

CORAKI QUARRY

ENVIRONMENTAL MANAGEMENT STRATEGY

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1 Introduction

1.1 Background

Quarry Solutions Pty Ltd (Quarry Solutions) operate the Coraki Quarry (the quarry), a hard rock quarry located at Petersons Quarry Road, Coraki NSW 2471 (the Site), approximately 2.5 kilometres to the north-west of Coraki, on the Far North Coast of New South Wales (NSW) on property comprising Lot 401 DP633427, Lots 402 and 403 DP 802985, Lot 408 DP 1166287, Lot A DP397946, Lot A DP389418, Lot 3 DP701197, Lot 2 DP954593, Lot 1 DP954592, Lot 1 DP310756 and Lot 1 DP1165893. The site is operated under the following approvals:

- Development Consent SSD7036 (DC) issued by New South Wales Government, Department of Planning and Environment (DP&E) on 18 April 2016.
- Environment Protection Licence 3397 (EPL) issued by the New South Wales (NSW) Environment Protection Authority (EPA). This EPL is renewed annually with the renewal date being 18 April of each year.

These approvals have been attached as Appendix A – Site Approvals.

1.2 Project Description

Quarry Solutions (a wholly owned subsidiary company of SEE Civil Pty Ltd) have engaged Groundwork Plus to develop an Environmental Management Strategy (EMS) for their new Coraki Quarry, as required by the DP&E. The Coraki Quarry is classified as a State Significant Development (SSD) under the *State Environmental Planning Policy (State and Regional Development) 2011*. The planning consent is valid for a maximum of seven (7) years, to 30 June 2023.

Whilst operating in conjunction with the pre-existing Petersons Quarry (owned by Richmond Valley Council (RVC), and currently operated under lease by Quarry Solutions), and sharing some supporting infrastructure, the quarry operations are approved and conditioned under a separate planning consent. The new quarry is to be developed and operated primarily for the supply of construction materials required for the Pacific Highway upgrade works.

The resource is generally described as comprising a basalt flow of varying thickness, typically from 12-20m. The proposed extraction area represents a mafic magma extrusion overlying sandstone. The basalt rock is considered to be homogenous with faint flow lineations expressed by constituent plagioclase laths which compose the rock's ground mass. Exhibiting some degrees of near surface weathering, the body of the rock is highly competent with columnar jointing and overlying agglomeritic basalt grading sharply to the superficial lithosols and residual soils observed at the surface. The resource has been defined by investigative drilling, and rock samples have been collected, analysed and classified as being suitable for the production of high quality construction materials (aggregates and crushed rock).

1.3 Format and Scope of the Environmental Management Strategy

Schedule 5, Condition 1 of the DC requires that the Applicant must prepare an EMS for the development to the satisfaction of the Secretary. This strategy must:

- Be submitted to the Secretary for approval within 6 months of the date of this consent or prior to the commencement of operations, whichever is earlier;*
- Be prepared in consultation with Council;*
- Provide the strategic framework for the environmental management of the development;*
- Identify the statutory approvals that apply to the development;*
- Describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;*
- Describe the procedures that would be implemented to:*
 - Keep the local community and relevant agencies informed about the operation and environmental performance of the development;*
 - Receive, record, handle and respond to complaints;*
 - Resolve any disputes that may arise during the course of the development;*

- *Respond to any non-compliance;*
- *Respond to emergencies; and*
- g) *Include:*
 - *Copies of any strategies, plans and programs approved under the conditions of this consent; and*
 - *A clear plan depicting all the monitoring to be carried out under the conditions of this consent.*

The EMS consists of a number of self-contained sections to provide ready reference and filing, and easy access to information for managing the Site and activities. It comprises environmental impact identification and assessment, reference files, monitoring requirements and record keeping, incident protocols, complaint settling protocols and record sheets. This EMS also aims to provide guidance to Site management for achieving compliance with the conditions of the EPL and DC.

Environmental management is a dynamic process and needs to respond to new technologies and scientific advances. This EMS has been designed to be modified in response to monitoring results, changing circumstances (technological, economic or social), changing legislation (statutory requirements), operational experiences, design trials and community expectation.

The relevant and most up-to-date Department Approved Management Plan shall supersede any inconsistency between this EMS and Appended Management Plans.

1.4 Objectives of the Environmental Management Strategy

The EMS attempts to concisely describe the commitments made for environmental management by:

- Identifying aspects of the Site that require environmental management.
- Establishing practical and achievable measures for the containment of environmental impacts to acceptable levels.
- Identifying authority and responsibility for implementing management measures during construction, operation and decommission stages of a quarry.
- Nominating acceptable performance criteria for the measuring of impact levels and any sources from which the criteria may have been derived, including legislative requirements and government policies.
- Describing courses of action (and responsibilities) for responding to incidents of non-compliance and emergency events which may be detected or arise.
- Establishing procedures for monitoring and reporting.

