



Newman Quarrying Pty Ltd

Quarry Expansion at Lot 2 DP 1055044, Tullymorgan-
Jackybulbin Road, Mororo
Environmental Management Strategy

May 2017

List of Abbreviations	
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information Management System
DA	Development Application
DCP	Development Control Plan
DPE	Department of Planning and Environment (formerly Department of Planning and Infrastructure)
ECRTN	Environmental Criteria for Road Traffic Noise
EIS	Environmental Impact Statement
EMS	Environmental Management Strategy
ENCM	Environment Noise Control Manual
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPL	Environment Protection Licence
ESD	Ecologically Sustainable Development
GDE	Groundwater dependant ecosystems
INP	Industrial Noise Policy
KTP	Key threatening process
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LOS	Level of service
mgbs	Meters below ground surface
MHRDC	Maximum Harvestable Rights Dam Capacity
MNES	Matters of National Environmental Significance
NPI	National Pollution Inventory
OEH	NSW Office of Environment and Heritage
PEA	Preliminary Environmental Assessment
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Roads and Maritime	NSW Roads and Maritime Service
SEARs	Secretary Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SIS	Species Impact Statement
SISD	Safe Intersection Sight Distance
TEC	Threatened Ecological Community
tpa	Tonnes per annum
TSC Act	<i>Threatened Species Conservation Act 1995</i>
vtpd	Vehicle trips per day
WIRES	Wildlife Information Rescue and Education Service

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1. Introduction

Newman Quarrying Pty Ltd (Newman Quarrying) proposes to expand its operations at Sly's Quarry (the proposal) in Mororo, NSW. The sandstone quarry is located at Lot 2 in DP 1055044, on land with frontage to the Tullymorgan-Jackybulbin Road. The site is approximately 2.6 kilometres west of the Pacific Highway. The primary purpose of the quarry would be to supply quarry materials required for current and proposed Pacific Highway works, and for supply to local councils and contractors.

The proposed quarry expansion was considered to be State Significant Development under Clause 7 of Schedule 1 of State Environmental Planning Policy (SEPP) (State and Regional Development) 2011 and therefore required development consent from the Minister of Planning under Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). An environmental impact statement (EIS) was prepared to support the project application (GHD May 2015) and included consultation with a range of government agencies and community stakeholders. Any issues raised during consultation were addressed and appropriate mitigation measures identified. Following the EIS, Development Consent (SSD 6624) was granted for the project on 5 May 2016 and is subject to certain conditions of approval.

This Environmental Management Strategy (EMS) has been prepared to provide the framework for environmental management for regular site operations. The EMS identifies and documents the key environmental risks and mitigation measures outlined in the Development Consent and the EIS that must be implemented to ensure that the environmental objectives and legal obligations are met.

This EMS has been prepared with reference to the following documentation:

- Proposed Quarry Expansion at Lot 2 DP 1055044, Tullymorgan-Jackybulbin Road, Mororo. Environmental Impact Statement (GHD, May 2015)
- Development Consent (SSD 6624)
- Local and state government agencies submissions
- ISO14001:2004 – Environmental Management Systems
- Department of Infrastructure, Planning and Natural Resources (DIPNR) (2004) Guidelines for the preparation of Environmental Management Plans

1.1 EMS purpose

The EMS outlines the environmental management practices and procedures to be followed during the operation of the quarry. The primary purpose of this EMS is to document the environmental setting, quarry operations, environmental risks, environmental management, implementation, monitoring and reporting. This is to guide the quarry's environmental performance to meet its regulatory and policy requirements in a systematic manner and facilitate continual improvement.

1.2 EMS objectives

The key environmental performance objectives for this EMS are:

- Compliance with relevant environmental legislation and regulations
- Compliance with the conditions of Development Consent SSD 6624
- Minimising pollution, waste generation, and environmental impacts

Key environmental objectives and targets for the quarry are shown in Table 1-1, which also indicates where the key environmental objectives are addressed in the EMS.

Table 1-1 EMS objectives & targets

Aspect	Objective	Target	Section
Soil & Water	<ul style="list-style-type: none"> To minimise impacts on soil and water quality during operations to within the scope permitted by the development consent 	<ul style="list-style-type: none"> Full compliance with the relevant legislative requirements and CoA. Meet Environment Protection Licence (EPL) water quality discharge parameters for all planned discharges. Provide training on soil and water management to all relevant personnel through site inductions. 	Appendix E
Biodiversity and Rehabilitation	<ul style="list-style-type: none"> Maintain significant habitat and minimise vegetation disturbance. Minimise the spread of weeds and soil pathogens. 	<ul style="list-style-type: none"> No fauna fatalities. No unapproved disturbance of vegetation. No new occurrences of weeds or pathogens on site. 	Appendix F
Noise	<ul style="list-style-type: none"> Identify sensitive receivers and implement appropriate environmental controls and procedures during operational activities. Minimise potential adverse noise impacts to the environment and community. 	<ul style="list-style-type: none"> Full compliance with the relevant legislative requirements and CoA. No exceedance of the operation noise limits. No justified complaints from adjacent residents in relation to noise generation. No unapproved out of hours work. 	Appendix G
Blasting	<ul style="list-style-type: none"> Identify sensitive receivers and implement appropriate environmental controls and procedures during operational activities. Minimise potential adverse blasting impacts to the environment and community. 	<ul style="list-style-type: none"> Full compliance with the relevant legislative requirements and CoA. No exceedance of the blasting criteria. No justified complaints from adjacent residents in relation to blasting and vibrations. 	Appendix H

