to 2 yearly maintenance for the life of the quarry.

Feral bees found to colonise the nest boxes will be eradicated by a specialist pest contractor.

Nest box installation will be supervised by a suitably experienced fauna ecologist.

Aerial Fauna Crossings

Two (2) dedicated aerial fauna crossings will be installed.

- The western aerial fauna crossing will to be located at the existing quarry haul road approximately 250 metres north east from the existing quarry site office; and
- The eastern aerial fauna crossing is proposed on Lot 13 along the north-south running access road.

The canopy bridges will comprise rope netting suspended across the entire width of the haul roads connected to two (2) poles placed on opposite side of the roads. The western canopy bridge would be approximately 40-45m in length and 50cm wide whilst the eastern canopy bridge would be approximately 55 metres in length and 50cm in width.

The netting of both canopy bridges would comprise 14mm diameter marine grade 'silver rope' in a flat lattice-work configuration (ie. analogous to a rope ladder laid horizontally).

The height of the poles and canopy crossing above the road surface would be between 6 – 12 metres, depending on the road profile.

Single strands of rope will extend from the timber poles into the canopy of adjacent trees to facilitate access by arboreal mammals.

The final design of the canopy rope bridges would be chosen as part of detailed design following project approval.

A twelve month monitoring program will be undertaken using a motion detecting camera system mounted on each pole at each of the two (2) aerial crossings.

Salvage and Relocation of Terrestrial Habitat Structures

Large fallen logs will be salvaged during the clearing operations and relocated into retained forested habitats on Lots 12 and 13.

Threatened Plant Populations

Salvage and Reintroduction
A salvage program for Tetratheca juncea will be implemented. The salvage program will compromise the excavation of clumps (along with rhizomes and surrounding root balls) proposed for removal and their reintroduction into prepared 'beds' within suitable habitats nearby.

Application for a Section 91 licence from OEH for the salvage program will be made and will be subject to a detailed Salvage Plan to be prepared by the Proponent (and endorsed by OEH and Department of Planning) prior to commencement of the works.

Monitoring

Threatened plant sub-populations of *Tetratheca juncea, Grevillea parviflora* subsp. *parviflora and Asperula asthenes* situated within retained bushland habitats on Lots 12-14 will be monitored annually by a suitably qualified and experienced botanist for the life of the quarry operation.

A Monitoring Plan will be prepared prior to the commencement of clearing activity to detail survey design, data collection and reporting. Adaptive management will be employed for the life of the quarry to respond to population issues that are identified, including weed control.

4.2 Biodiversity Offset Strategy

The proposed offset site is identified as Part Lot 13 DP 1024564, Lot 14 DP 1024546 and Lot 5 DP 838128 (provided that an option to purchase Lot 5 has been secured by the proponent). In the event that Lot 5 DP 838128 is unable to be secured by the proponent, the proponent will purchase an alternate offset site, which, combined with Lots 13 and 14, will provide a total biodiversity offset area of not less than 129.32 ha. The alternate offset site will be required to be agreed to by NSW OEH and be to the satisfaction of the DirectorGeneral.

The following will be undertaken by the proponent in relation to the proposed offset site identified as Part Lot 13 DP 1024564, Lot 14 DP 1024546 and Lot 5 DP 838128:

- Seasonal flora and fauna survey of the offset site will be undertaken in accordance with relevant OEH guidelines. In particular, seasonal survey for tetratheca juncea and grevillea parviflora ssp parviflora will be undertaken and reported to the NSW OEH;
- Prior to establishment of the proposed quarry, the proponent will purchase Lot 5 DP 838128 (provided than an option to purchase has been secured). In the event that Lot 5 DP 838128 is unable tobe secured by the proponent, as noted above, the proponent will purchase an alternate offset site (to be agreed to by NSW OEH and be to the satisfaction of the Director-General).
- Upon approval of the project, in consultation with the NSW OEH, the proponent will secure the offset lands via a Conservation Agreement under Part 4, Division 12 of the National Parks and Wildlife Act 1974;
- A Conservation Management Plan will be developed. The plan will:
    - Confirm required on ground works such as weed control, fencing, signage and pest control;

- Confirm the timing / schedule of the abovementioned works; and
- Specify restrictions to the existing two (2) residences of Lot 5 and Lot 14 (if purchase of Lot 5 is secured by the proponent). If an alternate offset site is provided instead of Lot 5 (as noted above) any restrictions on this land will be specified in the Conservation Management Plan.