The objectives of the EMS will be implemented through the strategies contained within this EMS which seek to identify potential environmental issues and provide practical and achievable measures for managing these issues.

1.5 Purpose of the EMS

This EMS has been prepared to assist in the management and protection of surrounding environmental values and describes how the operator proposes to manage potential environmental impacts associated with carrying out the extractive industry and ancillary activities. This EMS is a management document which links the potential environmental impacts with the minimum commitments and measures to safeguard the environment. It provides the framework for environmental management at the Site to be utilised as a practical guide at the operational level to prevent or minimise environmental impacts.

The EMS contained within this document set out the following:

- Environmental policy which provided the framework for the preparation of the EMS.
- Organisational and management structure.
- Environmental objectives / goals providing the basis for environmental management measures.

1.6 Implementation

Implementation of the EMS will require:

- Commitment by the owners, managers and employees of the Site.
- Access to technical expertise, where necessary, for tasks which may include environmental monitoring, modelling or assessment.

Management shall ensure that sufficient funding and resources are provided to implement the EMS at the Site. Management must be attentive in implementing the commitments required for environmental management to ensure the timely and effective execution of any required measures.

Management commits to all conditional requirements included in the:

- DC
- EPL
- Any other approvals.

All personnel shall be informed of the environmental management objectives and the specifics of each management strategy including; protection of buffer areas, impact minimisation measures, operational practices, maintenance measures, reporting requirements, and individual responsibilities. All personnel working at the Site must be made aware of the reporting arrangements for complaints, emergencies and incidents involving environmental harm and / or nuisance, and the penalties applicable if EPL conditions are breached. Each employee shall be responsible for implementing the environmental commitments within the scope of their duty statement or job description.

Various timeframes and / or trigger mechanisms are provided in the EMS to guide environmental management including regular reviews of performance to help the continual improvement of the environmental management system where required. This provides a feedback loop for actioning amendments to practices, initiating studies and amending plans. The currency of the EMS should be checked regularly to ensure up-to-date versions are readily accessible for all personnel carrying out the activity

2 EMS Reference Guide

The following has been prepared to provide ease of reference for where each of the requirements of the EMS has been addressed.

Table 1 – EMS Section Reference Guide

EMS Requirement	Relevant Section
Schedule 5, Condition 1 (b)	
Be prepared in consultation with Council	3
Schedule 5, Condition 1 (c)	
Provide the strategic framework for the environmental management of the development	4
Schedule 5, Condition 1 (d)	
Identify the statutory approvals that apply to the development	5
Schedule 5, Condition 1 (e)	
Describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development	6
Schedule 5, Condition 1 (f)	
Describe the procedures that would be implemented to: <ul style="list-style-type: none"> • keep the local community and relevant agencies informed about the operation and environmental performance of the development • receive, record, handle and respond to complaints • resolve any disputes that may arise during the course of the development • respond to any non-compliance • respond to emergencies 	7
Schedule 5, Condition 1 (g)	
a) include: <ul style="list-style-type: none"> • Copies of any strategies, plans and programs approved under the conditions of this consent • A clear plan depicting all the monitoring to be carried out under the conditions of this consent. 	8 and 9

3 Consultation

This EMS has been prepared in Consultation with RVC. A record of this Consultation is provided in Table 2 – EMS Consultation.

Table 2 – EMS Consultation

Consultation	Date
Submission of EMS to RVC for comment	16/9/16
Written approval of EMS by RVC	22/9/16
Submission of EMS to DP&E	22/9/16
Comments received from DP&E	17/07/17
Submission of EMS to DP&E	November 2017

The above consultation has resulted in an EMS that ensures appropriate standards of environmental management are enforced and maintained, and ensures that the regulatory authority has confidence in the approach to environmental management at the Quarry.

4 Strategic Framework Overview

Environment and community aspects and impacts for the quarry are identified in consideration of the activities undertaken at the site as well as legislative requirements, project approvals conditions and other licences and approvals.

This process aims to appropriately manage environmental and community aspects and minimise the potential environmental and community impacts of the operation. The quarry has identified the major environmental risks in regard to continued operations of the quarry and related management strategies as part of the EMS for the project.

The objectives and targets for the quarry incorporated into this EMS have been developed based on the Environmental Impact Statement (EIS), DC, EPL, previous environmental performance and other regulatory obligations and company procedures.

