Project Approval

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

I approve the project referred to in Schedule 1, subject to the conditions set out in Schedules 2 to 5.

The reason for these conditions is 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 on-going environmental management of the project.

The Hon Kristina Keneally MP
Minister for Planning

24/9/08

Sydney 2008

SCHEDULE 1

Project Application:	07-0074
Proponent:	Gunlake Quarries
Approval Authority:	Minister for Planning
Land:	See Appendix 1
Project:	Gunlake quarry

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DEFINITIONS

AEMR	Annual Environmental Management Report
Council	Goulburn Mulwaree Council
Day	The period from 7.00am to 6.00pm on Monday to Saturday, and 8.00am to 6.00pm on Sundays and Public Holidays
DECC	Department of Environment and Climate Change
Department	Department of Planning
Director-General	Director-General of the Department of Planning, or delegate
DPI	Department of Primary Industries
DWE	Department of Water and Energy
EA	Environmental Assessment for the project titled *Gunlake Quarries Gunlake Quarry Project Environmental Assessment Report and, Appendices* (4 volumes), dated February 2008, prepared by Olsen Environmental Consulting Pty Ltd
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPL	Environment Protection Licence issued under the *Protection of the Environment Operations Act 1997*
Evening	Evening is defined as the period from 6.00pm to 10.00pm
Land	Land means the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this approval
Minister	Minister for Planning, or delegate
Night	The period from 10.00pm to 7.00am on Monday to Saturday, and 10.00pm to 8.00am on Sundays and Public Holidays
Privately owned land	Land not owned by a public agency or the Proponent or its related companies
Project	The development, operation, closure and rehabilitation of the Gunlake quarry as described in the EA
Proponent	Gunlake Quarries, or its successors
Response to Submissions	The Proponent's response to issues raised in submissions, dated May 2008, prepared by Olsen Environmental Consulting Pty Ltd, and subsequent submissions dated 15 May 2008 and 21 May 2008
RTA	Roads and Traffic Authority
Site	Land to which the project application applies
Stage 1	Stage 1 product transportation via Brayton Road to the Hume Highway at Marulan
Stage 2	Stage 2 product transportation via the bypass road between Brayton Road and Red Hills Road, and Brayton Road to Marulan for southern destinations
Statement of Commitments	The commitments in Appendix 3
Vegetation Offset	The conservation and enhancement program described in the Response to Submissions report and shown conceptually in Appendix 6

SCHEDULE 2
ADMINISTRATIVE

Obligation to Minimise Harm to the Environment

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

Terms of Approval

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

   Notes:
   - *The layout of the project is shown in the figure in Appendix 2; and*
   - *The statement of commitments is included in Appendix 3.*

3. If there is any inconsistency between the above, the conditions of this approval shall prevail to the extent of the inconsistency.

4. The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
   (a) any reports, plans, programs or correspondence that are submitted in accordance with the conditions of this approval; and
   (b) the implementation of any actions or measures contained in these reports, plans, programs or correspondence.

Limits on Approval

5. Extraction and processing operations may take place until 30 September 2038.

   Note: Under this approval, the Proponent is required to rehabilitate the site to the satisfaction of the Director-General. Consequently this approval will continue to apply in all other respects other than the right to conduct extraction and processing operations until the site has been rehabilitated and the offset provided to a satisfactory standard.

6. Truck movements shall not exceed:
   (a) Stage 1 – 25 truck movements per day (averaged over one month) and maximum of 38 truck movements per day; and
   (b) Stage 2 – 100 truck movements per day, including 25 truck movements per day on Brayton Road between the bypass road and the intersection of Brayton Road/George Street/Interchange underpass.

Structural Adequacy

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

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

Demolition

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

Protection of Public Infrastructure

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

Operation of Plant and Equipment

10. The Proponent shall 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 condition.

Crown Road

11. The Proponent shall not commence work on the Crown road without the prior approval of the Department of Lands.

12. The Proponent shall dedicate the bypass road on Lot 1 DP 868065 to Council as a public road prior to the commencement of Stage 2 product transportation.

Section 94 Contributions

13. The Proponent shall pay a contribution to Council for the upgrade and maintenance of roads in accordance with the *Mulwaree Shire – Development Contributions Plan 2003-2008.*

SCHEDULE 3
ENVIRONMENTAL PERFORMANCE

GENERAL EXTRACTION AND PROCESSING PROVISIONS

Identification of Boundaries

1. Within 3 months of the date of this approval, or as otherwise agreed by the Director-General, the Proponent shall:
   (a) engage an independent registered surveyor to survey the boundaries of the approved limit of extraction and the approved ancillary work areas;
   (b) submit a survey plan of these boundaries to the Director-General; and
   (c) ensure that these boundaries are clearly marked at all times in a permanent manner that allows operating staff and inspecting officers to clearly identify those limits.

Note: The limit of extraction and ancillary areas is shown conceptually on the layout plan in Appendix 2.

NOISE

Operational Noise Assessment Criteria

2. The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 1 at any residence or on more than 25% of any privately-owned land.

Noise Assessment Location	Day	Evening	Night	
	$L_{Aeq\ (15\ minute)}$	$L_{Aeq\ (15\ minute)}$	$L_{Aeq\ (15\ minute)}$	$L_{A1\ (1\ minute)}$
R1	38	35	35	46
R2	35	35	35	47
R3	35	35	35	46
R4	35	35	35	45
R5	35	35	35	45

Table 1: Noise Impact Assessment Criteria

Notes:

- *To determine compliance with these noise limits, noise from the project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of the dwelling where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the project is impractical, alternative means of determining compliance may be accepted (see Chapter 11 of the NSW Industrial Noise Policy). The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise level where applicable.*
- *The noise limits apply under meterological conditions of:*
  - *wind speed up to 3m/s at 10m above ground level;*
  - *tmperature inversion conditions of up to 3 degrees C/100m and wind speed up to 2m/s at 10m above the ground;*
  - *where the wind velocity and temperature gradients are determined to be relevant to the project site in accordance with the NSW Industrial Noise Policy.*
- *The Director-General may relax the noise limits in Table 1 for any property where the Proponent has an agreement with the relevant owner/s to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.*
- *For more information on the noise assessment locations see Appendix 4.*

Operating Hours

3. The Proponent shall comply with the operating hours in Table 2.

Activity	Day	Time
Construction work	Monday - Friday	7.00am to 6.00pm
	Saturday	8.00am to 1.00pm
	Sunday and Public Holidays	None
Overburden removal and drilling	Monday – Saturday Sunday and Public Holidays	7.00am to 6.00pm None
Blasting	Monday – Friday Sunday and Public Holidays	9.00am to 5.00pm None

Quarrying and Processing	Monday – Saturday Sunday and Public Holidays	7.00am to 6.00pm None
Loading and Dispatch	**Stage 1** Monday – Friday Saturday Sunday and Public Holidays **Stage 2** Monday to Saturday Sunday and Public Hiolidays	 6.00am to 7.00pm 7.00am to 1.00pm None 24-hours except 6.00pm Saturday to 2.00am Monday None
Product Transportation	**Stage 1** Monday – Friday Saturday Sunday and Public Holidays **Stage 2** <u>Bypass road</u> Monday – Saturday Sunday and Public Holidays <u>Brayton Road to Marulan</u> Monday – Saturday Sunday and Public Holidays	 6.00am to 7.00pm 7.00am to 1.00pm None 24-hours except 6.00pm Saturday to 2.00am Monday None 6.00am to 7.00pm None
Maintenance	Monday – Saturday Sunday and Public Holidays	Any Time None

Table 2 – Operating Hours

Notes: This condition does not apply to delivery of material if that delivery is required by police or other authorities for safety reasons, and/or the operation or personnel or equipment are endangered. In such circumstances, notification is to be provided to DECC and the affected residents as soon as possible, or within a reasonable period in the case of emergency.

Noise Monitoring

4. The Proponent shall prepare and implement a Noise Monitoring Program for the project to the satisfaction of the Director-General. This program shall:
   (a) be submitted to the Director-General within 3 months of the date of this approval;
   (b) be prepared in consultation with DECC and;
   (c) include details of how the noise performance of the project would be monitored, and include a noise monitoring protocol for evaluating compliance with the relevant noise limits in this approval.

Construction of Bypass Road

5. Prior to the construction of the bypass road commencing, the Proponent shall undertake noise measurements to establish the construction noise criteria for the construction works, to the satisfaction of the Director-General.

BLASTING AND VIBRATION

Airblast Overpressure Impact Assessment Criteria

6. The Proponent shall ensure that the airblast overpressure level from blasting at the project does not exceed the criteria in Table 3 at any residence on privately owned land.

Airblast Overpressure Level (dB(Lin Peak))	*Allowable Exceedence*
115	5% of the total number of blasts over a period of 12 months
120	0%

Table 3: Airblast Overpressure Impact Assessment Criteria for Residences on Privately Owned Land

Notes:

- *To determine compliance with these limits, airblast overpressure from the project is to be measured at the most affected point at the residential boundary, or at the most affected point within 30 metres of the dwelling where the dwelling is more than 30 metres from the boundary (subject to landowners consent).*
- *Airblast overpressure is not to be measured within 3.5 metres of any building*

Ground Vibration Impact Assessment Criteria

7. The Proponent shall ensure that the ground vibration level from blasting at the project does not exceed the criteria in Table 4 at any residence on privately owned land.

Ground Vibration Level (mm/s)	*Allowable Exceedence*
5	5% of the total number of blasts over a period of 12 months
10	0%

Table 4: Ground Vibration Impact Assessment Criteria for Residences on Privately Owned Land

Note: To determine compliance with these limits, ground vibration from the project is to be measured at the most affected point at the residential boundary, or at 30 metres from the dwelling where the dwelling is more than 30 metres from the boundary (subject to landowners consent).

Operating Conditions

8. During blasting, the Proponent shall:
   (a) implement best blasting practice to:
      - protect the safety of people and livestock in the area surrounding blasting operations;
      - protect public or private infrastructure/property in the area surrounding blasting operations from blasting damage people; and
      - minimise the dust and fume emissions from blasting on the site; and
   (b) co-ordinate blasting on site with blasting at the adjoining Johnniefelds quarry and Lynwood quarry to minimise the potential cumulative blasting impacts of the three quarries;

   to the satisfaction of the Director-General.