- Monitoring of the offset land will be undertaken annually. Results of the monitoring will be used to provide input into the priority areas for the following year(s) of ground maintenance works.

5.0 NOISE, BLASTING AND VIBRATION

The following will be undertaken:

- Four (4) metre noise barriers will be included around stockpile and stacker locations to reduce noise emissions from mobile plant items in these areas;
- Noise compliance monitoring will be undertaken in accordance with conditions of consent by a suitably qualified acoustic expert. The monitoring will consider the performance of the quarry in relation to the project specific noise, vibration and blast criteria established in the SLR Noise and Blasting Impact Assessment (dated 2 November 2012);
- The proponent will not fire blasts at the existing quarry and the proposed Karuah East quarry at the same time;
- The proponent will implement a blasting program where nearby receivers are notified in advance of a blast;
- The following control measures for vibration will be undertaken:
  - Reducing the maximum instantaneous charge (MIC) by using delays, reduced hole diameter and/or deck loading;
  - Changing the burden and spacing by altering the drill pattern and/or delay layout or altering the hole inclination;
  - Use the minimum practicable sub drilling which gives satisfactory toe conditions; and - Investigate alternative rock breaking techniques.
- The following control measures for air blasting will be undertaken:
  - Reducing the maximum instantaneous charge (MIC) by using delays, reduced hole diameter and/or deck loading;
  - Ensure stemming depth and type is adequate;
  - Eliminate exposed detonating cord and secondary blasting;
  - Restrict blasting events to favourable weather conditions;
  - Orient quarry faces away from potentially sensitive receivers;
  - Use a hole spacing and burden which will ensure that the explosive force is just sufficient to break the ore to the required size; and
  - The proponent will take particular care where the face is already broken and consider deck loading where appropriate to avoid broken ground or cavities in the face.

6.0 TRANSPORT

Karuah East Quarry Pty Ltd will undertake the following road works as part of the proposed development:

- Upgrade and extend Blue Rock Lane;
- Realign Andesite Drive and Blue Rock Lane intersection; and
- Adjust road marking at Branch Lane and Andesite Road intersection.

The works will be undertaken in accordance with the upgrade plans prepared by GCA numbered C00-C27. Road construction and drainage works will comply with Great Lakes Council and NSW RMS standards.

7.0 AIR QUALITY & GREENHOUSE GAS EMISSION

7.1 Air Quality

The following will be undertaken:

- Air quality monitoring will be undertaken in accordance with conditions of consent by a suitably qualified acoustic expert. The monitoring will consider the performance of the quarry in relation to the criteria outlined in the SLR Air Quality Impact Assessment (dated July 2013);Haul Roads from the site to the Pacific Highway will be sealed;
- Watering of any unsealed roads – Level 1 Watering at 2L/m^2/hour;
- The crusher will be enclosed; and
- Stockpiles will be subject to both water spraying and wind breaks will be installed.

7.2 Greenhouse Gas

The following practices will be adopted to assist in the reduction of Greenhouse Gas emissions from operations at the project site:
Relating to diesel / petroleum consumption:

- Emissions from construction / transport vehicles and on site machinery will comply with the relevant Australian Standards;
- All vehicles and machinery will be regularly maintained to ensure proper and efficient working order and therefore minimise emissions;
- Optimum vehicle / equipment tire pressures will be maintained;
- Vehicle idling time will be reduced where possible;
- The finished site topography will ensure that no excessive engine use is required; and
- Optimisation of incline / decline of roads within the construction area on the project site will be considered to reduce transport distances for vehicles entering / exiting the project site.

Relating to electricity consumption:

- Use of efficient construction equipment technology;
- Use of efficient crushing and processing plant technology; and
- Continued monitoring of site electricity usage and review of techniques to reduce usage (if possible).
-

8.0 HERITAGE

The following will be will be adopted by the proponent.