5 Statutory Approvals

5.1 State Legislation and Approvals

In New South Wales, the Protection of the *Environment Operations Act 1997* (POEO Act) is the principal legislation for protecting the environment and is administered by the Environmental Protection Authority (EPA). The POEO Act commenced on 1 July 1999. The objects of the POEO Act are to:

- a) *to constitute the Environment Protection Authority,*
- b) *to provide integrated administration for environment protection,*
- c) *to require the Authority to perform particular tasks in relation to the quality of the environment, environmental audit and reports on the state of the environment.*

Schedule 1 to the POEO Act lists activities which require a licence under this legislation. These activities are broadly deemed as activities with potentially significant environmental impacts. Pursuant to the POEO Act, the Site is operated under EPL 3397 issued by the EPA, and a DC issued by DP&E. The EPL is renewed annually with the renewal date being 28 April and contains conditions which must be complied with by the operator. Refer to Appendix A –Site Approvals for a copy of the EPL and the DC.

The POEO Act provides for the preparation of Protection of the Environment Policies (PEPs) to enhance or protect the NSW Environment.

Other State legislation relevant to the Site operations may include but is not necessarily limited to:

- *Biodiversity Conservation Act 2016*
- *Contaminated Land Management Act 1997*
- *Environmentally Hazardous Chemicals Act 1985*
- *Local Land Services Act 2013*
- *National Parks and Wildlife Act 1974*
- *Protection of the Environment Administration Act 1991*
- *Protection of the Environment Operations Act 1997*
- *Waste Avoidance and Resource Recovery Act 2001*
- *Water Act 1912*
- *Water Management Act 2000*

6 Roles and Responsibilities

6.1 Managing Director

The Managing Director is responsible for:

- Establishing and endorsing the Company Environmental Policy
- Providing adequate resources in meeting environmental objectives and targets
- Assign delegated authority for Environmental Management and stewardship
- Ensure Company is complying with all applicable legal obligations and industry reporting expectations
- Review and approve new environmental initiatives as part of the 'Continual Improvement Plan'
- Review environmental performance in line with Company Environmental 'Objectives and Targets'
- Participate in Management Review Meetings as required to address any issues concerning environmental management deficiencies.

6.2 General Manager

The General Manager is responsible for:

- Providing advice to Quarry Solutions Management Team
- Providing direction to the Quarry Manager on all environmental matters
- Ensure compliance with applicable environmental regulatory and statutory obligations
- Ensure the Environmental Management Strategy is reviewed and maintained as current
- Ensure periodic Management Review Meetings are conducted to review environmental performance against planned Objectives and Targets.

6.3 Quarry Manager

The Quarry Manager will be responsible for all aspects pertaining to the operations, environmental and safety at the Coraki Quarry. The EMS will be required to be implemented by the Quarry Manager, who may choose to delegate specific tasks / requirements to other Quarry Solutions staff or third part consultants / contractors. The responsibilities include the following:

- Establish and maintain management and monitoring systems to ensure compliance with relevant legislation and approval conditions
- Effective implementation of the requirements of this EMS and supporting documentation
- Contractual obligations of contractors and third party consultants are fulfilled
- Monitoring performance against EMS requirements
- Liaison with stakeholders
- Implementing appropriate training and induction requirements
- Internal and external reporting.

6.4 All Project Personnel

All personnel are responsible for the environmental performance of their activities and for complying with Quarry Solutions policies and legislative requirements. All persons associated with the quarry have a general environmental duty and must not carry out any activity that causes, or is likely to cause, environmental harm, unless the person takes all reasonable care to prevent and minimise the harm. All persons associated with the project will be held accountable for compliance with their particular environmental responsibilities under this EMS. All incidents shall be reported immediately to the Quarry Manager, or designated person.

7 Communication, Complaints and Reporting Procedures

7.1 Communication

Effective communication must take place regarding environmental matters at the Site between operational staff, management and external stakeholders. Internal communication mechanisms relating to environmental matters and potential impacts, objectives and targets, training and awareness, complaints, emergencies and incidents, feedback, and suggestions for improvement may include, but shall not be limited to:

- Self-assessments and audits
- Action requests, memos, noticeboards, etc.
- Environmental incident reporting
- Environmental compliance reporting
- Inductions and environmental awareness training
- Tool-box talks or verbal advice
- Weekly construction meetings
- Management reviews
- Site meetings.

External communication mechanisms for environmental communications relevant to Site activities may include:

- Formal and informal correspondence with Government authorities
- Media releases
- Formal correspondence with interest groups
- Community complaints and enquiries.

A complaints telephone line must be maintained in accordance with the EPL and DC conditions for the purpose of receiving any complaints from the public in relation to the activities conducted at the Site or by vehicle or mobile plant associated with the activity.

If directed by the Secretary, Quarry Solutions will establish and operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. The CCC will be operated in general accordance with the Guidelines for Establishing and Operating Community Consultative Committees for Mining Developments (Department of Planning, 2007, or its latest version). At the time of writing this EMS the Secretary has not directed that a CCC be established.