Public Notice

9. The Proponent shall:
   (a) notify the landowner/occupier of any residence within 2 kilometres of the quarry pit who registers an interest in being notified about the blasting schedule on site;
   (b) develop a joint notification process with Johnniefelds quarry and Lynwood quarry to alert residents at least 24 hours before any blast;
   (c) operate a blasting hotline, or alternative system agreed to by the Director-General, to enable the public to get up-to-date information on blasting operations at the project; and
   (d) keep the public informed about this hotline (or any alternative system),

   to the satisfaction of the Director-General.

Monitoring

10. The Proponent shall prepare and implement a Blast Monitoring Program for the project to the satisfaction of the Director-General. This program shall:
   (a) be prepared in consultation with DECC;
   (b) be submitted to the Director-General for approval prior to carrying out any blasting on the site; and
   (c) include a protocol for evaluating blasting impacts and demonstrating compliance with the blasting criteria in this approval.

AIR QUALITY

Impact Assessment Criteria

11. The Proponent shall ensure that dust generated by the project does not cause exceedances of the criteria listed in Tables 6-8 at any residence or on more than 25 percent of any privately owned land.

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

Table 6: Long Term Impact Assessment Criteria for Particulate Matter

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

Table 7: Short Term Impact Assessment Criteria for Particulate Matter

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

Table 8: Long Term Impact Assessment Criteria for Deposited Dust

Note: Deposited dust is assessed as insoluble solids as defined by Standards Australia, 1991, AS 3580.10.1-1991: Methods for Sampling and Analysis of Ambient Air - Determination of Particulates - Deposited Matter - Gravimetric Method.

Operating Conditions

12. The Proponent shall ensure any visible air pollution generated by the project is assessed regularly, and that quarrying operations are relocated, modified, and/or stopped as required to minimise air quality impacts on privately owned land.

Air Quality Monitoring

13. The Proponent shall prepare and implement an Air Quality Monitoring Program for the project to the satisfaction of the Director-General. This program shall:
    (a) be submitted to the Director-General for approval within 3 months of the date of this approval;
    (b) be prepared in consultation with DECC; and
    (c) include details of how the air quality performance of the project would be monitored, and include a protocol for evaluating compliance with the relevant air quality criteria in this approval.

METEOROLOGICAL MONITORING

14. The Proponent shall ensure the project has a suitable meteorological station in the vicinity of the site that complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* publication.

WATER

Water Supply

15. The Proponent must ensure that it has sufficient water for all stages of the project, and if necessary, adjust the scale of quarrying operations to match its water supply.

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

Discharges

16. The Proponent shall not discharge any water from the quarry or its associated operations except in accordance with an EPL.

Stormwater Management

17. The Proponent shall ensure that Water Quality Control Ponds 1, 2, 3, 4 and 5 are designed, constructed and operated to capture and treat polluted waters from storm events equivalent to a 95th percentile storm depth.

Pasture Irrigation

18. The Proponent shall only irrigate excess water from Water Quality Control Ponds 1 and 6 in the irrigation areas identified in the Water Cycle Management Plan in Appendix 5.

19. Prior to the commencement of pasture irrigation, the Proponent shall relocate irrigation area B to another part of the site in consultation with DECC and to the satisfaction of the Director-General.

Water Management and Monitoring

20. The Proponent shall prepare and implement a Water Management Plan for the project to the satisfaction of the Director-General. This plan shall:
    (a) be submitted to the Director-General within 3 months of the date of this approval;
    (b) be prepared in consultation with DWE and DECC; and
    (c) include a:
        - Site Water Balance;
        - Erosion and Sediment Control Plan;
        - Pasture Irrigation Monitoring Program;
        - Surface Water Monitoring Program; and
        - Groundwater Monitoring Program.

21. The Site Water Balance shall:
    (a) include details of:
        - sources and security of water supply;
        - water use on site;
        - water management on site, including the location and capacity of water storages on site and the means of access;
        - off-site water transfers; and
        - reporting procedures; and
    (b) investigate and describe measures to minimise water use by the project.

22. The Erosion and Sediment Control Plan shall:
    (a) be consistent with the requirements of *Managing Urban Stormwater: Soils and Construction, Volume 1, 4th Edition, 2004* (Landcom);
    (b) identify activities that could cause soil erosion and generate sediment;
    (c) describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters;
    (d) describe the location, function, and capacity of erosion and sediment control structures;
    (e) demonstrate that the design capacity of basins will not be compromised by storage of operational water; and
    (f) describe what measures would be implemented to maintain (and if necessary decommission) the structures over time.

23. The Pasture Irrigation Monitoring Program shall include:
    (a) detailed baseline data of the soil properties of the pasture irrigation areas, including bicarbonate levels and a nutrient budget;
    (b) identify any potential off-site risks and impacts and describe measures to minimise any environmental impacts; and
    (c) a program to monitor irrigation water and irrigation pasture areas.

24. The Surface Water Monitoring Program shall include:
    (a) detailed baseline data on surface water flows and quality and other waterbodies that could be affected by the project (including Chapmans Creek) and the ;
    (b) surface water quality and stream health assessment criteria, including trigger levels for investigating any potentially adverse surface water impacts; and
    (c) a program to monitor:
        - surface water flows, quality, and impacts on water users;
        - stream health; and
        - channel stability.

25. The Groundwater Monitoring Program shall include:
    (a) detailed baseline data on groundwater levels, flows and quality in the region, and particularly any groundwater bores, springs and seeps (including spring and seep fed dams) that may be affected by quarrying operations on site;

(b) groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts;
(c) a program to monitor:
- groundwater inflows to the quarry pit'
- the impacts of the project on:
  - any groundwater bores, springs and seeps (including spring and seep fed farm dams) on privately-owned land; and
  - any groundwater dependent ecosystems; and

(d) a protocol for further groundwater modelling and corrective action should groundwater discharge to the quarry void exceed 3.5ML per year.

LANDSCAPE MANAGEMENT

Rehabilitation

26. The Proponent shall progressively rehabilitate the site to the satisfaction of the Director-General, in general accordance with the Vegetation Offset Plan shown conceptually in Appendix 6.

Vegetation Offset Areas

27. The Proponent shall:
(a) establish, conserve and maintain approximately 76.54 hectares of native vegetation on the site as shown conceptually in Appendix 6; and
(b) within 6 months of the date of this approval, or as otherwise agreed by the Director-General, the proponent shall:
- engage an independent registered surveyor to survey and permanently mark the boundaries of the offset areas;
- submit a survey plan of these boundaries to the Director-General;
- ensure that these boundaries are clearly marked at all times in a permanent manner that allows operating staff, the landowner and inspecting officers to clearly identify those boundaries; and
- cause restrictive and positive covenants under the *Conveyancing Act 1919* to be placed on the titles of the land referring to the surveyed offset areas, to ensure that the Proponent and subsequently the landowner:
  - manage the offset areas for conservation in perpetuity;
  - implement the Rehabilitation and Vegetation Offset Management Plan; and
  - permit access to the offset areas by the Department and relevant public authorities at all times for the purposes of monitoring compliance with the covenants and Rehabilitation and Vegetation Offset Management Plan;

to the satisfaction of the Director-General.

Landscape Management Plan

28. The Proponent shall prepare and implement a detailed Landscape Management Plan for the project to the satisfaction of the Director-General. This Plan shall:
(a) be prepared in consultation with DECC by suitably qualified expert/s whose appointment/s have been approved by the Director-General;
(b) be submitted to the Director-General for approval within 6 months of the date of this approval; and
(c) include a:
- Rehabilitation and Vegetation Offset Management Plan; and
- Quarry Closure Plan.

Rehabilitation and Vegetation Offset Management Plan

29. The Proponent shall prepare and implement a Rehabilitation and Vegetation Offset Management Plan for the project. This plan shall include:
(a) the rehabilitation objectives for the site, vegetation offsets and landscaping;
(b) a description of the short, medium, and long term measures that would be implemented to:
- rehabilitate the site; and
- implement the vegetation offsets areas;

(c) performance and completion criteria for the rehabilitation of the site and implementation of the vegetation offsets;
(d) a detailed description of the measures that would be implemented over the next 3 years including the procedures to be implemented for:
- progressively rehabilitating disturbed areas;
- implementing vegetation offsets;
- protecting areas outside the disturbance areas;
- rehabilitating creeks and drainage lines on the site (including Chapman's Creek) to ensure no net loss of stream length and aquatic habitat;
- undertaking pre-clearance surveys;

- managing impacts on fauna;
- landscaping the site to minimise visual impacts;
- conserving and reusing topsoil;
- collecting and propagating seed for rehabilitation works;
- salvaging and reusing material from the site for habitat enhancement;
- controlling weeds and feral pests;
- controlling access; and
- bushfire management;

(e) a program to monitor the effectiveness of these measures, and progress against the performance and completion criteria (see (c) above);
(f) a description of the potential risks to successful rehabilitation and/or revegetation, and a description of the contingency measures that would be implemented to mitigate these risks; and
(g) details of who would be responsible for monitoring, reviewing, and implementing the plan.

Quarry Closure Plan

30. The Quarry Closure Plan shall:
(a) include certification from a qualified geotechnical engineer that the final proposed landform is stable;
(b) define the objectives and criteria for closure of the quarry;
(c) investigate options for the future use of the site, including any final void;
(d) describe the measures that would be implemented to minimise or manage the ongoing environmental effects of the project; and
(e) describe how the performance of these measures would be monitored over time.

Vegetation Offset Bond

31. Within 3 months of the approval of the Landscape Management Plan, the Proponent shall lodge a bond with the Department to ensure that the vegetation offsets can be implemented in accordance with the performance and completion criteria of the Landscape Management Plan. The sum of the bond shall be calculated at $\$2.50/m^2$ for the total area to be disturbed by the project, or as otherwise directed by the Director-General.