8.1 Aboriginal Archaeology

- If Aboriginal site/s are identified in the study area during works, then all activity in the area will cease, the area cordoned off and contact made with the Office of Environment and Heritage Enviroline 131 555, a suitably qualified archaeologist and the relevant Aboriginal stakeholders, so that it can be adequately assessed and managed; and
- In the event that skeletal remains are uncovered, work will cease immediately in the vicinity and the site fenced. The proponent will need to contact the NSW Police Coroner to determine if the material is of Aboriginal origin. If determined to be Aboriginal, contact will be made with the OEH Enviroline 131 555 and relevant Aboriginal stakeholders in order to determine an action plan for the management of the skeletal remains prior to works re-commencing on site.

8.2 European Heritage

- If, during the course of development works, significant European cultural heritage material is uncovered, work will cease in that area immediately. The OEH will be notified and works only recommenced when an appropriate and approved management strategy has been instigated.

9.0 VISUAL

The following will be undertaken:

- Trees will be planted as soon as practical on the initial benches on the western face of the quarry; and
- The proposed infrastructure area will be painted in an appropriate colour to blend in with the natural surroundings.

10.0 ENVIRONMENTAL MANAGEMENT STRATEGY

The Environmental Management Strategy dated August 2011 developed by GSS Environmental for the Karuah East Quarry will be adopted & implemented in full by Karuah East Pty Ltd.

11.0 QUARRY CLOSURE & REHABILITATION

The Quarry Closure & Rehabilitation Plan dated November 2012 prepared by GSS Environmental for the Karuah East Quarry will be adopted and implemented in full by the proponent for the Karuah East Hard Rock Quarry (**Appendix H** of the EA Report dated 31 January 2013) will be adopted & implemented in full by Karuah East Pty Ltd.

11.1 Rehabilitation Management Plan

Until such time that extraction has ceased, rehabilitation will occur around the perimeter of the pit only along the benches and will not involve the pit floor. As the extraction progresses through the resource, 15m wide benches will be left every 15m of depth to provide a horizontal platform on which native flora species will be established.

The revegetation program will re-establish native tree / shrub / ground cover and will stabilise reshaped and benched areas. Benches will be deep ripped to actively promote infiltration of water which will enhance soil moisture requirements for direct tree seeding and minimise surface runoff to underlying benches and the pit floor dirty water control system.

On completion of quarry operations, the pit floor will be re-shaped and revegetated with wetland plant species to form a free draining wetland environment.

Topsoil Management

Topsoil stripping within the disturbed area will be undertaken when the soil is in a slightly moist condition to reducing damage to soil structure. Stripped material will be placed directly onto the disturbed areas and spread immediately if excavation sequences, equipment scheduling and weather conditions permit.

A maximum stockpile height of 3m will be maintained to preserve viability and reduce soil deterioration.

Stockpiles will be protected with sediment fencing and planted with a sterile cover crop (annual species) to ensure stabilisation. Surface drainage in the vicinity of the stockpiles will be configured so as to direct any runoff around the stockpile.

Where the stockpile is not wholly contained within the “closed loop” water management system, temporary sediment control measures such as sand bags and silt fences will be used to prevent sediment from leaving the disturbed areas.

Topsoil will be re-spread in the reverse sequence to its removal, so that the organic layer, containing any seed or vegetation, is returned to the surface. Topsoil will be spread to a minimum depth of 50mm on 3:1 or steeper slopes and to a minimum depth of 150mm on flatter slopes.

Re-spread topsoil will be levelled to achieve an even surface, avoiding a compacted or an over-smooth finish.

Surface Preparation

Thorough site preparation will be undertaken to ensure rapid establishment and growth of seedlings. All areas proposed for seeding will be deep ripped to an approximate depth of 400 – 500mm.

Where ripping on slopes is required, the ripping will be undertaken around the contour of the land at right angles to water flow.

Direct Seeding

A mixture of native trees and shrubs endemic to the area will be sown onto the majority of the reshaped and benched pit areas following topdressing and site preparation.

The seed will be sourced from reputable seed supply agents. Native seed for revegetation of the quarry will be appropriately pre-treated in order to break dormancy restrictions.

The native tree and shrub seed mix will be sown at a total combined rate of approximately 6.3 kg/ha. Seed will be broadcast evenly onto top-dressed areas. Seeding will be conducted in late spring, summer and early autumn.

Exotic pasture species (warm season perennial, cool season perennial, year long green perennial and annual) will be sown where the risk of erosion is less and on the more protected aspects of landforms.

All legumes will be inoculated and lime pelleted prior to seeding. Oats and/or rycorn/millet (depending on season) will be utilised as the cover crop species.