7.2 Community Engagement, Complaints and Incidents Procedure

The objective of the community engagement, incidents and complaints procedure is to ensure there is a response to all complaints and incidents, and that these complaints and incidents are investigated and appropriate actions taken. The Quarry Manager will be responsible for ensuring that all employees are familiar with the procedure for incidents and complaints recording.

The DC defines an Incident as follows:

- *A set of circumstances that:*
 - *causes or threatens to cause material harm to the environment; and/or*
 - *breaches or exceeds the limits or performance measures/criteria in this consent.*

All incidents and complaints reported shall be recorded in a complaint / incident register, which will be readily available on the Site. The complaint / incident records shall be checked by the Quarry Manager after receipt of a complaint or following an incident to ensure appropriate corrective actions have been taken and that the issues have been, or are being, resolved. A summary of the procedure is provided below in Diagram 1 – Community Engagement, Complaints and Incidents Procedure Summary.

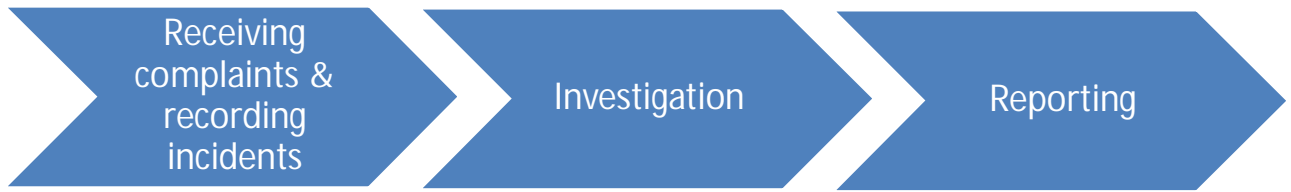


Diagram 1 – Community Engagement, Complaints and Incidents Procedure Summary

Step 1. Receiving Complaints/Recording Incidents

The Quarry Manager will be responsible for ensuring that all employees at the site and truck drivers are familiar with the procedure for incidents and complaint recording. Within 24 hours of receiving a complaint, the Quarry Manager will liaise with the complainant to discuss the nature of the complaint. If appropriate at that time, the Quarry Manager will provide a response or alternatively identify what investigations are occurring and the anticipated timeline and arrangements for providing further clarification and response to the complainant.

All complaints received or any employee involved in an incident or who becomes aware of any situation that develops into an incident, shall be reported to the Quarry Manager or delegate as soon as practicable. Employees are to show respect and understanding to complainants. The following details shall be recorded at the receipt of an incident or complaint and included in any notification to the EPA and DP&E as shown on Attachment 1 – Complaint and Incident Procedure Forms:

- date, time, location and nature of the incident or complaint
- type of communication (telephone, letter, email, personal, etc.)
- name, contact address and contact telephone number of the person reporting the incident or complaint (i.e. note: if the complainant does not wish to be identified then '*not identified*' is to be recorded)
- details of incident or complaint
- response and investigation undertaken as a result of the incident or complaint
- name of person responsible for receiving and/or investigating the complaint
- response and investigation undertaken as a result of the complaint
- action taken as a result of the complaint investigation and signature of responsible person.

Step 2. Investigation

All incidents and complaints should be investigated. The investigations should include:

- determining what activities (and equipment) were being carried out or operated at the time of the complaint/incident
- determining whether, at the time of the complaint, normal day to day activities were conducted
- identifying whether equipment or activities were the source of complaint (or whether other activities in the locality were the cause of the complaint)
- determining what potential actions may be carried out to resolve complaint and/or minimise the likelihood of further complaint.

Appropriate action is to be undertaken as soon as practical, but no longer than two days. Corrective action is to be implemented and an assessment conducted to determine what, if any, preventative action can be implemented to prevent a similar incident from occurring again. All incidents and complaints reported shall be filed in a complaint/incident register available on the site. The incident/complaint form shall be checked by the Quarry Manager two (2) weeks after receipt of a complaint to ensure appropriate corrective action has been taken and that the issue has been resolved. If monitoring is undertaken to investigate a complaint the Quarry Manager shall provide the results of the monitoring to the complainant as soon as it is reasonable and feasible to do so.

Step 3. Reporting

- Immediately notify an Incident to the EPA via the Environment Line on 131 555 and the DP&E on 1300 305 695 and provide a detailed report within 7 days.
- Provide a report to the General Manager regarding the incident/complaint within 14 days of the incident/complaint.

Information to be notified with the initial notification should be as follows:

- a) The cause, time and duration of the event
- b) The type, volume and concentration of every pollutant discharged as a result of the event
- c) The name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event
- d) The name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after reasonable effort
- e) Action taken by the licensee in relation to the event, including any follow-up contact with any complainants
- f) Details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of an event
- g) Any other relevant matters.