Notes:
- *If the vegetation offset is completed to the satisfaction of the Director-General, the Director-General will release the vegetation offset bond.*
- *If the vegetation offset is not completed to the satisfaction of the Director-General, the Director-General will call in all or part of the vegetation offset bond, and arrange for the satisfactory completion of the relevant works.*

ABORIGINAL HERITAGE

Aboriginal Heritage Plan

32. The Proponent shall prepare and implement an Aboriginal Heritage Management Plan for the project to the satisfaction of the Director-General. The plan must:
(a) be prepared in consultation with DECC and the Aboriginal community;
(b) be submitted to the Director-General for approval prior to carrying out any development on site; and
(c) include a:
- description of the measures that would be implemented for the mapping, and salvage or relocation of the archaeological sites GL1-5;
- description of the measures that would be implemented if any new Aboriginal objects or relics are discovered during the project; and
- protocol for the ongoing consultation and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage on the site.

TRAFFIC AND TRANSPORT

Road Works

33. Prior to carrying out Stage 1 product transportation, the Proponent shall upgrade Brayton Road between the quarry site and the entrance to Johnniefelds quarry in accordance with draft Development Control Plan - Provisions for Heavy Vehicle Generating Development to the satisfaction of the Council.

34. Prior to carrying out Stage 2 product transportation, the Proponent shal:
(a) upgrade the existing intersection between Red Hills Road and the Hume Highway (shown conceptually in Appendix 7) and following the satisfactory completion of the works close the existing median access point on the Hume Highway, to the satisfaction of the RTA;
(b) construct the new roundabout at the intersection of Brayton Road, George Street and the Interchange underpass (shown conceptually in Appendix 8) to the satisfaction of the Council;

(c) construct the new bypass road between Brayton Roadf and Red Hills Road to the satisfaction of the Council; and
(d) upgrade Red Hills Road between the bypass road and the Hume Highway in accordance with draft Development Control Plan - Provisions for Heavy Vehicle Generating Development to the satisfaction of the Council.

Notes:

- *The design of these works shall be in accordance with relevant RTA standards and specifications (except where varied by Council's draft Development Control Plan - Provisions for Heavy Vehicle Generating Development) including:*
  - *geometric road design in accordance with RTA Road Design Guide; and*
  - *pavement design in accordance with the AUSTROADS Pavement Design Guide;*
- *The Proponent will be required to meet all the costs upfront associated with the road works, including design, land acquisition, gazettal of new boundaries and access point, construction and project management, with these costs applied against the section 94 contribution in Condition 13 of Schedule 2.*

Traffic Management

35. The Proponent shall prepare and implement a Traffic Management Plan for the project, in consultation with the RTA and Council, and to the satisfaction of the Director-General prior to the commencement of construction work on a public road. This plan must describe what measures would be implemented to:
(a) maintain the public roads;
(b) minimise the potential noise and safety impacts associated with construction and operational traffic; and
(c) keep the community informed of any traffic disruptions that would be caused by the project.

Creek Crossings

36. The Proponent shall design and construct the crossings of Chapmans Creek and Joarimin Creek in accordance with relevant DWE standards and specifications.

Haulage Records

37. The Proponent is to record and maintain a log of the extraction quantities and traffic movement in and out of the subject site, available for inspection at the request of the Director-General or the Council.

Road Haulage

38. The Proponent shall ensure that:
(a) all loaded vehicles entering or leaving the site are covered; and
(b) all loaded vehicles leaving the site are cleaned of materials that may fall on the road, before they leave the site.

VISUAL

Visual Amenity

39. The Proponent shall minimise the visual impacts of the project to the satisfaction of the Director-General.

Lighting Emissions

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

Advertising

41. The Proponent shall not erect or display any advertising structure(s) or signs on the site without the written approval of the Director-General.

Note: This does not include traffic management and safety or environmental signs.

WASTE MANAGEMENT

Waste Minimisation

42. The Proponent shall minimise the amount of waste generated by the project to the satisfaction of the Director-General.

EMERGENCY AND HAZARDS MANAGEMENT

Dangerous Goods

43. The Proponent shall ensure that the storage, handling, and transport of dangerous goods are conducted in accordance with the relevant Australian Standards, particularly AS1940 and AS1596, and the *Dangerous Goods Code*.

Safety

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

Bushfire Management

45. The Proponent shall:
    (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 on site.

PRODUCTION DATA

46. The Proponent shall:
    (a) provide annual production data to the DPI using the standard form for that purpose; and
    (b) include a copy of this data in the AEMR.

SCHEDULE 4
ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. If the results of monitoring required in Schedule 3 identify that impacts generated by the project are greater than the relevant impact assessment criteria, then the Proponent shall notify the Director-General and the affected landowners and/or existing or future tenants accordingly, and provide quarterly monitoring results to each of these parties until the results show that the project is complying with the relevant criteria.

INDEPENDENT REVIEW

2. If a landowner of privately owned land considers that the operations of the quarry are exceeding the impact assessment criteria in Schedule 3, then he/she may ask the Proponent in writing for an independent review of the impacts of the project on his/her land.

   If the Director-General is satisfied that an independent review is warranted, the Proponent shall within 3 months of the Director-General advising that an independent review is warranted:
   (a) consult with the landowner to determine his/her concerns;
   (b) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to conduct monitoring on the land, to determine whether the project is complying with the relevant criteria in Schedule 3, and identify the source(s) and scale of any impact on the land, and the project's contribution to this impact; and
   (c) give the Director-General and landowner a copy of the independent review.

3. If the independent review determines that the quarrying operations are complying with the relevant criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.

4. If the independent review determines that the quarrying operations are not complying with the relevant criteria in Schedule 3, and that the quarry is primarily responsible for this non-compliance, then the Proponent shall:
   (a) implement all reasonable and feasible measures, in consultation with the landowner, to ensure that the project complies with the relevant criteria; and
   (b) conduct further monitoring to determine whether these measures ensure compliance; or
   (c) secure a written agreement with the landowner to allow exceedances of the relevant criteria in Schedule 3,

   to the satisfaction of the Director-General.

   If the additional monitoring referred to above subsequently determines that the quarrying operations are complying with the relevant criteria in Schedule 3, then the Proponent may discontinue the independent review with the approval of the Director-General.

   If the Proponent is unable to finalise an agreement with the landowner, then the Proponent or landowner may refer the matter to the Director-General for resolution.

   If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 9).

5. If the landowner disputes the results of the independent review, either the Proponent or the landowner may refer the matter to the Director-General for resolution.

   If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process (see Appendix 9).

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, MONITORING, REPORTING & AUDITING

ENVIRONMENTAL MANAGEMENT STRATEGY

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy shall be submitted to the Director-General for approval prior to the commencement of construction, and;
   (a) provide the strategic context for environmental management of the project;
   (b) identify the statutory requirements that apply to the project;
   (c) describe in general how the environmental performance of the project would be monitored and managed;
   (d) describe the procedures that would be implemented to:
      - keep the local community and relevant agencies informed about the construction, operation and environmental performance of the project;
      - receive, handle, respond to, and record complaints;
      - resolve any disputes that may arise during the life of the project;
      - respond to any non-compliance;
      - manage cumulative impacts; and
      - respond to emergencies; and
   (e) describe the role, responsibility, authority, and accountability of the key personnel involved in the environmental management of the project.

ENVIRONMENTAL MONITORING PROGRAM

2. The Proponent shall prepare an Environmental Monitoring Program for the project to the satisfaction of the Director-General. This program shall be submitted to the Director-General concurrently with the submission of the various monitoring programs and consolidate the various monitoring requirements in Schedule 3 of this approval into a single document.

REPORTING

Incident Reporting

3. Within 7 days of detecting an exceedance of the goals/limits/performance criteria in this approval or an incident causing (or threatening to cause) material harm to the environment, the Proponent shall report the exceedance/incident to the Department and any relevant agencies. This report shall:
   (a) describe the date, time, and nature of the exceedance/incident;
   (b) identify the cause (or likely cause) of the exceedance/incident;
   (c) describe what action has been taken to date; and
   (d) describe the proposed measures to address the exceedance/incident.

Annual Reporting

4. Within 12 months of the date of this approval, and annually thereafter, the Proponent shall submit an AEMR to the Director-General, relevant agencies and CCC. This report shall:
   (a) identify the standards and performance measures that apply to the project;
   (b) describe the works that will be carried out in the next 12 months;
   (c) include a summary of the complaints received during the past year, and compare this to the complaints received in previous years;
   (d) include a summary of the monitoring results for the project during the past year;
   (e) include an analysis of these monitoring results against the relevant:
      - impact assessment criteria/limits;
      - monitoring results from previous years; and
      - predictions in the EA;
   (f) identify any trends in the monitoring results over the life of the project;
   (g) identify any non-compliance during the previous year; and
   (h) describe what actions were, or are being, taken to ensure compliance.

INDEPENDENT ENVIRONMENTAL AUDIT

5. Within 12 months of the date of the commencement of the project, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit shall:
   (a) be conducted by a suitably qualified, experienced, and independent person(s) whose appointment has been approved by the Director-General;
   (b) include consultation with the relevant agencies;
   (c) assess the environmental performance of the project, and its effects on the surrounding environment;
   (d) assess whether the project is complying with the relevant standards, performance measures and statutory requirements; and

(e) review the adequacy of any strategy/plan/program required under this approval, and, if necessary, recommend measures or actions to improve the environmental performance of the project, and/or any strategy/plan/program required under this approval.

Note: The person(s) conducting the audit shall have expertise in flora and fauna assessment as well as quarry rehabilitation.

6. Within 6 weeks of completion of each Independent Environmental Audit, the Proponent shall submit a copy of the audit report to the Director-General, with a response to any of the recommendations in the audit report.

7. Within 3 months of submitting a copy of the audit report to the Director-General, the Proponent shall review and if necessary revise:
   (a) each of the environmental management and monitoring strategies/plans/programs in Schedules 3 and 5; and
   (b) the sum of the Vegetation Offset Bond (see Schedule 3). This review shall consider:
      - the effects of inflation;
      - any changes to the total area of disturbance; and
      - the performance of the vegetation offsets against the completion criteria of the Rehabilitation and Vegetation Offset Management Plan,

   to the satisfaction of the Director-General

COMMUNITY CONSULTATIVE COMMITTEE

8. The Proponent shall establish a Community Consultative Committee (CCC) for the project to the satisfaction of the Director-General, in general accordance with the Department's *Guideline for Establishing and Operating Community Consultative Committees for Mining Projects*. This committee must be established within 6 months of the date of this approval, or as otherwise agreed by the Director-General.