Revegetation activities will generally be undertaken in spring and autumn; however opportunistic revegetation will be undertaken if areas become available for sowing in summer or winter. After surface soil amelioration and tillage is completed for any given area, revegetation will commence as soon as practicable. The proposed method of sowing will be via conventional spreading using agricultural broadcasting equipment, or by hand if the terrain is difficult and machinery use is not possible.

Slope stabilising techniques such as hydro seeding and straw mulching will be undertaken on slopes exceeding 180 for enhancement of pasture germination.

Fencing and Weed Control

Fencing (or a similar barrier) will be erected and maintained to exclude and prohibit the movement of persons and vehicles into areas that have been rehabilitated. The fencing will be routinely checked and repaired where necessary. Signs will be placed in prominent locations to indicate areas that are undergoing rehabilitation.
Weed control will be undertaken on an “as required” basis should cyclical weed invasion events occur.

Rehabilitation Maintenance

All erosion and sediment control measures will be maintained in a functioning condition until individual areas have been deemed “successfully” rehabilitated. Structural soil conservation works will be inspected after high intensity rainfall so that de-silting and prompt repairs and/or replacement of damaged works can be initiated as required.

Rehabilitation Monitoring

Regular monitoring of the revegetated areas will be undertaken during the initial vegetation establishment period and beyond. The table below presents the monitoring program, including the specific aspects and elements to be monitored and frequencies for those various aspects.
Monitoring will be conducted periodically by independent, suitably qualified persons at locations which will be representative of the range of conditions on the rehabilitating areas. Annual reviews will be conducted of monitoring data to assess trends and monitoring program effectiveness. The outcome of these reviews will be included in each Annual Environmental Management Report (AEMR).
In addition to the rehabilitated areas, at least two reference sites will be monitored to allow a comparison of the development and success of the rehabilitation against a control. Reference sites indicate the condition of surrounding un-disturbed areas.

Table 5 - Proposed Rehabilitation Monitoring Program

Aspect of Rehabilitation	Elements to be Monitored	Monitoring Frequency
Ecosystem Establishment		
General Description	□ Describe the vegetation in general terms, e.g. mixed eucalypt woodland with grass understorey and scattered shrubs, dense Acacia scrub, etc.	12 months after establishment and then every 2 years
2m x 2m quadrants	• Count the number of plants of all species, excluding grass. • Measure live vegetation cover for understorey and grasses (separately) using a line intercept	12 months after establishment and then every 2 years

Aspect of Rehabilitation	Elements to be Monitored	Monitoring Frequency
	method. □ Record details of ground cover (litter, logs, rocks etc).	

20m x 10m plots	• Count, by species, all trees >1.6m tall. • Tag and measure DBH of trees >1.6m tall, to a maximum of 10 for any one species. • Record canopy cover over the whole 20m centreline when trees are tall enough. • Subjectively describe tree health, by species if relevant, noting signs of drought stress, nutrient deficiencies, disease and severe insect attack. Where health problems are noted record the percentage of unhealthy trees. • Record any new plant species not present in the smaller plots, including any problem and declared noxious weeds. • Take five surface soil samples (e.g. at approx. 5m intervals along the centreline) and bulk these for analyses of: PH, EC, chloride and sulfate; exchangeable Ca/Mg/K/Na; cation exchange capacity; particle size analysis and R1 dispersion index; 15 bar and field capacity moisture content; organic carbon; total and nitrate nitrogen; total and extractable phosphorus; Cu, Mn and Zn.	12 months after establishment and then every 2 years
50m transect	• Along the 50m erosion monitoring transect, record the location, number and dimension of all gullies >30cm wide and/or 30cm deep. • Erosion pins may be established in plots located in newer rehabilitation to record sheet erosion if present.	12 months after establishment and then every 2 years
Rehabilitation in general	• When traversing between monitoring plots, note the presence of species of interest not previously recorded (e.g. key functional or structural species, protected species, noxious weeds), as well as obvious problems including any extensive bare areas (e.g. those greater than 0.1ha). • Observation such as this can provide useful, broad scale information on rehabilitation success and problems.	12 months after establishment and then every 2 years

Aspect of Rehabilitation	Elements to be Monitored	Monitoring Frequency
Photographic record	□ For each 20m x 10m plot, a photograph should be taken at each end of the plot, along the centreline looking in.	12 months after establishment and then every 2 years