Aspect	Objective	Target	Section
Air Quality	<ul style="list-style-type: none"> Implement appropriate controls and procedures during the operation of the quarry to avoid or minimise dust generation, air quality impacts and potential adverse impacts to sensitive receivers. 	<ul style="list-style-type: none"> Minimise and manage potential air quality/dust impacts from the development in accordance with relevant legislative requirements at CoA. Control dust and exhaust emissions of plant and equipment from quarrying activities. Achieve particulate matter and dust concentrations that meet the approved air quality criteria. No visible offsite dust emissions as a result of site operations. No justified complaints related to air quality attributable to site operation. 	Appendix I
Traffic	<ul style="list-style-type: none"> Minimise impacts to local residents and public infrastructure from quarry traffic. 	<ul style="list-style-type: none"> Full compliance with the relevant legislative requirements and CoA. No justified complaints related to quarry traffic. No road damage from quarry vehicle movements beyond normal wear and tear. 	Appendix J
Bushfire	<ul style="list-style-type: none"> To minimise the risk of bushfire to people and property. 	<ul style="list-style-type: none"> Full compliance with the relevant legislative requirements and CoA. No loss of life or property from bushfire No ignition of bushfire from site operations 	Appendix K
Heritage	<ul style="list-style-type: none"> Avoid damage or disturbance of heritage items. 	<ul style="list-style-type: none"> Full compliance with the relevant legislative requirements and CoA. No damage to heritage items 	Appendix L

Aspect	Objective	Target	Section
		<ul style="list-style-type: none"> All site staff and contractors trained on unexpected finds protocol. 	
Waste	<ul style="list-style-type: none"> Minimise the volume of waste generated from site operations. 	<ul style="list-style-type: none"> Full compliance with the relevant legislative requirements and CoA. Waste generation minimised through the hierarchy of waste management priorities. Separable waste bins provided. 	Appendix M

2. Project description

2.1 Key site information

Feature	Details
Approved extraction rate	500,000 tonnes / annum
Estimated available resource	7,000,000 tonnes
Estimated operating period	15-40 years (demand driven). Approved until 31 May 2041
Extraction depth	44 m AHD
Site area	374 hectares
Quarry area	18 hectares
LGA	Clarence Valley Local Government Area

2.2 Project Overview

Newman Quarrying proposes to expand a sandstone quarry at Lot 2 DP 1055044, Tullymorgan-Jackybulbin Road, Mororo, known as Sly's Quarry. The project is to expand one portion (Site A) of the approved sandstone quarry by 11.1 hectares, close and rehabilitate two portions (Sites B and C) and increase the extraction rate up to 500,000 tonnes per annum from a total resource of 7 million tonnes. Compared to the currently approved quarry, the net area of the quarry would reduce by 49 hectares and the rate of extraction would increase from 100,000 tonnes per annum.

The quarry is located approximately 2.6 kilometres west of the Pacific Highway. The close proximity to the Highway and isolation means that Sly's Quarry presents economic and environmental benefits to supply material for the Pacific Highway upgrade.

Maintaining the current Pacific Highway and constructing the proposed Pacific Highway upgrade will require a considerable volume of imported quarry materials. Depending on a range of factors, including funding, these works could extend over a period of approximately five years. After completion of the Highway works, the quarry would continue to supply material for maintenance of the Pacific Highway as well as to CVC and private contractors.

To assist with the rehabilitation of Site B, Site C and the proposed quarry expansion, it is also intended to import unsuitable virgin excavated natural material (VENM), excavated natural material (ENM) and mulch from the highway upgrade works.

2.3 Site characteristics

The site is accessed from Tullymorgan-Jackybulbin Road via a gravel access road that travels in a northerly direction. A site office and weighbridge are located approximately 200 m along the access road with a car parking area and maintenance shed located to the east. A generator and fuel storage/fuel bowser are also in this location.

The centre of the existing and proposed quarry is located approximately 150 m north of the site office. This area is also the main stockpiling area, with an additional stockpile area located to the east. The proposed quarry will extend in a northerly and southerly direction from the centre of the current quarry.

The current floor of the quarry is approximately 44 m Australian Height Datum (AHD) with a second level to the east at approximately 58 m AHD. The centre of the existing quarry has active faces to the north, east and west, as shown in the photograph below.



Figure 2-1 Existing Quarry

Another stockpile area is located to the south west of the quarry which also includes a bunded oil storage shed, generator and wash plant.

Stormwater from the quarry is directed to the south into a settling pond and overflows into an open drain that leads to the main sediment basin, located to the south. Runoff from the wash plant travels through a series of small basins located west of the entrance road before entering the main sediment basin. The sediment basin discharges to a wetland to the south.

2.4 Extraction methodology

The quarry operation would be carried out in stages and in response to demand. It is therefore difficult to predict exactly how the extraction would progress. In general, the extraction is proposed to move north and east initially, to the extent of the currently approved quarry. The eastern extent of the excavation would remain 10 m from the road reserve located along the eastern boundary and a safety fence would be installed. A 5 m wide buffer would be established around the remaining perimeter of the quarry to cater for access and stormwater controls. The excavation would be to the current floor level of 44 m AHD. Stage 1 would cover an area of 6.9 hectares and extract approximately 2.3 million tonnes. Stage 1 encompasses the area previously approved for a quarry.

Stage 2 would involve expanding the quarry to the north and south and to a depth of 44 m AHD. This would expand the quarry by 5.7 hectares and involve the extraction of approximately 2.8 million tonnes of material. Stage 2 (south) would be exhausted prior to Stage 2 (north) being developed.

Stage 3 would be the final stage and would expand the quarry further north and south. Stage 3 would involve an expansion of 5.4 hectares to a depth of 44 m AHD. This would involve extracting approximately 1.8 million tonnes of material. Stage 3 (south) would be exhausted prior to Stage 3 (north) being developed.

A summary of the area and volumes of each stage are presented in Table 2-1 and the proposed extraction plans are provided in Appendix C. The extraction plans include extraction area, cross sections, long sections, site layout and final levels.

Table 2-1 Quarry area and extraction volumes

Stage	Area (Ha)	Volume (tonnes)
1 (previously approved)	6.9	2,300,000
2 (north)	2.7	1,600,000
2 (south)	3.0	1,200,000
3 (north)	2.2	720,000
3 (south)	3.2	1,040,000
Total	18.0	6,880,000

The extraction of all stages would progress in 10 m by 10 m benches to a final depth of 44 m AHD.