ACCESS TO INFORMATION

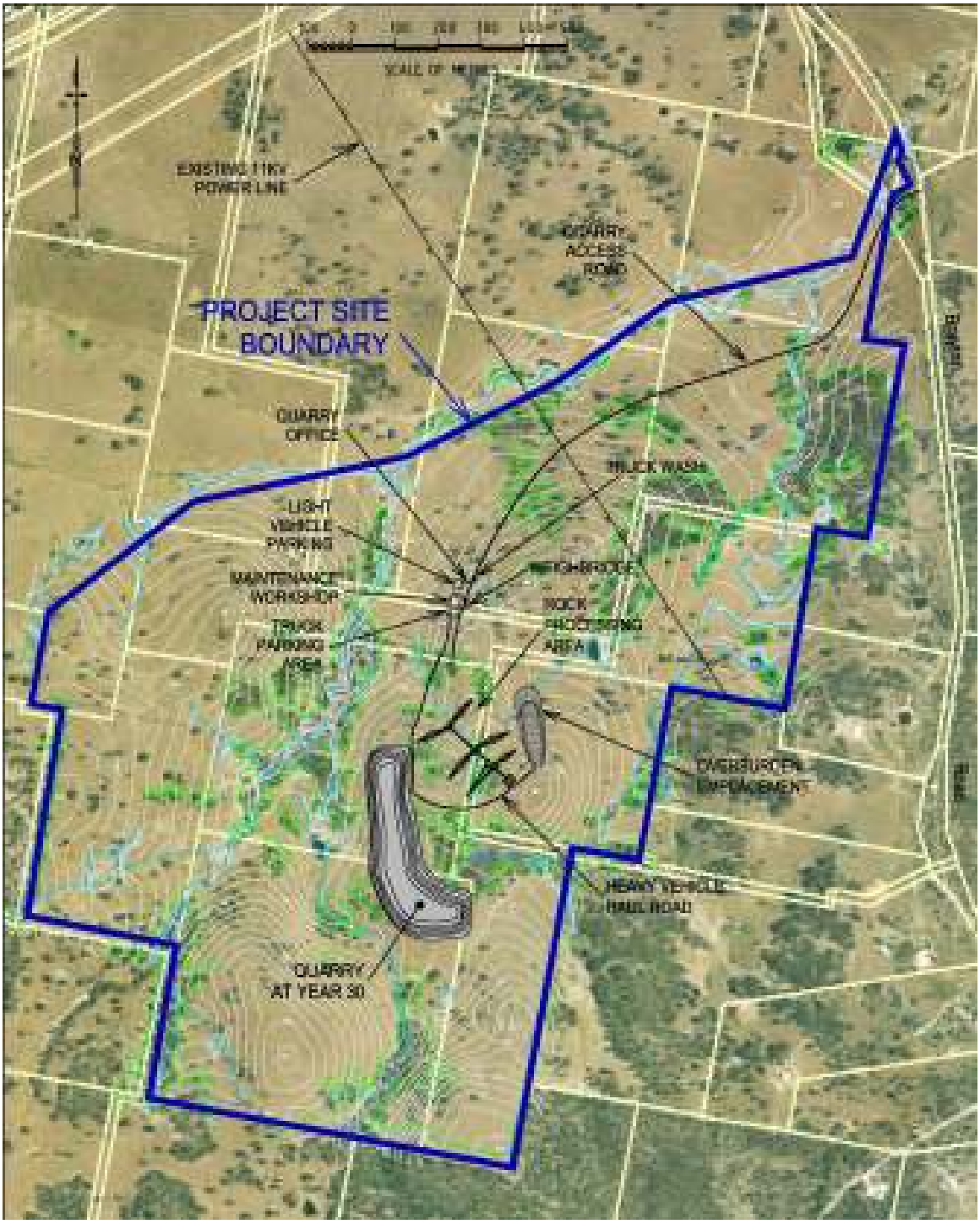
9. Within 1 month of the approval of any plan/strategy/program required under this approval (or any subsequent revision of these plans/strategies/programs), or the completion of the audits or AEMR required under this approval, the Proponent shall:
   (a) provide a copy of the relevant document/s to the relevant agencies and to members of the general public upon request; and
   (b) ensure that a copy of the relevant document/s is made publicly available on its website.

10. During the project, the Proponent shall:
   (a) make a summary of monitoring results required under this approval publicly available on its website; and
   (b) update these results on a regular basis (at least every 3 months).

APPENDIX 1
SCHEDULE OF LAND

Quarry Site	• Lot 13 DP 1123374
Bypass Road	• Lot 1 DP 868065 • Crown public road south of Lots 22, 23 and 24 DP 750053 and lot1 DP 834993
Road Works	Road reserve of: • Brayton Road between quarry site and Johnniefelds quarry; • Red Hills Road between Hume Highway and Crown public road; • Hume Highway – intersection with Red Hills Road; and • George Street – intersection with Brayton Road and Interchange underpass

APPENDIX 2
GENERAL LAYOUT OF PROJECT



APPENDIX 3
STATEMENT OF COMMITMENTS

1.1 General Project Commitments

- Gunlake will develop an Environmental Management Plan (EMP) for the Gunlake Quarry. The EMP will also detail the monitoring regime that will provide the data necessary to determine compliance with environmental performance criteria.

- All available reclaimable topsoil will be used for preparing disturbed surface areas for revegetation.

- The proposed hard rock quarry would be operated with comprehensive systems to manage and monitor groundwater, surface water, noise, blasting, air quality, Aboriginal heritage, flora, fauna, traffic, visual and socio-economic aspects.

- Gunlake would seek approval from the Council for the installation on the Project Site of an aerated wastewater treatment system (AWTS) that will provide secondary treatment effluent suitable for disposal by irrigation. All domestic waste water will be collected and treated in the waste water management system.

- Clearing of the vegetation within the quarry area would be undertaken using a progressive campaign basis with the extent of clearing undertaken in each campaign being just sufficient for the subsequent year of quarry development.

- The size and location of water and soil erosion control structures would vary depending on the surface area and location of disturbance but would be based on the structure designs and construction notes identified in the Landcom publication, "Soils and Construction Volume 1" 4th Edition March 2004.

- Wherever practicable, stripped topsoil and subsoil would be directly replaced on completed sections of the final landform.

- Explosives and detonators would not be stored on site.

- The rock processing plant will feature atomised water dust suppression systems at all discharge points. There will also be atomised water sprays for dust control at the tipping point into the apron feeder and at the primary crusher input and discharge. The product conveyors will be covered. All screens will be enclosed to provide dust and noise attenuation.

- Potable water, ie. water for drinking purposes, and water for toilets and showering would be transported from Marulan to supplement rainwater collected off buildings and stored in tanks.

- Water required for operational purposes would be obtained from the various sedimentation and fresh water dams that form part of the site surface water and quarry pit management system.

- The Project will be powered by electricity from the State Supply Grid. Mobile plant will be powered by diesel fuel.

- A dedicated 1000m^2 irrigation field will be established to accommodate the predicted wastewater generated on site. This field will be located in the area identified by Sydney Catchment Authority as appropriate.

- Fuel storage and refuelling facilities for the mobile quarry fleet, comprising storage for 50kL diesel in a WorkCover-approved self-bunded fuel tank and a refuelling bay would be located adjacent to the Maintenance Workshop.

- The bulk of transport activities associated with the Project would revolve around the road transportation of saleable products from the Project Site to widely distributed markets.

- Gunlake will develop a mechanism to record and resolve complaints. This will support the Company's ongoing Community Liaison Programme.

- A Road Construction Management Plan would be prepared to ensure appropriate procedures are in place for the management of both quarry-related and public traffic during road construction activities.

- Gunlake has commenced consultation with Goulburn Mulwaree Council to develop a road maintenance and capital improvement agreement to cover transport route impacts associated with the movement of finished product.

- An Occupational Health and Safety Management System and a Major Hazard Management System

would be developed.

- On cessation of quarrying and processing activities, a number of structures and facilities would be decommissioned and removed as part of the rehabilitation of the Project Site.

- At the completion of the Project a thorough inspection of the soil directly below and surrounding fuel storage and refuelling areas would be conducted to ensure any contaminated soil is identified. Gunlake will conduct a Phase 1 Hydrocarbon Contamination assessment and undertake appropriate action as determined by that review.

- All demountable buildings and structures erected on the Project Site would be transported off site at the completion of the Project.

- Gunlake would undertake an ongoing rehabilitation program. Gunlake would take the necessary precautions to prevent excessive development of weeds within the rehabilitated areas. They would implement a monitoring and maintenance program throughout and beyond the operation of the proposed Gunlake Quarry.

- Gunlake propose to undertake some replanting of riparian corridor habitat in the major creek lines on the Project Site. There will also be an area of Endangered Ecological Community (EEC) established on the western edge of the Gunlake property. Significant sections of existing EEC areas on the Project Site have been identified for fencing and management for conservation purposes.

- It is planned to produce further Community Newsletters as required throughout the approval process and during the operation of the Quarry.

- A meteorological station will be installed on the Project Site.

1.2 Traffic

- New road intersections will be constructed at the intersection of Brayton Road with the mine access road, Brayton Road and the By-pass road connecting to Red Hills Road, at the Brayton Road and George Street intersection (new roundabout) and the Red Hills Road intersection with the Hume Highway.

- Brayton Road between the Quarry Access road and the entry to Johnniefelds will be upgraded to a 7m wide total seal.

- Gunlake will construct a new By-pass road to connect Brayton Road to Red Hills Road.

- During Stage 2 of the Project Gunlake will improve the section of Red Hills Road to the Hume Highway including a total 7m seal.

- During Stage 1, product will only be transported from the site from 6am to 7pm Mondays to Fridays, and from 7am to 1pm on Saturdays. During Stage 2, trucks going south (ie. Along Brayton Road and through the edge of Marulan) will continue to operate during these hours. Trucks using the By-pass Road would operate from 2am Monday morning till 6pm Saturday afternoon.

1.3 Water, Soil and Agriculture

- Topsoil will be stripped and stockpiled from areas to be developed, including the quarry access road and By-pass road.

- Topsoils and subsoils will be stockpiled separately.

- A Conceptual Soil and Water Management Plan (SWMP) has been prepared. This Plan describes how soil and water will be managed during the establishment stage to the requirements of the Landcom Blue Book 2004. Following Project Approval a detailed version will be prepared which will consider any conditions imposed by the approval and contain detailed drawings of any engineering structures. Gunlake commits to implementing the finally agreed SWMP. Maintenance and monitoring programmes are included in the SWMP.