Following notification, Quarry Solutions will implement all reasonable and practical measures to address the incident. All appropriate actions will be undertaken as soon as practical, to either determine the source of the complaint, and/or minimise further impact in the case of an incident. Corrective action is to be implemented and an assessment conducted to determine what, if any, preventative action can be implemented to prevent a similar incident from occurring again. All incidents and complaints reported shall be filed in a complaint/incident register available on the Site. This investigation into the cause of the complaint / incident, any monitoring undertaken (if required) and an assessment of environmental harm that may have been caused will be undertaken with the results from this investigation provided to the regulatory authority for their assessment.

7.3 Dispute Resolution and Independent Review

Conditions 2 to 4 of Schedule 4 of the DC sets out the procedures for dispute resolution and independent review:

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

3. If the Secretary is satisfied that an independent review is warranted, then within 2 months of the Secretary's decision the Applicant must:

- a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Secretary, to:*
 - consult with the landowner to determine his/her concerns;*
 - conduct monitoring to determine whether the development is complying with the relevant criteria in Schedule 3; and*
 - if the development is not complying with these criteria then identify measures that could be implemented to ensure compliance with the relevant criteria;*
- b) give the Secretary and landowner a copy of the independent review; and*
- c) comply with any written requests made by the Secretary to implement any findings of the review.*

4. If the independent review determines that the development is complying with the relevant impact assessment criteria in Schedule 3, then the Applicant may discontinue the independent review with the approval of the Secretary. If the independent review determines that the development is not complying with the relevant impact assessment criteria in Schedule 3, then the Applicant must:

- a) implement all reasonable and feasible measures, in consultation with the landowner, to ensure that the development complies with the relevant criteria, and conduct further monitoring to determine whether these measures ensure compliance; or*
- b) secure a written agreement with the landowner to allow exceedances of the relevant impact assessment criteria;*

to the satisfaction of the Secretary.

If the further monitoring referred to under paragraph (a) above determines that the development is complying with the relevant impact assessment criteria, then the Applicant may discontinue the independent review with the approval of the Secretary."

7.4 Monitoring Records

All monitoring required in accordance with a condition of the EPL and DC, and / or monitoring results required following a complaint, incident or emergency, shall include the following records:

- The date(s) on which the sample was taken
- The time(s) at which the sample was collected
- The point at which the sample was taken
- The name of the person who collected the sample.

7.5 Access to Information

Within six (6) months of the date of the DC, Quarry Solutions shall:

- a) make the following information publicly available on its website:
 - The documents listed in condition 2(a) of Schedule 2
 - Current statutory approvals for the development
 - All approved strategies, plans and programs required under the conditions of this consent
 - A comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs
 - A complaints register, updated monthly
 - The annual reviews of the development
 - Any independent environmental audit, and the Applicant's response to the recommendations in any audit
 - Minutes of any CCC meetings
 - Any other matter required by the Secretary.
- b) keep this information up-to-date

7.6 Records and Document Control

Copies of reference documents, for example the EPL and DC, and other relevant approvals, a copy of this EMS, monitoring records, inventories and registers for the relevant items (e.g. water monitoring records, air quality monitoring records, blast monitoring records, noise monitoring records, and complaints and incidents) produced in relation to this EMS or the applicable approvals are to be readily accessible at the Site in electronic format and be made available to any authorised person upon request. All environmentally relevant documentation including policies, procedures, forms, records, and reports required under this EMS should be made available for a period of at least four (4) years.

If amendments are made to the legislation or approvals relevant to the Site, this EMS may be amended subject to the approval of the Secretary of the DP&E. Table 3 – Document Control and Responsibility shows the document control responsibilities for applicable environmental documents relevant to the Site.

Table 3 – Document Control and Responsibility

Document	Responsible Personnel
Environmental Management Strategy	Quarry Manager with support Specialist Consultants (as required)
Review of Environmental Monitoring Data and Reports	Quarry Manager with support Specialist Consultants (as required)
EPA Correspondence / Compliance Matters / Incident or Compliant Notifications (Original and Electronic Copy)	Quarry Manager with support Specialist Consultants (as required)
Work Agreements, Contracts, etc.	Quarry Manager
Electronic Copies of Environmental Monitoring Data / Incident or Compliant Notification	Quarry Manager
Internal Audit Documents and Internal Environmental Compliance Reports	Quarry Manager

7.7 Annual Return Reporting

At the end of each reporting period, an Annual Return must be prepared and lodged with the EPA and include the following:

In accordance with the EPL, the Quarry Solutions shall complete and supply to the EPA an Annual Return in the approved form comprising:

1. A Statement of Compliance
2. A Monitoring and Complaints Summary
3. A Statement of Compliance — Licence Conditions
4. A Statement of Compliance – Load Based Fee
5. A Statement of Compliance — Requirement to Prepare Pollution Incident Response Management Plan
6. A Statement of Compliance – Requirement to Publish Pollution Monitoring Data
7. A Statement of Compliance — Environmental Management Systems and Practices
8. A Statement of Compliance – Environmental Improvement Works.