Following extraction, the material would be crushed, screened and where necessary blended with other materials from the quarry, or material imported to the quarry. The materials would be stockpiled on the quarry floor in numbered stockpiles of approximately 4,000 tonnes each. Samples from each stockpile would be analysed for compliance with Roads and Maritime specifications before being transported offsite. This process takes approximately 20 days, per stockpile.

The quarry would operate as efficiently and effectively as possible to maximise the returns of the investment to the operator. It is anticipated that none of the extracted material would be wasted, with the material either sold in its raw state or blended with other products to generate a suitable product for the market. The proposed sequence of operations for each stage would generally be:

- Establish the sediment and erosion control measures and other environmental safeguards.
- Clear vegetation, if necessary. The bulk of cleared vegetative wastes would be stockpiled in a suitable location, clear of adjacent vegetated areas and mulched for future revegetation works.
- Strip and stockpile topsoil and protect it against erosion for use in revegetation works.
- Excavate the weathered rock material, where possible. The deeper layers would be excavated in a similar manner but would also include blasting. Blasting is anticipated to be carried out at a frequency of between two blasts per month to one blast per year, depending on demand and the material encountered. The blasting would be undertaken by a specialist contractor in accordance with regulatory requirements.
- Rock hammer where required, to break large rocks into smaller pieces.
- Crush the rock using an excavator and a jaw crusher. The crusher produces an output of various sizes of fill or aggregate which are separated by a screening machine into various piles based on size. Sand is also produced in this process. The crusher and screener are moved around the quarry floor as necessary to be close to the quarry face and accumulated, excavated stone.
- Load the material directly from the stockpile onto trucks for removal from site.

- Continued excavation, as described above, within each stage until it reaches the ultimate depth of 44 m AHD. During the excavation, 10 m high by 10 m wide benches will be established at the quarry face. At the top of each bench, a safety bund/wall will be constructed to prevent people or machinery falling over the bench. The benches and quarry floor will be graded to the sediment basin located in the south-western end of the quarry area.
- Rehabilitation once the extraction is complete. Topsoil would be respread on the disturbed areas and revegetated, where possible. The established erosion and sediment control measures would be maintained until the rehabilitated surface is adequately stabilised.
- Other details relating to quarry operations include:
 - If there is a special order for large boulders, for example for breakwater or river or sea wall repair or construction, these are set aside and transported as such.
 - Occasionally, in order to comply with Roads and Maritime specifications, materials won from the quarry would be blended with other materials won from the quarry, or with imported materials (e.g., sand, clay), prior to being stockpiled on the floor of the quarry.
 - Some sand is transported to the onsite wash plant for processing.

A detailed list of equipment to be used in the operation is provided in Section 2.6 (type of machinery) below.

2.4.1 Imported materials

As outlined above, following the extraction of the raw material from the quarry and screening, additional material may be required for blending to satisfy client specifications. This material may need to be imported to the quarry and could include rock, sand, clay, topsoil or landscaping products. The quantity of this material would be dependent upon the material's end use and is difficult to predict. It is likely that some of the blending materials would be stockpiled on site.

To rehabilitate Area B, Area C and the proposed quarry, topsoil and mulch would be imported to site from the Pacific Highway upgrade works. The topsoil would consist of VENM or ENM that is of an unsuitable quality for use on the highway and the mulch would be from the clearing of native vegetation during highway works. The volumes of topsoil and mulch to be imported and stored onsite are presently unknown but is estimated to be in the order of:

- Topsoil - 10,000 tonnes per year
- Mulch – 5,000 m³ per year

The blending material, topsoil and mulch would be brought to site via trucks returning from their delivery of quarried materials and stored in the same location where it is currently stored. The area would have appropriate sediment erosion controls and tannin management measures installed and maintained.

2.5 Hours of operation

The hours of operation would depend on demand with some periods of high activity and other times when activity is limited to the occasional loading of haulage trucks. The proposed hours of operation are outlined in Table 2-2.

Table 2-2 Hours of operation

Activity	Permissible Hours
Employee arrival	<ul style="list-style-type: none"> From 6:30 am Monday to Saturday inclusive From 7:30 am Sundays or public holidays if engaged in maintenance, site security or other similar activities
Quarrying operations including loading and dispatch of laden trucks	<ul style="list-style-type: none"> 7 am to 6 pm Monday to Friday 7 am to 1 pm Saturday 7 am to 4 pm if fulfilling a contract for the supply of quarry products to the Pacific Highway upgrade project At no time on Sundays or Public holidays
Blasting	<ul style="list-style-type: none"> 9 am to 3 pm Monday to Friday (except public holidays)
Maintenance	<ul style="list-style-type: none"> May be conducted at any time, provided that these activities are not audible at any privately-owned residence

2.6 Plant and equipment

Table 2-3 identifies the items of plant and equipment that are necessary for the operation of the quarry.

Table 2-3 Plant and equipment

Type	Typical Make/Model	Approx. Number	Typical Frequency of use	Description
Excavators	Komatsu pc350 – 8	2	12- 40 hrs/ week	Excavating material and stockpiling
	Komatsu pc710-5	1		Clearing and grubbing of vegetation and stripping of topsoil
Screen	Sandvik qe440	1	20 – 40 hrs/ week	Aggregate/gravel production and overburden screening
	Sandvik qa340	1		
Front-end Loader	Komatsu wa400-3	1	10 hrs/week	Loading material onto the haul trucks and stockpiling material within the pit floor
	Komatsu wa470-3	1	30 hrs/week	
	Kawazaki 90zv	1	45 hrs/week	
Crusher	McCloskey j50	1	20 – 40 hrs/ week	Crushing rock main jaw crusher
	Komatsu br380jg-1	1		Crushing rock spare jaw crusher
Haul Trucks	Truck and dog Contractors	1 Up to 125/day	45 hrs/week Up to 125/day	Delivery of materials to customers and stockpiling in pit if needed and carting unsuitable to rehabilitation areas.
Water Cart	Isuzu	1	10 hrs/week	Water haul roads and stockpiles

Type	Typical Make/Model	Approx. Number	Typical Frequency of use	Description
Water Pump	Honda	3	10 hrs/week	Dewater excavation/basin and to fill watercart from standpipe Water stockpiles and put moisture in products
Generator	Cummins	1	5 hrs/week	Provide electricity to washplant and dam pump
	Able	1	9 hrs/day	Provide power to weighbridge and fuel pump
Hand tools	Various	5	2 hrs/week	General activities maintaining plant

2.7 Employment

Currently there are three employees at the existing quarry but it is anticipated to require a further five full time employees during periods of maximum extraction. Haulage of the material would also provide employment for truck drivers. Haulage trucks would be engaged and operated by contractors external to the quarry operations.