- A Conceptual Water Management Plan (WMP) has been proposed. This Plan flows logically from the SWMP and describes how stormwater will be managed during the operational stage and how a neutral or beneficial effect on water quality will be obtained. Following Project Approval a detailed version will be prepared which will consider any conditions imposed by the approval and contain detailed drawings of any engineering structures. Gunlake commits to implementing the finally agreed WMP. Maintenance and monitoring programmes are included in the WMP.

- Except as may be expressly provided by an Environment Protection Licence, the proponent would

not discharge any dirty water from the quarry or ancillary operations.

1.4 Groundwater

- Measurements of water level will be continued in the monitoring network prior to the commencement of any quarry operations in order to build on the existing baseline database.

- An ongoing long-term program of regular water level and water quality monitoring will be carried out following commencement of mining operations. Measurements of water level will be collected using the existing installed automated water level data loggers and recorders in the representative monitoring bores.

- Sampling and testing of groundwater in the representative monitoring bores will be carried out on a three (3) monthly basis for 12 months following the commencement of mining operations then on a six (6) monthly basis. In this way, analysis of the results will establish any trends in water quality. Careful analysis and progressive assessment of the results may lead to the reduction of the number of analytes determined and the frequency of sampling.

- A representative network of monitoring bores will be maintained. Three new monitoring bores are proposed.

- If there is a scientifically demonstrated significant impact on any of the springs or registered bores surrounding the Project Site, a set of mitigation options has been developed for each.

1.5 Noise and Vibration

- All blasts will be monitored at the closest/potentially most affected residence (subject to the owners approval) in order to establish compliance with the nominated criteria and to progressively update the blast emissions site laws (ground vibration and airblast) in order to optimise future blast designs, based on actual site conditions.

- In accordance with the INP, Gunlake will implement the following management procedures where required:

    - Noise monitoring on site and within the community.

    - Prompt response to any community issues of concern.

    - Refinement of on site noise mitigation measures and quarry operating procedures, where practical.

    - Discussions with relevant property holders to assess concerns.

    - Consideration of acoustical mitigation at the receivers.

    - Consideration of negotiated agreements with property holders.

    - Blasthole drilling operations being restricted to daytime only.

    - All fixed and mobile plant being selected to have a sound power level (SWL) not exceeding those outlined in **Table 4B.52** of Section 4B.4 of Volume 1 of the EA

1.6 Air Quality

- Specific design and operational safeguards have been planned for implementation at the Project Site, including the following:

    - Water spraying in excess of 2L/m^2/application applied to internal haul roads;

    - Temporary partial enclosure of stockpiles and processing area through installation of wind breaks (Hessian screen) along the western side of the processing area (subject to monitoring results);

    - Stabilisation and/or revegetation of the overburden emplacement;

    - Installation of water sprays at the tipping point to the apron feeder and at the primary crusher input;

    - Instigation of water spraying at discharge points to stockpiles when winds in excess of 8m/s are recorded on the on-site weather station; and

- Minimising of exposed surfaces where possible.

- The dust deposition monitoring currently undertaken at the site will be continued.

- Monitoring of 24-hour concentrations of PM_{10} will be undertaken at one location for an appropriate period, as agreed with the DECC. Monitoring will be conducted on a one-day-in-six cycle using a High Volume Air Sampler (HVAS). A suitable location would be at resident R1, the closest resident to the Site. The actual site chosen will depend on agreement with the land owner and site conditions. Monitoring for PM_{10} will be conducted for a period of at least one year and at maximum quarry throughput.

- An on-site Weather Station will be established to monitor wind speed and wind direction. The weather station will be fitted with an alarm / automatic notification system for when wind speeds exceed 8m/s.

- Monitoring will be undertaken according to the DECC document *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales* 2005.

1.7 Cultural Heritage

- Salvage and relocation of all sites (GL1–5) will be completed prior to the commencement of works. The salvage will be completed in accordance with the NPWS Act 1974 (NSW).

- There are commitments detailed in Section 4B.6.4 of Volume 1 of the EA about discovery of cultural heritage items not identified prior to works commencing. These will be implemented by Gunlake.

- There are commitments detailed in Section 4B.6.4 of Volume 1 of the EA about discovery of skeletal remains not identified prior to works commencing. These will be implemented by Gunlake.

1.8 Flora and Fauna

- Gunlake will implement weed control in accordance with the Goulburn Mulwaree Council policy publications *"Management Plan for the Enforcement of Class 4 Noxious Weeds" and "Noxious Weed Management Program Guidelines".*

- As wide a buffer as possible will be maintained between the top of the creek bank and the edge of the proposed quarry pit, haul road or By-pass roads (except where creek crossings are required).

- Habitat trees will be retained if possible. As some habitat trees are likely to require removal, this should be timed so as to avoid the breeding season of hollow-reliant threatened fauna.

- For any habitat trees being removed during tree-felling operations, an experienced wildlife handler will be in attendance in order to rescue injured or displaced wildlife.

- The introduced shrubs and small trees near the By-pass road route will be retained to maintain Speckled Warbler habitat.

- Appropriate sediment and erosion control measures will be implemented for the duration of construction and quarrying operations in all affected parts of the study area. In particular, steps will be taken (silt fences, cut-off drains, detention basins etc.) to prevent silt and sediment from the quarry or roads from entering the watercourses.

- At the old tip site near the proposed Joarimin Creek crossing, a number of 'junk' piles of concrete, tin, etc. provide excellent habitat for a range of reptile species and these will be retained.

- Livestock proof fencing will prevent grazing of areas undergoing regeneration.

- Offset areas will be set aside for regeneration of riparian corridors and establishment of new and protection of existing Endangered Ecological Communities on the Project Site.

- A vegetation and weed management strategy will be prepared. Wherever possible, all shrubs, including dead plants, will be left in situ until suitable replacement native shrubs are able to provide important shelter for the Speckled Warbler and other small birds.

- Rehabilitation efforts will incorporate areas identified as forming part of the Endangered Ecological Community (EEC) in the study area. Assisted natural regeneration of the vegetation is the preferred approach wherever practical. However, if artificial plantings are to be used, only native species currently occurring on the subject site or local species listed as occurring within the EEC according to the Final Determination (NSW Scientific Committee 2002a) will be used.
- Prior to clearing for construction of the By-pass road between Brayton Road and Joarimin Creek,

targeted seasonal flora surveys will be carried out to determine whether the Endangered species *Genoplesium plumosum* and *Leucochrysum albicans* var. *tricolor* occur within or immediately adjacent to the proposed road alignment. The likelihood of either species occurring in the alignment is considered to be very low (particularly for *Genoplesium plumosum*) but a targeted seasonal survey will allow for a more informed conclusion.

1.9 Bushfire

- **Table 4B.64** of Volume 1 of the EA identifies the series of commitments Gunlake has made to reduce likelihood of bushfire.

1.10 Socio-economic

- Gunlake will return a proportion of the Project Site to agricultural land.
- Gunlake will implement a policy that encourages employment of local district personnel, with arrangements for training and certification put in place to ensure suitable applicants can acquire the necessary skills.
- During the operational stage the Quarry will require the services of maintenance workers and truck drivers. It is anticipated that the bulk of these requirements can be serviced by locally or regionally based companies and individuals.

1.11 Road Upgrading

- The Laterals Review of Environmental Factors of the road upgrading component of the Gunlake Quarry Project made a number of recommendations that have been accepted by Gunlake and will form the basis of environmental management of the road upgrade activities.
- Vacant land is most likely to be used for the works compound and stockpile sites. Suitable sites will be selected by the preferred contractor at the time of construction. Site selection criteria are included in the Laterals REF and these will be applied at the appropriate time.
- The working hours for road modifications will be 7am to 6pm Monday to Friday (excluding Public holidays) and 8am to 1pm Saturdays. No work is proposed to be carried out on a Sunday or on Public holidays. Any extension of these working hours for extenuating circumstances may only be approved by the Quarry Manager and potentially affected landowners and residents will be advised by a letter box drop or site visit at least 2 days prior to the work occurring.
- Contractors will employ their specific construction techniques but will comply with the design requirements for the road and the need to employ environmental mitigation measures as identified in the REF and other laws normally applying within the state.
- To minimise or eliminate potential adverse impacts on air quality, the following controls and measures will be implemented:
    - Areas of exposed soil will be limited to those areas being worked at any one time.
    - All areas of exposed soil will be stabilised as soon as possible, and progressively stabilised as work areas are completed.
    - All loads of soil or other potential dust generating materials transported by vehicles will be covered during transportation.
    - The tailgates of all vehicles will be kept securely closed during transportation.
    - Dust will be suppressed as necessary during construction by spraying exposed soil with water from a water cart which would be maintained on-site.
    - Specific dust suppression measures will be implemented around the works compound site as necessary if it is located close to any residence.
    - Dust producing activities will be avoided on high wind days.
    - Soil stockpiles will be kept covered or planted with cover crops until used.
    - Haul roads and site compounds will be topped with gravel or kept moist.
    - Cleared timber or other materials will not be burned.
    - Mud spilt or tracked by construction equipment onto the sealed section of road or other sealed roads will be cleaned up regularly.

- All plant and equipment will be maintained in accordance with the manufacturers' specifications to ensure they operate efficiently and do not produce excessive exhaust emissions.

- In order to minimise potential impacts on water, the following controls and measures will be implemented:
  - The erosion and sediment control measures adopted in the Environmental Management Plan be implemented to ensure a neutral impact on surface and ground water quality.
  - Where stream bed scour is currently occurring at culvert outlets, the need for scour protection will be investigated and installed if required.
  - Plant and equipment will be inspected regularly to ensure there are no leakages of fuel, oil or hydraulic fluid.
  - An environmental emergency plan for pollutant spillages will form part of the erosion and sediment controls in the Environmental Management Plan.
  - An appropriate spill containment kit will be kept on site at all times.