In accordance with the DC, Quarry Solutions shall:

By the end of March each year, or other timing as may be agreed by the Secretary, the Applicant must review the Environmental performance of the development to the satisfaction of the Secretary. This review must:

- a) Describe the development (including any rehabilitation) that was carried out in the previous reporting period, and the development that is proposed to be carried out over the current calendar year.
- b) Include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against the:
 - Relevant statutory requirements, limits or performance measures/criteria
 - Requirements of any plan or program required under this consent
 - The monitoring results of previous years
 - The relevant predictions in the EIS.
- c) Identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance.
- d) Identify any trends in the monitoring data over the life of the development.
- e) Identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies.
- f) Describe what measures will be implemented over the current calendar year to improve the environmental performance of the development.

8 Strategies, Plans and Programs

The following is provided with regard to the relevant Strategies, Plans and Programs that have been prepared for the Coraki Quarry.

Each plan has been prepared to meet the requirements of Schedule 5, Condition 2 of the DC, being:

The Applicant must ensure that the management plans required under this consent 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 development 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 development; and
 - Effectiveness of any management measures (see (c) above);
- e) A contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;
- f) A program to investigate and implement ways to improve the environmental performance of the development 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.

As required under Schedule 5 of the DC, a series of management plans have been developed for the Coraki Quarry, these are identified in Table 4 – Strategies Plans and Programs

Table 4 – Strategies Plans and Programs

Condition	Management Plan	Appendix
Schedule 5, Condition 6	Noise Management Plan	B
Schedule 5, Condition 11	Blast Management Plan	C
Schedule 5, Condition 15	Air Quality Management Plan	D
Schedule 5, Condition 21	Water Management Plan	E
Schedule 5, Condition 27	Transport Management Plan	F
Schedule 5, Condition 29	Aboriginal Cultural Heritage Management Plan	G
Schedule 5, Condition 33	Biodiversity and Rehabilitation Management Plan	H
General Environmental Management	Environmental Management Plan	I

8.1 Reviews and Revisions

To ensure that strategies, plans and programs required under this consent are updated on a regular basis, and that they incorporate any appropriate additional measures to improve the environmental performance of the development, Quarry Solutions may at any time submit revised strategies, plans or programs for the approval of the Secretary. With the agreement of the Secretary, Quarry Solutions may also submit any strategy, plan or program required by this consent on a staged basis. With the agreement of the Secretary, Quarry Solutions may prepare a revision of or a stage of a strategy, plan or program without undertaking consultation with all parties nominated under the applicable condition in this consent. This EMS and associated Strategies, Plans and Programs will be reviewed within 3 months of an:

- a) Incident report under condition 7 of Schedule 5 of the DC
- b) Annual review under condition 9 of Schedule 5 of the DC
- c) Audit report under condition 10 of Schedule 5 of the DC
- d) Any modifications to the DC.

8.2 Annual Review of Environmental Performance and Improvement

By the end of March each year, or other timing as may be agreed by the Secretary, Quarry Solutions, or suitable delegate shall review the environmental performance of the quarry to the satisfaction of the DP&E. This review must:

- a) Describe the quarry (including any rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year.
- b) Include a comprehensive review of the monitoring results and complaints records of the quarry over the previous financial year, which includes a comparison of these results against the:
 - relevant statutory requirements, limits or performance measures/criteria
 - requirements of any plan or program required under this consent
 - monitoring results of previous years
 - relevant predictions in the EIS.
- c) Identify any non-compliance over the past financial year, and describe what actions were (or are being) taken to ensure compliance.
- d) Identify any trends in the monitoring data over the life of the development.
- e) Identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies.
- f) Describe what measures will be implemented over the current financial year to improve the environmental performance of the development.

8.3 Continuous Improvement/Adaptive Management

Quarry Solutions must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in the Development Consent (DC). Any exceedance of these criteria and/or performance measures constitutes a breach of these consent and may be subject to penalty or offence provisions under the Environmental, Planning and Assessment Act or Environmental, Planning and Assessment Regulation. Where any exceedance of these criteria and/or performance measures has occurred, Quarry Solutions must, at the earliest opportunity:

- a) Take all reasonable and feasible steps to ensure that the exceedance ceases and does not reoccur
- b) Consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Secretary describing those options and any preferred remediation measures or other course of action
- c) Implement remediation measures as directed by the Secretary, to the satisfaction of the Secretary.

The Applicant shall review the strategies, plans and programs required under this consent, to the satisfaction of the DP&E. 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 DP&E.