Additional off site employment would also be generated, in the maintenance and support services for equipment and machinery.

2.8 Site facilities

The site currently consists of a small site office, machinery shed, bunded oil shed, weighbridge, 12,000 L TransTank fuel bowser and pump-out toilet. Water for the site office and amenities is supplied via water tanks and electricity via a generator. No addition or alteration to the existing facilities is proposed as part of this application.

The existing sediment basins will continue to treat stormwater runoff and provide water for dust control, crusher sprinklers and screen. Any excess water will be treated, as required by the site's Environmental Protection Licence, prior to discharge to the wetland. No water will be extracted from the ephemeral waterways traversing the site for any reason in respect of the operation of the quarry.

The site layout is shown in Appendix C.

3. Legislative framework

3.1 Conditions of consent

The Development Consent conditions relating to the EMS are outlined in Schedule 5 of the Development Consent and comprise the following:

1. If the Secretary requires, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:

- (a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Applicant;*
- (b) be prepared in consultation with Council;*
- (c) provide the strategic framework for environmental management of the development;*
- (d) identify the statutory approvals that apply to the development;*
- (e) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;*
- (f) 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.*

2. The Applicant must implement any Environmental Management Strategy as approved from time to time by the Secretary.

3. 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.

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

The approval of the EMS from DPE and evidence of the consultation with Council is provided in Appendix D.

3.2 Legislation

Commonwealth and NSW legislation that is relevant to the environmental management and operation of the quarry are detailed in Table 3-1. The legislation summary will be reviewed in accordance with the review schedule in Section 9 to ensure legal obligations related to environmental management of the site are current.

Table 3-1 Legislation summary

Legislation	Relevance	Requirements
<i>Environmental Protection & Biodiversity Conservation Act 1999</i>	The EPBC Act identifies Matters of National Environmental Significance (MNES), which if site operations have the potential to impact upon requires approval from the Federal Environment Minister.	Site operations are deemed to have a medium impact on a 'listed threatened species or community', with the project containing known or potential habitat for three threatened flora species, three threatened fauna species and four migratory bird species listed under the EPBC Act. The project was referred to the Federal Minister for the Environment for approval under the EPBC Act, based on the potential impact to <i>Hibbertia marginata</i> .

Legislation	Relevance	Requirements
<i>Environmental Planning & Assessment Act 1979</i>	All development in NSW is assessed in accordance with the provisions of the EP&A Act.	Site operations are subject to the conditions of Development Consent SDD 6624. Requirements of the EP&A Act were considered in the development application.
<i>Statement Environmental Planning Policies (SEPP)</i>	SEPPs are planning instruments developed for specific planning issues in NSW. SEPPs that are relevant to site operations are: <i>SEPP State and Regional Development 2011</i> <i>SEPP Mining, Petroleum and Extractive Industries 2007</i> <i>SEPP Rural Lands 2008</i> <i>SEPP 33 – Hazardous and Offensive Development</i> <i>SEPP 44 – Koala Habitat Protection</i> <i>SEPP 55 – Remediation of Land</i> <i>SEPP – North Coast Regional Environmental Plan</i>	Requirements of relevant SEPPs were considered during the development application.
<i>Protection of the Environment Operations Act 1997</i>	The POEO Act regulates pollution and waste management in NSW through issuing Environmental Protection Licenses (EPL) for scheduled activities.	Slys quarry has an approved extraction rate of 500,000 tonnes / year. Extractive industries which exceed 30,000 tonnes / year are defined as scheduled activities and require an EPL. Site operations are subject to the conditions of EPL 11649.
<i>National Parks & Wildlife Act 1974</i>	The NPW Act provides the protection of Aboriginal objects and places.	There are no known Aboriginal objects or places at the site. It is highly unlikely that any significant cultural deposits are at the site. Any unexpected finds during site operations will be managed in accordance with the Act.
<i>Threatened Species Conservation Act 1995</i>	The TSC Act deals with the listing of species, the declaration of critical habitat, recovery plans, threat abatement plans, licensing, biodiversity certification and BioBanking.	The project may have direct and indirect impacts on threatened biota listed under the TSC Act. Impacts on threatened biota listed under the TSC Act were assessed via BioBanking.

Legislation	Relevance	Requirements
<i>Native Vegetation Act 2003</i>	The NV Act protects native vegetation from broadscale clearing, authorising clearing under a development consent.	Site operations will require the clearing of 10.5 hectares of native vegetation which is permitted by Development Consent SSD 6624.
<i>Roads Act 1993</i>	The Roads Act sets out requirements for approval to carry out certain works undertaken within the vicinity of a road.	The proposal involves the upgrade of the intersection, therefore a Section 138 approval is required.
<i>Water Act 1912</i>	The Water Act controls the extraction and use of water and carrying out activities near water sources, where a water sharing plan is not in place.	It is considered unlikely that quarry operations will intercept an aquifer, therefore a licence under Part 5 of the Water Act is not required. However, installation of a monitoring well is proposed.
<i>Water Management Act 2000</i>	The WM Act controls all activities undertaken within 40 m of a waterway through controlled activity approvals.	The water collected in the sediment basins may be in excess of the “maximum harvestable right dam capacity” (MHRDC) for the site, however a Water Access Licence (WAL) would not be required because under the WM Act sediment basins do not require a licence. It is also envisaged that a Controlled Activity Approval (CAA) will not be required because the proposal does not impact any drainage lines that meet the definition of a “river” under this Act.
<i>Rural Fires Act 1997</i>	The Rural Fires Act outlines requirements to be in place to minimise the likelihood of fire.	Given that the site is mapped at Vegetation Category 1 bushfire prone land, a bushfire risk assessment was undertaken in the EIS.
<i>Clarence Valley Local Environmental Plan 2011</i>	The Clarence Valley LEP (CVLEP) defines the zoning for the site which prescribes land use objectives	Requirements of the CVLEP 2011 were considered in the development application.