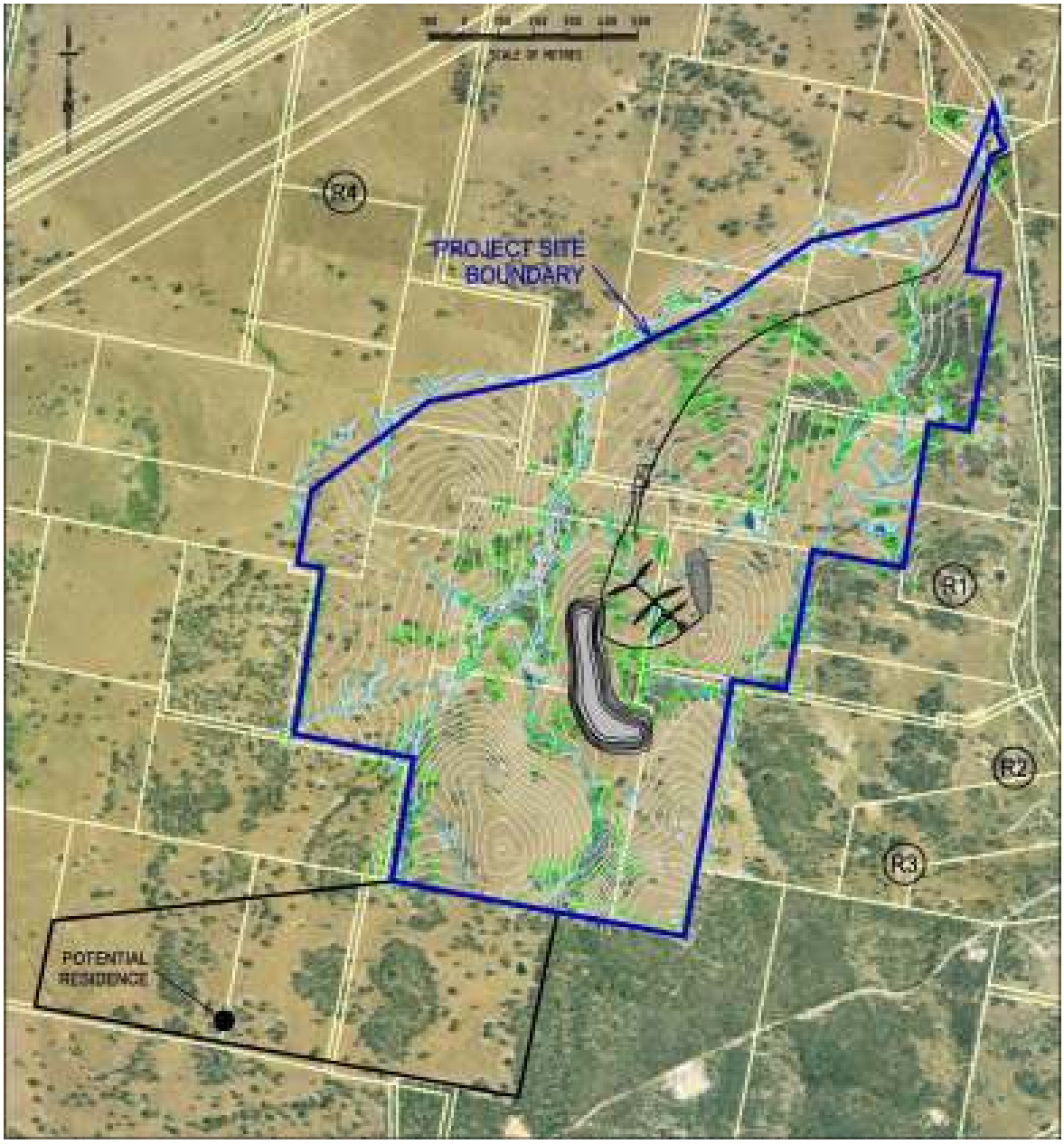
- The following controls and measures will be implemented to ensure that construction noise and vibration are kept to the minimum:
  - Work compounds, parking areas, equipment and material stockpiles will be located as far away from dwellings as possible.
  - If the works compound is located near a residence, strategies will be implemented in consultation with the residents to minimise construction noise and vibration.
  - The residents of the nearby dwellings will be advised of any potential high noise or vibration producing activities at least one week prior to that activity occurring, and a noise and vibration management plan should be devised in consultation with them if they are concerned.
  - The residents will be notified in advance of any proposed work outside of normal working hours that is likely to be noisy or to produce high vibration levels.
  - A procedure for dealing with complaints will be developed and specified in the Environmental Management Plan for the road upgrade works.
  - Vibration from construction will be kept to the minimum practically achievable.
  - If a complaint is received, adjustments to work practices will be undertaken as required to try to eliminate the source of the excessive noise or vibration.

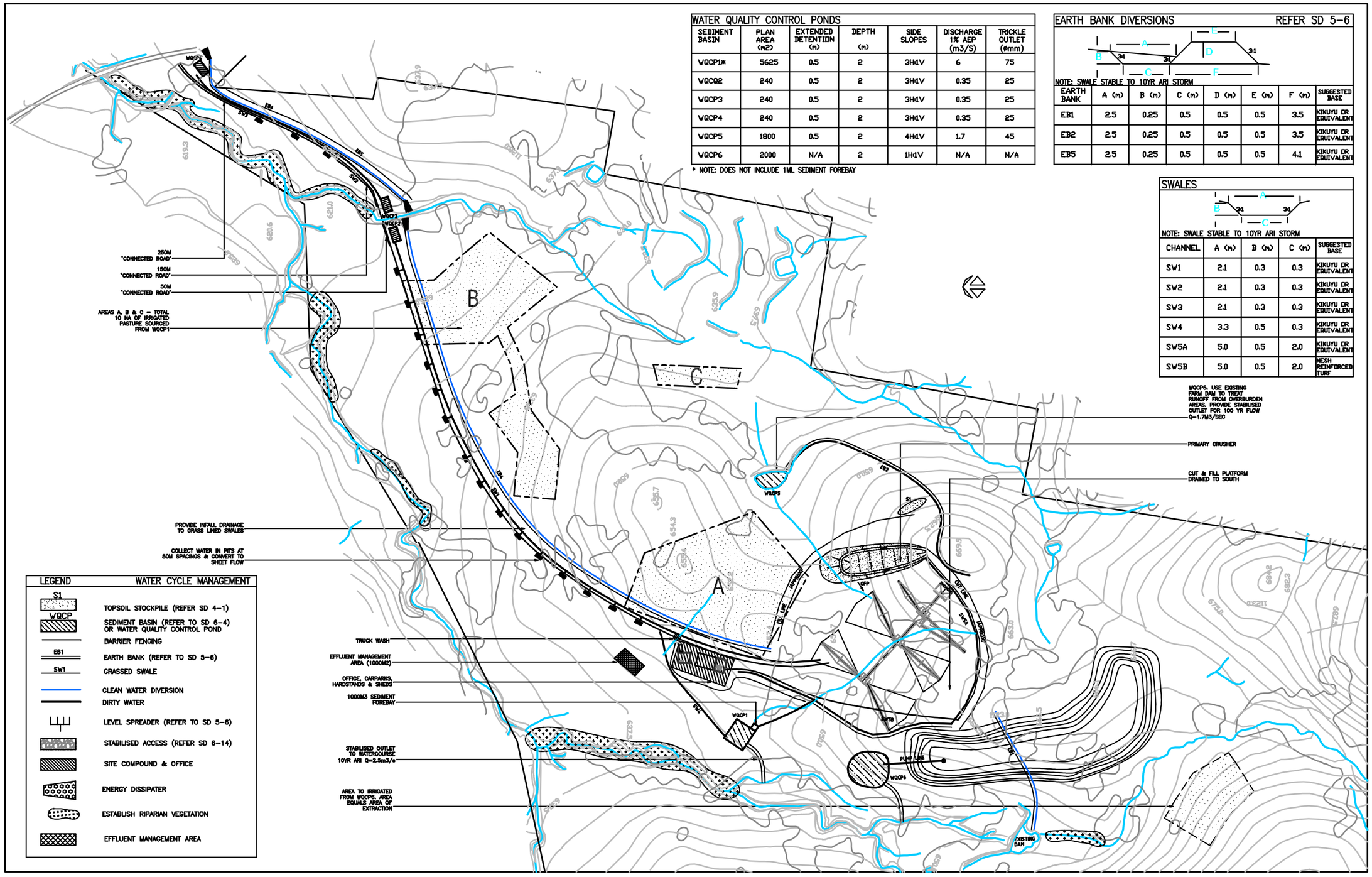
- To minimise or eliminate potential adverse impacts on flora and fauna and to ensure that the road upgrading project does not have a negative impact on biodiversity the following controls and measures will be implemented:
  - Soil disturbance shall not be more than is required to undertake the work. Vehicle, plant and stockpile impacts will be restricted to areas already devoid of vegetation.
  - An Environmental Management Plan (EMP) that incorporates erosion and sediment control measures for the site will be prepared prior to soil being disturbed.
  - Disturbed banks and batters will be rehabilitated by the addition of topsoil and sowing and maintenance of suitable species as soon as is practical to avoid the establishment of weed species in accordance with an Erosion and Sediment Control Plan.
  - Vegetation removal will be undertaken in a way that minimises impact to retained vegetation.
  - Where possible dead hollow wood will be retained or added as terrestrial habitat to the road reserve at a density no greater than one to two logs per ten metres.
  - Works and stockpile compounds will be in areas already cleared of native vegetation, such as the construction zone or agricultural paddocks. They will be established where native vegetation disturbance is minimal or weeds dominate, and requiring no clearing of native vegetation. No trees or large shrubs will be removed for the establishment of the works compound or stockpile sites if they are located outside the construction zone.

- Topsoil that is stripped from the construction areas will be stockpiled and spread over disturbed areas prior to seeding or planting of rehabilitation grasses and trees.
- Weeds will be removed and taken to an approved waste management facility.
- The area to be disturbed for construction will be kept to the minimum required for safe and efficient activity.
- Tree felling will be undertaken so that minimal damage occurs to trees intended for retention.
- Excess timber logs may be made available to local residents for fire wood, while the rest of the vegetation (including stumps) will either be chipped on site using a mobile chipper or fractured and left for fauna use.
- Chipped native vegetation will be used where available to protect exposed areas and excess sold as landscape supplies.
- Cleared vegetation or other materials will not be burned on site.
- Areas of the road reserve disturbed by works will be rehabilitated using locally occurring native plants.