Habitat	• General observations relating to the availability and variety of food sources (e.g. flowering/ fruiting trees, presence of invertebrates etc). • Availability and variety of shelter (e.g. depth of leaf litter, presence of logs, hollows etc). • Presence/absence of free water in the rehabilitation areas.	12 months after establishment and then every 2 years
Fauna	• General observations of vertebrate species (including species of conservation significance). • Detailed fauna surveys including presence and approximate abundance and distribution of vertebrate species (focusing on species of conservation significance).	After rehabilitation is three years old undertake monitoring in every 2 years after establishment in both Autumn and Spring
Weeds and pests	• Species identity. • Approximate numbers/level of infestation. • Observation of impact on rehabilitation (if any).	Quarterly during the first two years and biannually after that. Inspections should be opportunistic after significant rainfall events.
Geotechnical Stability		
	• Assessment of the stability of batters and also looking at surface settlements (sink holes). In particular where these features could impact on the performance of any surface water management system. • Surface integrity of landform cover/capping (measurement of extent of integrity failure). • Presence/ absence of landform slumping.	Annually
Aspect of Rehabilitation	**Elements to be Monitored**	**Monitoring Frequency**
Surface and Groundwater		

	• Groundwater quality and depth • Efficiency of landform surface water drainage systems (integrity of banks and drains). • Water quality including pH, EC and total suspended solids of water in water storages, and pits, sedimentation dams.	Quarterly or following rainfall events. Monitoring of receiving waters during a rainfall event which results in runoff.

11.2 Final Void Management s

Void Water Quality

Water will only be permitted to accumulate in the void if it maintains a quality that does not compromise its intended final use or surrounding groundwater systems. The following aspects will be considered with respect to managing final void water quality:

- Concentration of elements resulting from the quarrying of material;
- Control of surface flow into the void; and Rainfall and evaporation.

Post closure a water monitoring program will remain in place to monitor any changes to chemistry within the void.

Void Slope Stability

The surrounding final slopes will be left in a condition where the risk of slope failure is minimised. This may require the benches to be battered back from the vertical to enable a stable overall slope angle.
The following will be considered when assessing the geotechnical stability of highwalls:

- Long term final void water levels;
- Height and inclination of slope and number and spacing of intermediate benches;
- Shear strength of the highwall soils and rocks;
- Density and orientation of fractures, faults, bedding planes, and any other discontinuities, and the strength along them; and
- The effects of the external factors, such as surface runoff.

Prior to closure, investigations will be undertaken to confirm the criteria above.

Control of Surface Inflow

Drainage will be directed away from the highwall face through the construction of interceptor channels around the perimeter of the highwall and spoon drains will be utilised on the upslope side of all benches.
The catchment area of the final void will be minimised by the installation of diversion drains.

Safety

The following will be considered at the time of closure to ensure that the void is left in a safe manner.

- All high will to be left geotechnically stable;
- A barrier at a safe distance from the perimeter of the void to prevent human access will be constructed. The highwall areas will be secured by the construction of a trench and a safety berm, as well as a security fence along the entire length of the remaining high wall;
- Suitable signs, clearly stating the risk to public safety and prohibiting public access will be erected at 50m intervals outside the safety fence;
- Surface runoff from land surrounding the void will be diverted from entering the void; and
- Shrub and/or tree planting along the outside edge of the bund wall will be implemented where practicable to lessen the visual impact of the wall, and will be in accordance with the agreed post mining rehabilitation criteria and land use.

Monitoring and Management

After decommissioning works have been undertaken, whether progressive or final, a monitoring program will be designed to demonstrate that the completion criteria have been met and that the site is not resulting in any off-site effects.

Closure Liability

In accordance with the Department of Trade and Investment Regional Infrastructure and Services ESG1 – Rehabilitation Cost Estimate Guidelines, the closure liability for the Karuah East Quarry is **$468,134**.

12.0 WASTE MANAGEMENT

All waste or recyclable material will be handled as follows:

During Construction

Material Type
Excavation Material & Green Waste - Will be stockpiled on site in accordance with the quarry rehabilitation plan.

Bricks – Any remaining bricks will be removed from the site by a suitably qualified contractor and transported to a local crushing and recycling company.

Concrete - Any remaining concrete will be removed from the site by a suitably qualified contractor and transported to a crushing and recycling company.