3.3 Operational approvals

Approvals, licences or permits required by the legislation listed in Table 3-1 are detailed in Table 3-2.

Table 3-2 Approval summary

Approval	Regulator	Expiry / Review Date
Environmental Protection Licence (EPL No. 11649)	Environment Protection Authority (EPA)	12 June
Section 138 approval	Clarence Valley Council (Council)	-

3.4 Environmental policy

A copy of Newman Quarrying Pty Ltd Environmental Policy is included in Appendix A.

3.5 Environmental risk assessment

The environmental risks have been assessed by examining all site activities associated with quarry operations to determine their potential impacts on the environment. The risk rating is determined by considering the likelihood and consequence of an activity impacting upon the selected environmental aspect, using the matrix shown in Table 3-3.

Table 3-3 Risk matrix

Likelihood	Consequence		
	Low	Medium	High
Will occur	M	H	H
Likely to occur	L/M	M	H
Unlikely to occur	L	L/M	M
Will not occur	L	L	L/M

The results of this broad risk assessment are shown in Table 3-4.

Table 3-4 Risk assessment

	Clearing & Grubbing	Excavation & Blasting	Crushing / Screening / Blending	Material Transport	Rehabilitation
Surface Water	H	M	L/M	L/M	M
Groundwater	L	L	L	L	L
Contamination	L/M	L/M	L/M	L	L
Ecology	H	L/M	L/M	L	L
Noise & Vibration	M	H	H	M	L
Air	L/M	M	M	M	L
Land Use & Transport	L	L/M	L/M	M	L
Bushfire	M	L	L	L	L
Heritage	L/M	L	L	L	L
Waste	M	M	M	L	L

4. Implementation

This EMS is the overarching management plan for a suite of environmental management documents to be implemented during the operation of the quarry. It provides a structured and systematic approach to environmental management. Figure 4-1 illustrates the structure of the environmental management framework for the quarry.

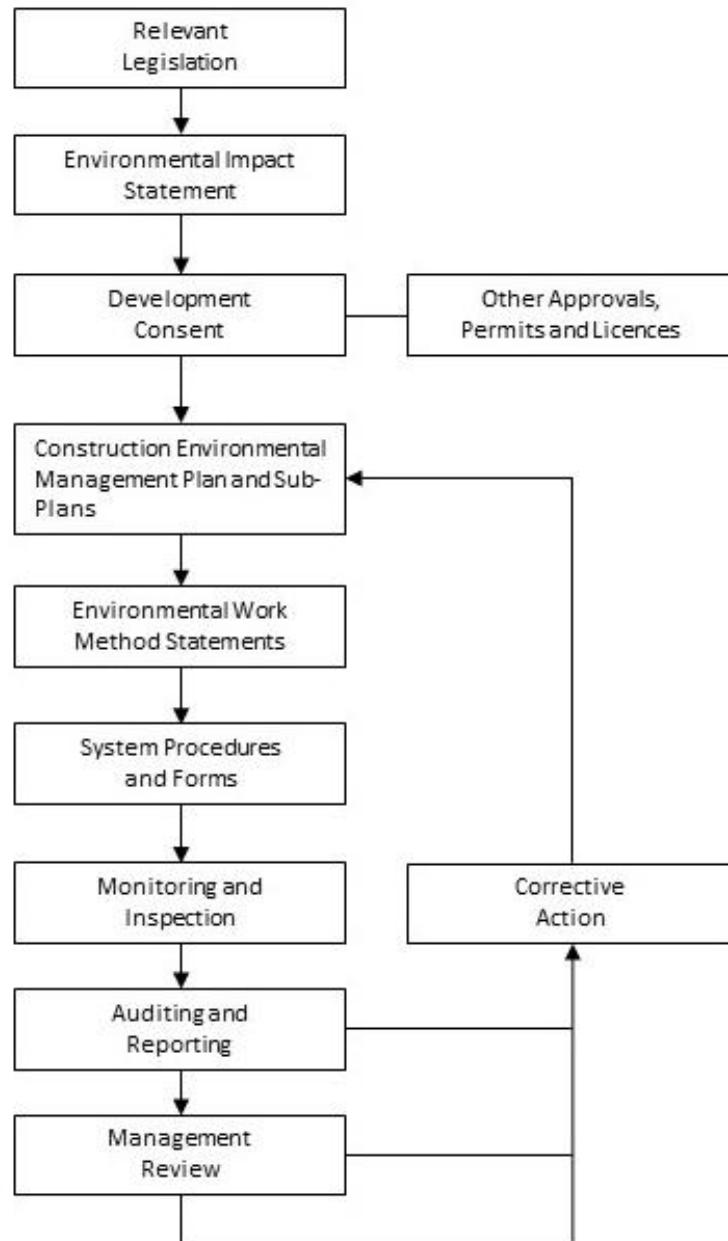


Figure 4-1 Key EMS Elements

4.1 Environmental management system documentation

The key environmental management system documents and their interrelationships are described in the following subsections.