- A Waste Management Plan will be incorporated into the road upgrading Environmental Management Plan. The Waste Management Plan will, if necessary, address transportation and disposal arrangements for waste produced from the site.
- The following waste controls and measures will be implemented:
  - A Resource and Waste Management Plan (RWMP) would be prepared in accordance with the Resource Management Hierarchy established under the *Waste Avoidance & Resource Recovery Act 2001.*
  - Waste produced on the road upgrade works will be minimised, reused or recycled wherever possible.
  - Unavoidable wastes would be disposed of in an appropriate manner at a licensed waste disposal facility, as addressed in the Waste Management Plan.
  - Waste material would be classified in accordance with the Department of Environment and Climate Change's Environmental Guidelines: "*Assessment. Classification and Management of Liquid and Non-Liquid Wastes".*
  - Waste oil will be sent to approved recyclers.
  - Topsoil will be stockpiled and used in the stabilisation and rehabilitation of the works site.
  - Removed vegetation (including stumps) will be either chipped on site using a mobile chipper or left for fauna use. Any chipped material will be used on site for stabilisation and rehabilitation works, or if too great a volume is produced, sold to landscape suppliers or made available to local residents for garden use.
  - Portable, self-contained toilet and washroom facilities will be provided at the work site and should be regularly emptied and serviced by the contractor providing them.
  - Putrescible and other waste not able to be recycled will be collected regularly and disposed of at a licensed landfill or other disposal site in the area.
  - Cleared vegetation or other materials will not be burned on site.
  - Secure rubbish bins with heavy lids will be provided within the site compound. These will be regularly emptied.
  - The work site will be left in a tidy and rubbish free state at the end of each working shift and upon completion of the works.
  - Contaminated materials will be disposed of at a licensed disposal site in accordance with the appropriate DECC licences and approvals.

APPENDIX 4
NOISE ASSESSMENT LOCATIONS





LEGEND — WATER CYCLE MANAGEMENT

S1	TOPSOIL STOCKPILE (REFER SD 4–1)
WQCP	SEDIMENT BASIN (REFER TO SD 6–4) OR WATER QUALITY CONTROL POND
	BARRIER FENCING
EB1	EARTH BANK (REFER TO SD 5–6)
SW1	GRASSED SWALE
	CLEAN WATER DIVERSION
	DIRTY WATER
	LEVEL SPREADER (REFER TO SD 5–6)
	STABILISED ACCESS (REFER SD 6–14)
	SITE COMPOUND & OFFICE
	ENERGY DISSIPATER
	ESTABLISH RIPARIAN VEGETATION
	EFFLUENT MANAGEMENT AREA

WATER QUALITY CONTROL PONDS

SEDIMENT BASIN	PLAN AREA (m2)	EXTENDED DETENTION (m)	DEPTH (m)	SIDE SLOPES	DISCHARGE 1% AEP (m3/S)	TRICKLE OUTLET (ømm)
WQCP1*	5625	0.5	2	3H:1V	6	75
WQCQ2	240	0.5	2	3H:1V	0.35	25
WQCP3	240	0.5	2	3H:1V	0.35	25
WQCP4	240	0.5	2	3H:1V	0.35	25
WQCP5	1800	0.5	2	4H:1V	1.7	45
WQCP6	2000	N/A	2	1H:1V	N/A	N/A

* NOTE: DOES NOT INCLUDE 1ML SEDIMENT FOREBAY

EARTH BANK DIVERSIONS — REFER SD 5–6

NOTE: SWALE STABLE TO 10YR ARI STORM

EARTH BANK	A (m)	B (m)	C (m)	D (m)	E (m)	F (m)	SUGGESTED BASE
EB1	2.5	0.25	0.5	0.5	0.5	3.5	KIKUYU OR EQUIVALENT
EB2	2.5	0.25	0.5	0.5	0.5	3.5	KIKUYU OR EQUIVALENT
EB5	2.5	0.25	0.5	0.5	0.5	4.1	KIKUYU OR EQUIVALENT

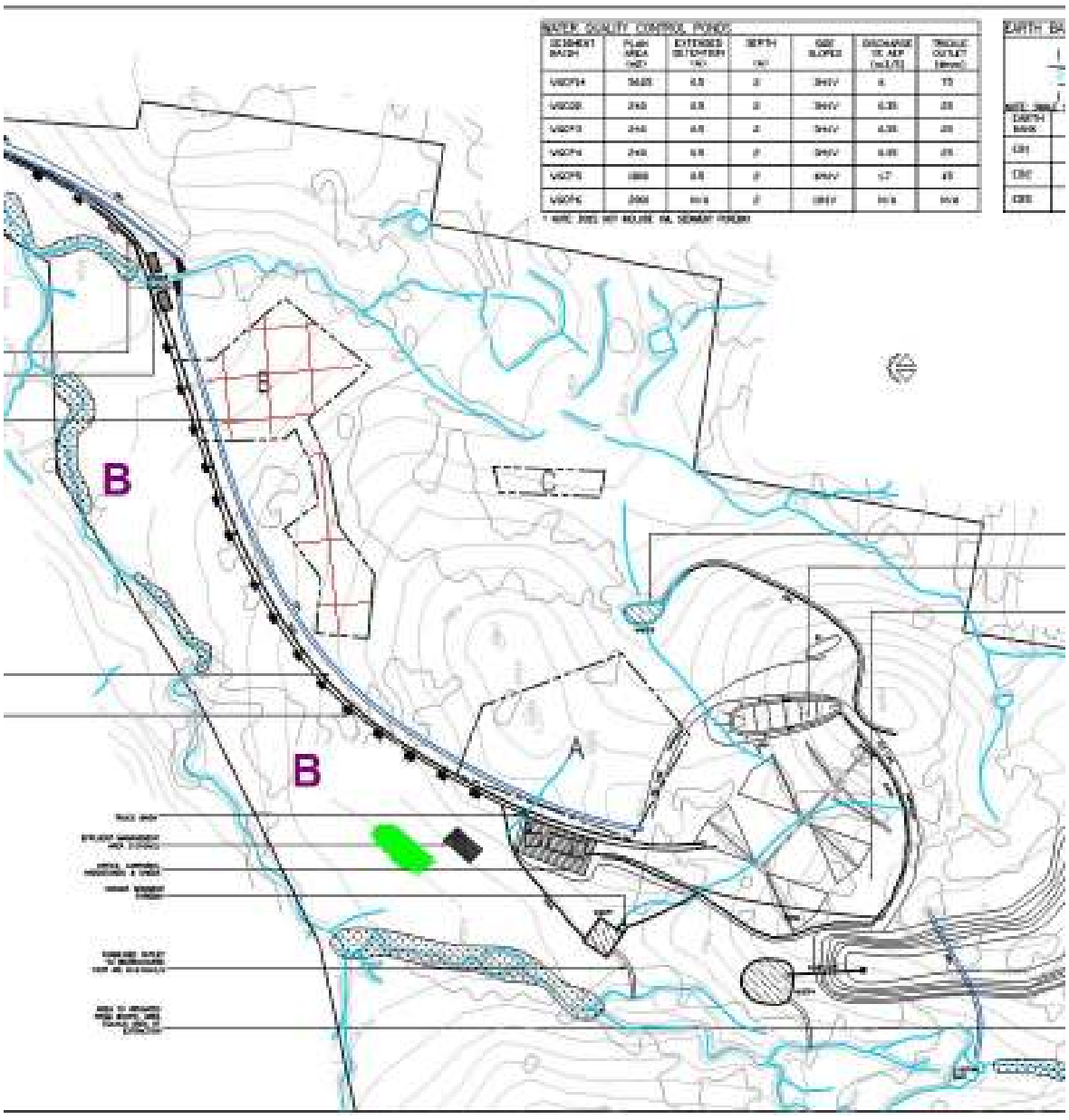
SWALES

NOTE: SWALE STABLE TO 10YR ARI STORM

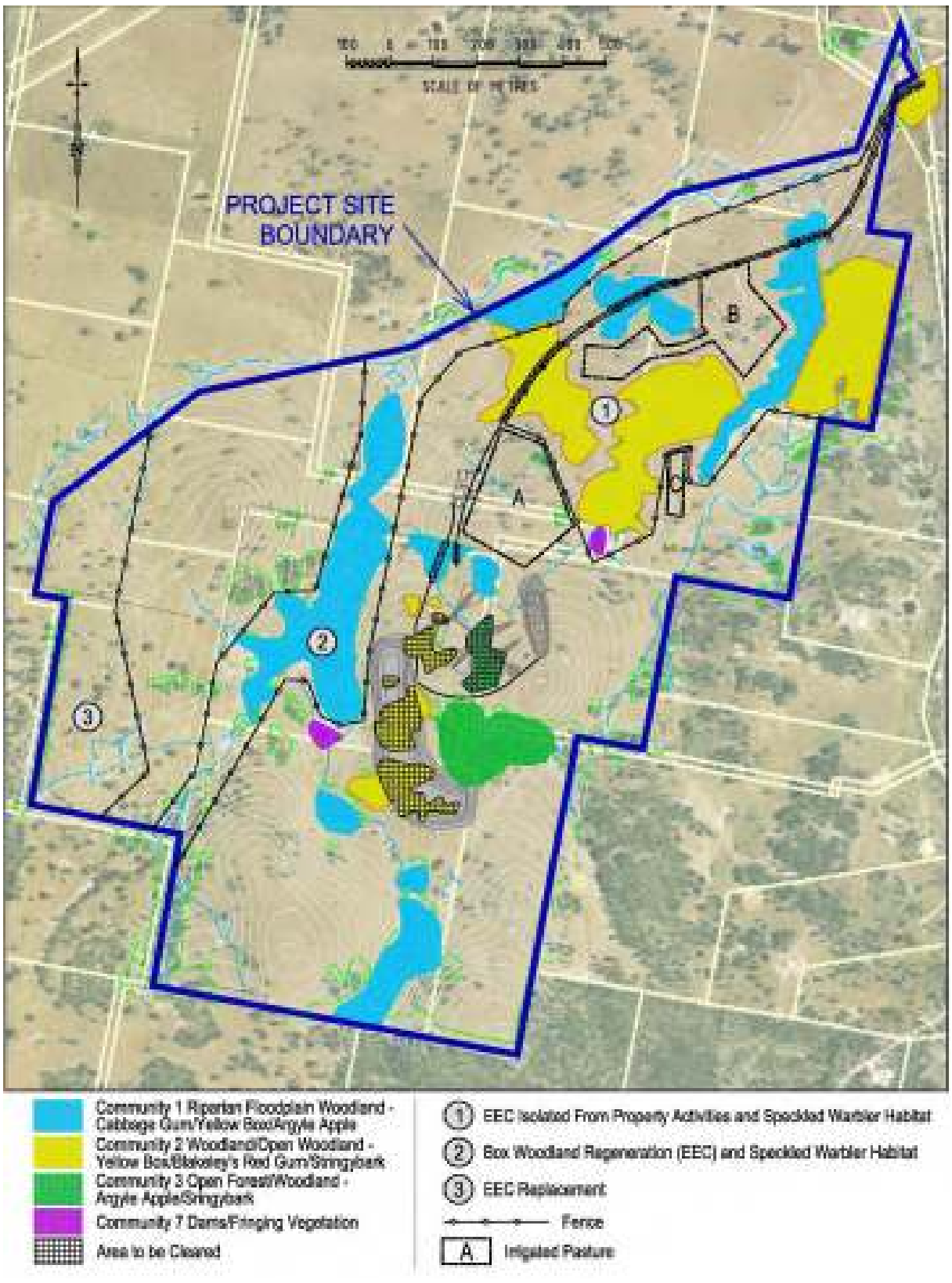
CHANNEL	A (m)	B (m)	C (m)	SUGGESTED BASE
SW1	2.1	0.3	0.3	KIKUYU OR EQUIVALENT
SW2	2.1	0.3	0.3	KIKUYU OR EQUIVALENT
SW3	2.1	0.3	0.3	KIKUYU OR EQUIVALENT
SW4	3.3	0.5	0.3	KIKUYU OR EQUIVALENT
SW5A	5.0	0.5	2.0	KIKUYU OR EQUIVALENT
SW5B	5.0	0.5	2.0	MESH REINFORCED TURF