Timber – Any excess timber will be removed from the site by a suitably qualified contractor and transported to a landscaping supply company for chipping and composting.

Plasterboard – Any excess plasterboard will be removed from the site by a suitably qualified contractor and taken to landscape supply company.

Metals – Any excess metal will be removed from the site by a suitably qualified contractor and transported to a metal recycling facility.

Other – Any other materials not noted above will be removed from the site by a suitably qualified contractor and transported to an appropriate facility.

During Operation

Quarry Activity
Excavation Material & Green Waste - Will be stockpiled on site in accordance with the quarry rehabilitation plan.

Bricks – Any remaining bricks will be removed from the site by a suitably qualified contractor and transported to a local crushing and recycling company.

Concrete - Any remaining concrete will be removed from the site by a suitably qualified contractor and transported to a crushing and recycling company.

Timber – Any excess timber will be removed from the site by a suitably qualified contractor and transported to a landscaping supply company for chipping and composting.

Metals – Any excess metal will be removed from the site by a suitably qualified contractor and transported to a metal recycling facility.

Other – Any other materials not noted above will be removed from the site by a suitably qualified contractor and transported to an appropriate facility.

General Waste & Recyclables from Staff within the Plant Area

Recyclables
Paper, cardboard, glass, aluminium & plastic
Temporary recycle bins will be provided within staff areas of the plant. Management will ensure that bins are regularly collected and transported to an appropriate recycling facility.

Non Recyclables
Food scraps and other waste
Temporary waste bins will be provided within staff areas of the plant. Management will ensure that bins are regularly collected and transported to an appropriate recycling facility.

Quarry Closure

Waste and recyclable material associated with the quarry closure and decommissioning will be undertaken in accordance with the Quarry Closure and Rehabilitation Plan. This will include:

Site Services
All services including power, water, data and telephone on the site will be isolated, disconnected and terminated to make them safe. All underground services will be made safe and left buried in the ground. Overhead power lines (where they are not used by others) will be removed and the materials (i.e. poles and wire) recovered for potential re-sale or recycling as applicable.

Infrastructure and Buildings
- All sumps will be de-watered and de-silted prior to the commencement of demolition. In addition all items of equipment will be de-oiled, degassed, depressurised and isolated and any hazardous materials (HAZMATs) removed from the site;
- All infrastructure, including the office buildings, workshops, parking areas, crushing plant, wash plant and product storage areas will be demolished and removed from the site. Where possible assets may be reused or sold to other operations. Otherwise they will be removed from the site by a suitably qualified contractor and transported to an appropriate recycling facility;
- The remaining items will be demolished, removed and transported from the site as required. All recoverable scrap steel will be sold and recycled, with the remaining non-recyclable wastes being taken to a licenced landfill. Prior to disposal, all wastes will be assessed and classified in accordance with *Waste Classification Guidelines (DECC, 2008);* and
- All concrete footings and pads will be broken up to at least 1.5m below the surface. The waste concrete will be crushed to produce an aggregate that can either be used on the site or sold for some other beneficial use.

Roadways, Car Parks and Hardstand
The roadways, car parks, and hardstand areas around the processing and administration areas will be ripped up. All areas will be reshaped, deep ripped, topsoiled and seeded in accordance with the rehabilitation plan.

Fuel Farm and Lubricant Storage Area
Leading up to closure, a preliminary sampling and analysis programme (Phase 1) will be implemented to determine whether a more detailed assessment (Phase 2 – detailed investigation of contamination involving drilling, etc) should be conducted.

13.0 HAZARDOUS MATERIALS / DANGEROUS GOODS

All fuel storage and storage of any required chemicals will be within the specified bunded area of the infrastructure plant. Material Safety Data Sheets will be recorded in the site safety system for all chemicals used on site. This will contain information on the environmental impacts for the use of certain chemicals and include detail on emergency response, clean up and disposal should a highly unlikely event of a spill occur.

14.0 UTILITIES

The proposed development will comply with the requirements of the relevant utility authorities and evidence of the necessary approvals will be provided to the NSW DoPI prior to construction works.

15.0 OUTDOOR LIGHTING

All outdoor lighting associated with the proposed development will be designed to comply with the requirements of AS 4282, Control of Obtrusive Effects of Outdoor Lighting.