4.1.1 Environmental Management Plan

This EMS provides the system to manage and control the environmental aspects of the quarry. It identifies all requirements applicable to activities described in Section 2. It also provides the overall framework for the system and procedures to ensure environmental impacts are minimised and legislative and other requirements are fulfilled. The strategies defined in this EMS have been developed with consideration of the development consent requirements, and environmental management mitigation measures presented in the EIS and other relevant permits, licences and approvals. This EMS establishes the system for implementation, monitoring and continuous improvement to minimise impacts from the quarry on the environment.

4.1.2 Environmental Management Sub-plans

A number of environmental management Sub-Plans support the EMS. These documents have been prepared to identify requirements and processes applicable to specific impacts or aspects of the activities described in Section 3. Environmental strategies may also be developed as required throughout the Project. These will also guide environmental management of potential impacts on site. A list of Policies, construction Sub-Plans and strategies for the Project, are provided in Table 4-1.

Table 4-1 Environmental Management Sub-Plans

Document Title	Document Location
Soil and Water Management Plan	Appendix E
Biodiversity and Rehabilitation Management Plan	Appendix F
Noise Management Plan	Appendix G
Blast Management Plan	Appendix H
Air Quality Management Plan	Appendix I
Traffic Management Plan	Appendix J
Bushfire Management Plan	Appendix K
Heritage Management Plan	Appendix L
Waste and Hazardous Materials Management Plan	Appendix M
Pollution Incident Response Management Plan	Appendix N

4.2 Organisation chart

The management structure for implementation of this EMS is illustrated in Figure 4-2.

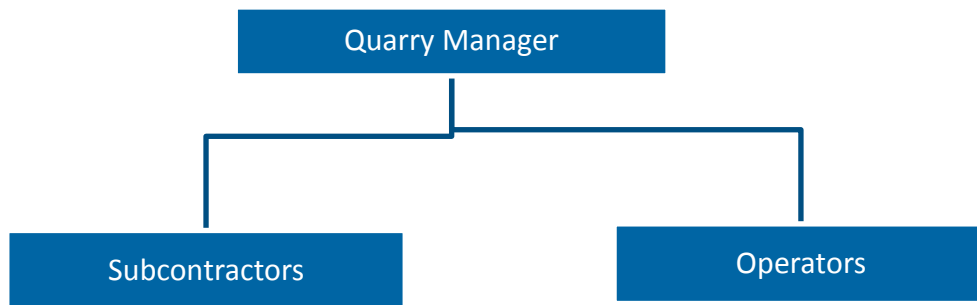


Figure 4-2 Environmental management structure

4.3 Roles & responsibilities

Key site personnel and environmental management responsibilities are outlined in Table 4-2.

Table 4-2 Roles & responsibilities

Role	Responsibilities
Quarry Manager	<p>The quarry manager is accountable for the overall implementation of the EMS and environmental management on site. Key responsibilities include:</p> <ul style="list-style-type: none">• Reviewing and endorsing the EMS as required• Maintaining compliance with relevant legislation, conditions of approval and any licences• Communicating environmental objectives, targets and commitments to site personnel, including contractors• Delivering environmental training• Leading environmental incident investigations and reporting to regulatory authorities where appropriate• Responding to community complaints and enquiries• Liaison with stakeholder agencies and community groups where required• Approving any environmental reports required to be submitted to relevant authorities
Operators	<p>Site workers and operators are responsible for implementing environmental control measures associated with their daily work. This includes:</p> <ul style="list-style-type: none">• Minimising their impact on the environment while undertaking works• Implementing and maintaining environmental controls• Reporting to the site manager when an incident occurs and taking measures to respond to the incident• Completing any reporting and monitoring requirements for their specific role

4.3.1 Subcontractors

As a minimum, subcontractors and their employees will comply in full with the requirements of this EMS as it applies to site environmental management and controls. Subcontractors personnel are considered equivalent to site personnel in all aspects of environmental management and control and their responsibilities in this respect are the same as site personnel.

5. Environmental training & awareness

All members of the Project workforce will receive general environmental training regarding the implementation of environmental management strategies in accordance with the requirements of this EMS and supporting documentation. Environment and community training will include, but may not be limited to, the following:

- Environmental induction training
- Toolbox talks
- Other specific training as required (e.g. environment spill control and management)

To ensure effective implementation of the environmental management obligations, the quarry manager is responsible for ensuring that all site personnel are aware of the requirements of this EMS and supporting documentation.

5.1 Induction

Site environmental management requirements are communicated in the site induction to all staff, subcontractors and visitors. The induction includes the following information:

- Environmental legal context including due diligence and duty of care
- Site environmental objectives and targets
- Site environmental setting and sensitive environmental aspects
- Environmental incident response and management procedure
- Overview of environmental control measures – dust and air quality, noise management, water quality, vegetation protection, and waste management

Other environmental issues are communicated to site staff through toolbox talks and other meetings.

5.2 Toolbox talks

Toolbox talks will be one method of raising awareness and educating personnel regarding issues related to environment and community. Relevant environmental issues include (but will not be limited to):

- Noise mitigation
- Erosion and sedimentation control
- Hours of work
- Traffic
- Incident response
- Housekeeping
- Aboriginal and non-Aboriginal heritage
- Vegetation clearing controls and protection
- Dust and odour control

5.3 Targeted environmental training

Targeted environmental training will be provided to individuals or groups of workers with a specific authority or responsibility for environmental management, or those undertaking an activity with a high risk of environmental impact. Topics covered include those detailed above, or others deemed necessary in the lead up to a particular scope of work. For example:

- Dewatering basins
- Vegetation clearing
- Noise and vibration from certain activities

5.4 Training records

Training records are maintained in a site training register which includes:

- Details of the person being trained (name, role, company)
- Training date
- Type of training

6. Incidents and emergencies

Incidents and near misses may occur with potential or actual environmental harm. Incidents resulting from normal operations are likely to include:

- Spills or leaks of hazardous substances (oils, fuels, chemicals)
- Release of contaminated stormwater from the site

Environmental control measures are established to minimise the risk of environmental harm occurring.