The Water Cycle Management Plan is amended as follows:

- red hatching – Irrigation Area B is not approved;
- **B** – alternative areas recommended for investigation as new irrigation area B – refer to condition 19 of Schedule 4; and
- area shaded in green – recommended location (approximate) of effluent management area.



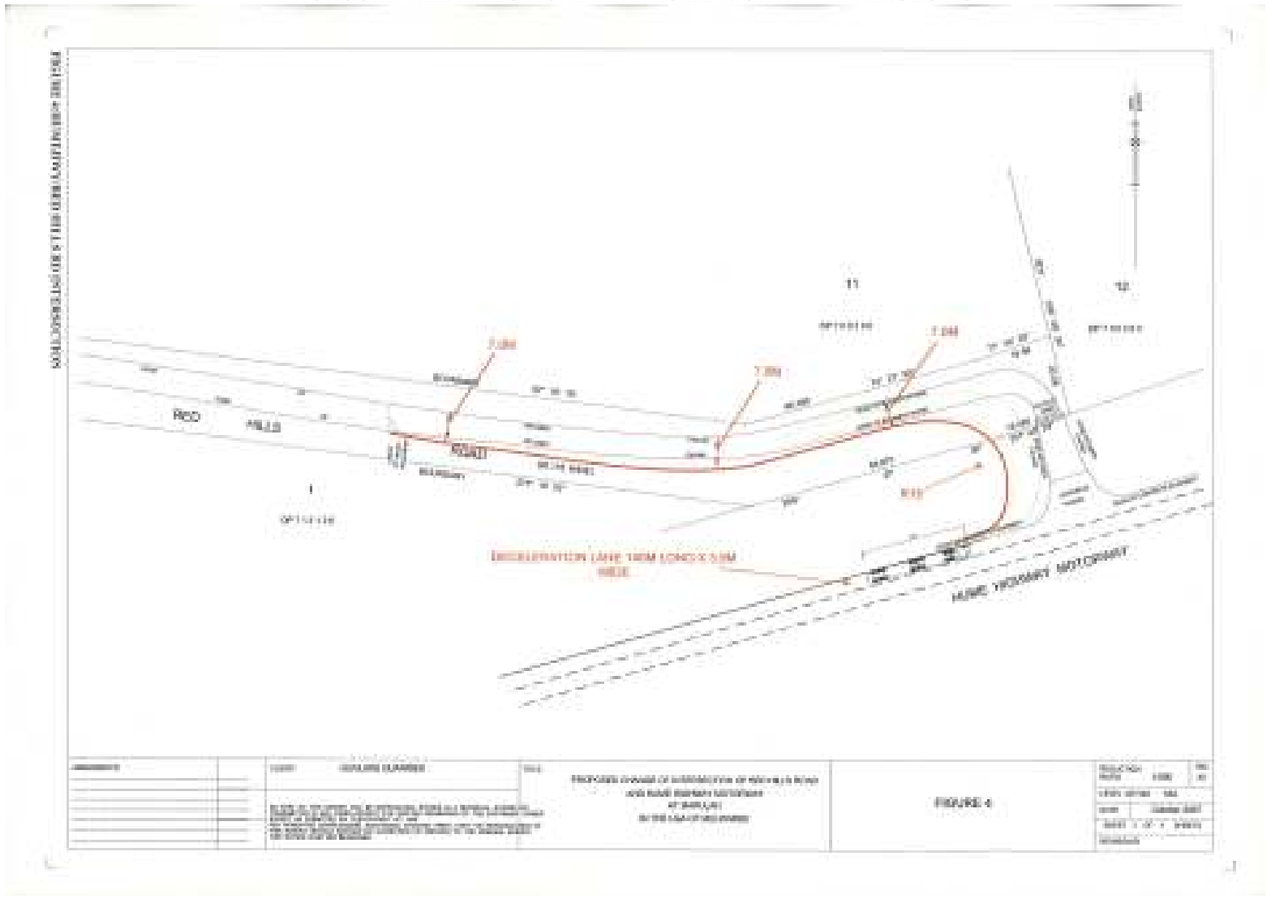
APPENDIX 6
VEGETATION OFFSET PLAN



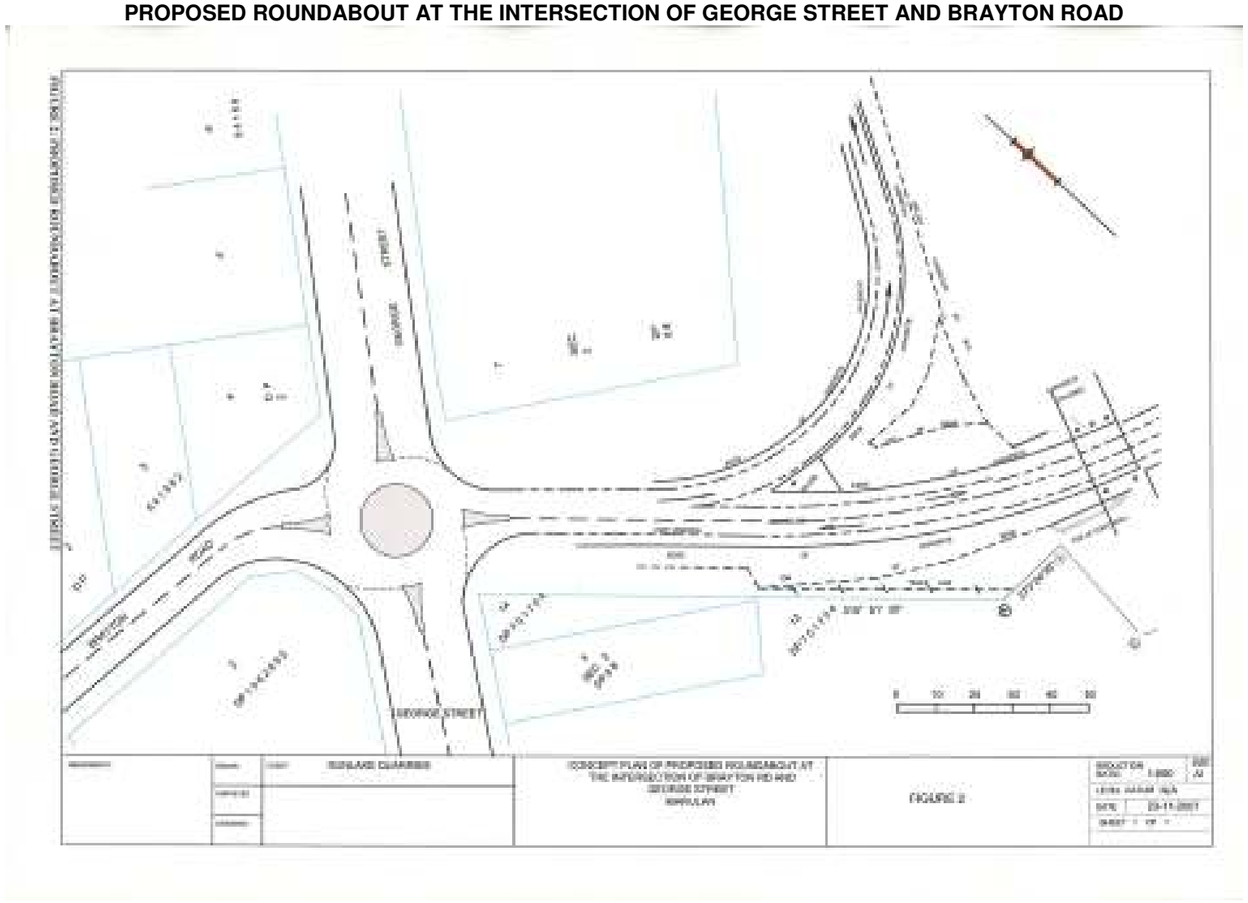
The above plan is amended by:

- deletion of irrigation area B in Offset Area 1; and
- additional fencing to be provided on the southern side of Chapmans Creek between Offset Area 2 and Offset Area 3.

APPENDIX 7
PROPOSED RED HILLS ROAD AND HUME HIGHWAY INTERSECTION



APPENDIX 8
PROPOSED ROUNDABOUT AT THE INTERSECTION OF GEORGE STREET AND BRAYTON ROAD



Independent Dispute Resolution Process (Indicative only)