8.4 Independent Environmental Audit

Within two (2) years of the date of this consent, and every three (3) years thereafter, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:

- a) Be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary.
- b) Include consultation with the relevant agencies.
- c) Assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL or necessary water licences for the development (including any assessment, strategy, plan or program required under these approvals).
- d) Review the adequacy of strategies, plans or programs required under the abovementioned approvals.
- e) Recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, strategy plan or program required under the abovementioned approvals.

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

Within six (6) weeks of the completion of this audit, or as otherwise agreed by the Secretary, the Quarry Solutions must submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report, including a timetable for the implementation of any measures proposed to address the recommendations in the report.

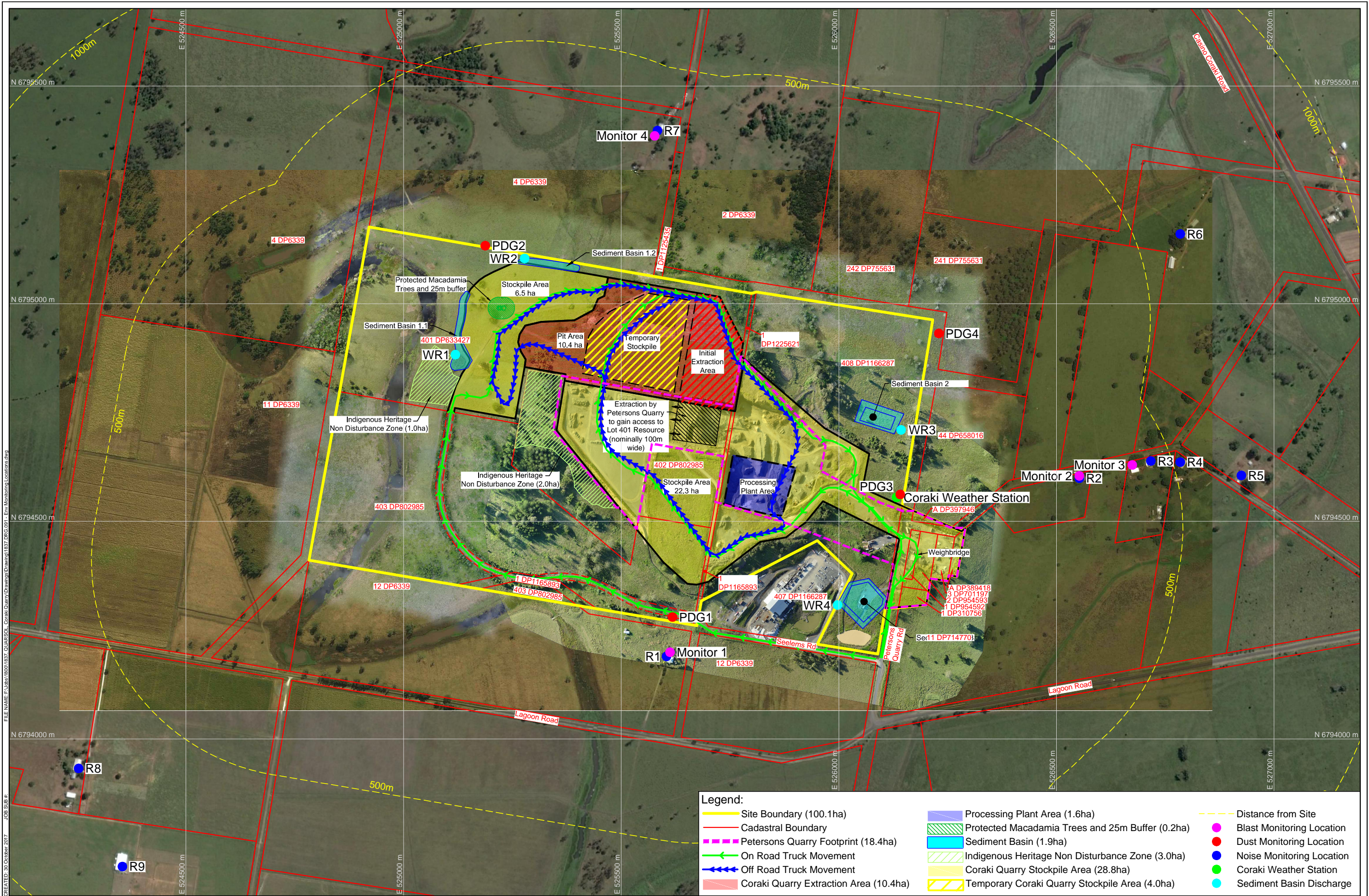
9 Monitoring Requirements Summary

Table 5 – Monitoring Requirements Summary provides an overview of the environmental indicators to be measured and the relevant EPL, DC and section within each of the Management Plans that govern the environmental monitoring requirements. Figure 1 – Environmental Monitoring Locations identifies the location of relevant monitoring or release points required under the EPL, DC and management plans.