The site's Pollution Incident Response Management Plan (PIRMP) is a regulatory requirement which includes the emergency response procedures to be implemented. The PIRMP is provided in Appendix N.

6.1 Emergency contacts

Details for organisations that may be contacted to respond to an environmental emergency are provided below in Table 6-1. These details are available to all site personnel on site signage and induction material.

Table 6-1 Emergency contact details

Agency	Contact
Police / Fire / Ambulance	000
Hospital	21 Union Street, Maclean 02 6640 0111
NSW Health	02 6588 2750 1300 555 555
NSW WorkCover	131 050
EPA	131 555
Kempsey Shire Council	02 6643 0200
WIRES Wildlife Rescue	1300 094 737

6.2 Incident investigation

All incidents are documented, investigations conducted and action plans established in order that the incident does not occur again. Where lessons are learnt from the investigation or current procedures are identified as being ineffective, the EMS will be revised to include the improved procedures or requirement.

An incident investigation includes the following basic elements:

- The cause, time and duration of the event
- Contact details for all personnel involved in the incident and subsequent response
- Action taken in relation to the event with respect to containment, notification, and residual effects

- Details of any measure taken or proposed to be taken to prevent a recurrence of such an event

All personnel are required to report all incidents, as it is regarded as a valuable method of addressing shortcomings in procedures, training or equipment, and is an opportunity for improvement.

6.3 Notification

The Quarry Manager will immediately (within 24 hours) notify DPE and any other relevant agency of any incident. Within 7 days of the incident, a detailed report is to be submitted to the DPE and any other relevant agency.

The Quarry Manager will immediately notify the EPA of pollution incidents on or around the site which have occurred in the course of activities in the following circumstances:

- If the actual or potential harm to the health or safety of human beings or ecosystems is not trivial
- If actual or potential loss or property damage (including clean-up costs) associated with a pollution incident exceeds \$10,000

Written details of the notification are to be submitted to the EPA within 7 days of the date on which the incident occurred.

7. Communication

7.1 Internal communication

Clear lines of communication throughout all levels and functions (e.g. management, staff and sub-contractors), is key to minimising environmental impacts and achieving continual improvements in environmental performance. Weekly meetings or toolbox talks will be scheduled with the staff. The purpose of these meetings will be to communicate ongoing environmental performance, to advise on any upcoming sensitive environmental matters for future work areas and to receive feedback from on-site personnel.

7.2 Agency communication

The Quarry Manager will be the main point of contact with regulatory agencies regarding environment and community issues. The Quarry Manager will be responsible for reporting on the ongoing environmental performance of the project to regulatory agencies such as EPA, DRE, DP&E and Council.

7.3 Complaints

A telephone complaint line is established to receive complaints from members of the public in relation to activities conducted at the quarry. The complaints line is publically available advertised on signage at the site entry and the Newman Quarrying website.

A legible record of all complaints in relation to pollution arising from any activity must include:

- The date and time of the complaint
- The method by which the complaint was made
- Any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect
- The nature of the complaint
- The action taken in relation to the complaint, including any follow-up contact with the complainant
- If no action was taken, the reason why no action was taken

The record must be kept for at least 4 years after the complaint was made and be made available to any EPA authorised officer if requested.

8. Inspections, monitoring and auditing

8.1 Environmental inspections

8.1.1 Weekly and post-rainfall inspections

The Quarry Manager will undertake weekly and post-rainfall (after 10 mm of rainfall or where runoff has been generated) inspections of work sites to evaluate the effectiveness of environmental controls and specify required corrective actions. The Quarry Manager will record inspection findings on an inspection checklist form. If any maintenance and/or deficiencies in environmental controls or in the standard of environmental performance are observed, they will be recorded on the checklist form. Records will also include details of any maintenance required, the nature of the deficiency, any actions required and an implementation priority.

8.2 Environmental monitoring

Monitoring will be undertaken to validate the impacts predicted for the Project, to measure the effectiveness of environmental controls and implementation of this EMS, and to address approval requirements. Physical environmental monitoring procedures are detailed in the relevant EMS sub-plans, with a summary of the monitoring requirements detailed in Table 8-1.

Table 8-1 Monitoring schedule

Sub plan	Monitoring	Frequency
Soil and Water Management Plan	<ul style="list-style-type: none"> Weather Rainfall Erosion and sediment Baseline monitoring Basin monitoring Spill kit Groundwater 	<ul style="list-style-type: none"> Daily Daily Weekly and following rain Following rain During discharging Monthly and following use Quarterly
Biodiversity and Rehabilitation Plan	<ul style="list-style-type: none"> Routine monitoring Clearing monitoring Rehabilitation monitoring 	<ul style="list-style-type: none"> Weekly During and post clearing Quarterly
Noise Management Plan	<ul style="list-style-type: none"> Routine monitoring Noise compliance monitoring 	<ul style="list-style-type: none"> Weekly Quarterly, following a complaint or change in operating conditions
Blast Management Plan	<ul style="list-style-type: none"> Blast monitoring 	<ul style="list-style-type: none"> Every blast, following a complaint or change in operating conditions
Air Management Plan	<ul style="list-style-type: none"> Routine monitoring Dust monitoring 	<ul style="list-style-type: none"> Weekly Monthly

Sub plan	Monitoring	Frequency
Traffic Management Plan	<ul style="list-style-type: none"> Routine monitoring 	<ul style="list-style-type: none"> Weekly
Bushfire Management Plan	<ul style="list-style-type: none"> Asset Protection Zones Access trails 	<ul style="list-style-type: none"> Annually Prior to bushfire season
Waste Management Plan	<ul style="list-style-type: none"> Routine monitoring 	<ul style="list-style-type: none"> Weekly

The Quarry Manager will be advised of any non-conformances from monitoring and details will be documented. Where a non-conformance is detected or monitoring results are outside of the expected range and are directly attributable to the Project (i.e. are influenced by factors under the direct control of the Project e.g. noise from construction equipment), the process described in Section 8.4 will be implemented. Steps in the process will typically include:

- An analysis of the results in more detail to identify possible causes for the non-conformance
- A site inspection
- Notifying relevant personnel of the issue
- Identifying and agreeing on actions to resolve or mitigate the non-conformance
- Implementing actions to rectify or mitigate the non-conformance

The timing for any improvement will be agreed between the relevant parties (i.e., Quarry Manager, resident, authorities) based on the level of risk (e.g. a significant risk will require immediate action).