Table 5 – Monitoring Requirements Summary

Aspect	DC Condition (Specific to Monitoring Requirements)	EPL Condition (Specific to Monitoring Requirements)	Associated Management Plan
Noise	Schedule 3, Condition 7	Condition L4 Condition M1 Condition M2 Condition M9.1	Appendix B – Noise Management Plan
Blasting	Schedule 3, Condition 10 (d)	Condition L5 Condition M1 Condition M2 Condition M8	Appendix C – Blast Management Plan
Air	Schedule 3, Condition 14 (b and d)	AS required	Appendix D – Air Quality Management Plan
Water	Schedule 3, Condition 21 (d) (ii)	Condition P1.1 Condition L2 Condition M1 Condition M2	Appendix E – Water Management Plan
Transport	Schedule 3, Condition 25	NIL	Appendix F – Transport Management Plan
Aboriginal and Cultural	Schedule 3, Condition 30	NIL	Appendix G – Aboriginal Cultural Heritage Management Plan
Biodiversity and Rehabilitation	Schedule 3, Condition 33 (f)	NIL	Appendix H – Biodiversity and Rehabilitation Management Plan

fi gures



FILE NAME: F:\Users\18001837\QUARRY\Coraki Quarry\Drawings\1837.DRG.091 - Env Monitoring Locations.dwg
JOB SUB #
CREATED: 30 October 2017

REV	DESCRIPTION	DATE	BY
3	Updated topographic data and aerial survey	31/10/16	LT
4	Extraction Area Amended	10/03/17	JS
5	Extraction Area & Stockpile Area Amended	11/05/17	JS

Data Sources:
Photography: UAV Survey 2016-05-05; Google. Image date: 2014-12-18
Topography: UAV Survey 2016-05-05
Cadastral:
Ecosystem:
Other:

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Area of New Disturbance Associated with Coraki Quarry:

Coraki Quarry Extraction Area (Including Temporary Coraki Quarry Stockpile Area) (9.9ha)
Coraki Quarry Stockpile Area Outside of the Petersons Quarry Footprint (7.7ha + 6.5ha on Lot 401 = 14.2ha)
Sediment Basin (1.9ha)



PROJECT: Coraki Quarry	TITLE: Figure 1 - Environmental Monitoring Locations
CLIENT: Quarry Solutions Pty Ltd	<div><div>GROUNDWORK plus</div><div>PH: +61 7 3871 0411 WWW.GROUNDWORK.COM.AU</div></div> <div><div>SCALE: 1:8,000 When Printed On A3</div><div>0 160</div><div>DATE: 30 October 2017 PRINTED: 30 October 2017</div><div>DRAWN: JS CHECKED: JL</div></div> <div><div>DRAWING NUMBER: 1837.DRG.091A</div><div>REVISION:</div><div>DATUM: HORIZONTAL / VERTICAL / ZONE MGA / AHD / 56</div></div>

attachments

Attachment 1

Complaint and Incident Procedure Forms

COMPLAINT AND INCIDENT PROCEDURE

Initial Notification Form

This form is to be completed when notifying the Quarry Manager or General Manager or Authority of any emergency, incident or complaint.

Date:

Operator's name:

Your name:

Site location:

Name and telephone number of contact person:

.....

Location of emergency or incident within Site:

.....

Time of the emergency / incident / event:

Time that person became aware of the emergency / incident / complaint / event:

The suspected cause of the emergency / incident / complaint / event:

.....

The harm caused, threatened, or suspected to be caused by the emergency / incident / complaint / event:

.....

.....

.....

Actions taken to prevent further harm and mitigate any potential harm or nuisance caused by the emergency / incident / complaint / event:

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Name: Signature:

COMPLAINT AND INCIDENT PROCEDURE

Further Notification Form

Not more than 14 days following the initial notification of an emergency, incident or complaint the Quarry Manager must provide the following written advice along with the initial notification form.

This record must be kept for a period of five (5) years.

Designated contact person:

Date of Event:/...../..... Time of Event: am/pm

Proposed action to prevent a recurrence of the emergency / incident / /complaint / event:
.....
.....
.....

Outcomes of actions taken at the time to prevent or minimise harm and / or nuisance:
.....
.....
.....

Results of any investigation or monitoring performed:
.....
.....
.....

Further comments:
.....
.....
.....
.....
.....
.....
.....

Name: Signature:

Appendix A

Site Approvals

Appendix B

Noise Management Plan

Appendix C

Blast Management Plan

Appendix D

Air Quality Management Plan

Appendix E

Water Management Plan

Appendix F

Transport Management Plan

Appendix G

Aboriginal Cultural Heritage Management Plan

Appendix H

Biodiversity and Rehabilitation Management Plan

Appendix I

Environmental Management Plan