8.3 Environmental auditing

Site auditing is the best way to measure environmental performance, review operating effectiveness of environmental protection measures and the best way to achieve satisfactory environmental outcomes through continual improvement.

8.3.1 Internal audit

Internal auditing will be undertaken by the Quarry Manager (or delegate), generally within the first six months of operation and then on a twelve monthly basis. The frequency of the internal audit could be relaxed, if no issues are identified in the first few audits. The purpose of such auditing will be to verify compliance with:

- This EMS and Sub-Plans
- Approval requirements
- Any relevant legal and other requirements (e.g. EPL, permits, regulations, contract documentation)

8.3.2 External audit

In accordance with the development consent, an independent environmental audit will be undertaken within a year of the consent approval and every 3 years thereafter. The audit must:

- Be conducted by a suitable qualified, experienced and independent team of experts who have been endorsed by the Secretary
- Include consultation with relevant agencies

- Assess the environmental performance of the quarry expansion and whether or not it is complying with:
 - The Conditions of Consent
 - The EPL or necessary water licences
- Review the adequacy of required strategies, plans or programs
- Recommend appropriate measures or actions to improve the environmental performance of the quarry

8.4 Non-conformances, corrective and preventative actions

A non-conformance is the failure or refusal to comply with regulatory requirements or the requirements of this EMS and supporting documentation.

For each non-conformance identified a corrective/preventative action (or actions) must be implemented. In addition, any environmental management improvement opportunities can be initiated as a result of incidents or emergencies, monitoring and measurement, audit findings or other reviews. Improvement opportunities may also result in the implementation of corrective/preventative actions.

Corrective/preventative actions and improvement opportunities will be recorded in weekly environmental inspection reports and include detail of the issue, action required and timing and responsibilities. Weekly reports will be updated with date of close out and any necessary notes.

8.5 Reporting and records

Environmental reporting requirements for site operations are primarily derived from the development consent and applicable licenses or permits. For all reporting required, the Quarry Manager is responsible for managing the preparation and submission of the report.

Table 8-2 Environmental reporting

Type	Frequency	Recipient
Annual Return	Annually	EPA
Annual Review	Annually	DPE
Notification of pollution incident where material harm to the environment is caused or threatened	Immediately upon becoming aware of an incident	EPA and DPE
Full written report of a pollution incident with potential or actual offsite impacts	Within 7 days of the pollution incident	EPA and DPE

The content of the Annual Return is as specified in the EPL.

The Annual Review will include:

- A description of the activities undertaken in the previous year and the proposed activities for the next 12 months
- A comprehensive review of the monitoring results and complaints
- Identification of any non-compliance
- Identification of any trends in the monitoring data

- Identification and assessment of any discrepancies between the predicted and actual impacts
- A description of measure to be implemented over the next year to improve environmental performance

Reporting requirements in relation to incidents are outlined in Section 6.

8.5.1 Records

Environmental records are maintained that demonstrate compliance with the EMS in a dedicated filing system / digital location. Records to maintain include:

- This EMS and associated sub-plans
- All licenses and permits detailed in Section 3.3
- Induction and training register
- Environmental inspection and monitoring reports / results
- Incident reports and register
- Complaints register
- Waste transfer receipts and waste movement register
- All regulatory correspondence

All records required by the EMS are:

- Maintained in a legible form
- Kept for at least 4 years
- Produced to any authorised officer of the EPA upon request

9. Review and improvement

9.1 EMS Review

The Quarry Manager will review the EMS and its operation and implementation at least every twelve months. The purpose of the review is to ensure that the system is meeting the requirements of the standards, policies and objectives. Between the scheduled reviews, a register of issues will be maintained to ensure that any issue raised by internal and external personnel associated with the quarry is recorded.

The review will consider (where available or applicable):

- Changes to the operation
- Site personnel comments
- Agency comments
- Audit findings
- Environmental monitoring records
- Complaints
- Details of corrective and preventative actions taken
- Environmental non-conformances, environmental inspection notices, inspection reports, and non-conformance reports
- Incident reports
- Changes in organisation structures and responsibilities
- The extent of compliance with objectives and targets
- The effect of changes in standards and legislation
- Co-ordination of environmental management of sub-contractors

9.2 EMS Updates

The outcomes of the above reviews may include amendments to this EMS and supporting documentation, updates to the Project aspects and impacts register, re-evaluation of the Project objectives and targets, or reallocation of Project resources. If any amendments are considered necessary, these need to be approved by DPE.

Any amendments made to Project systems or processes will be communicated to relevant personnel as required following completion of the review.

Appendices

Appendix A – Environmental Policy

NEWMAN QUARRYING PTY LTD
ABN 32 067 605 323
Po Box 70, Woodburn NSW 2472
PH 0266822667 Fax 0266822417
Email newmanquarrying@gmail.com

NEWMAN QUARRYING PTY LTD ENVIRONMENTAL POLICY

Newman Quarrying Pty Ltd's Environmental Policy aims to embrace the principle of sustainable development through implementation of the following commitments:

- Conducting quarry operations to minimise environmental risk and, wherever practicable, eliminate adverse environmental impacts.
- Continual improvement of Newman Quarrying Pty Ltd's environmental performance including regular review and the setting of rigorous environmental objectives and quantified targets – particularly with regards to:
 - efficient use of energy (including appropriate use of alternative fuels);
 - conservation of water;
 - minimisation and recycling of wastes;
 - prevention of pollution;
 - effective use of virgin and recovered resources and supplemental materials.
- Open, constructive engagement with communities surrounding Newman Quarrying Pty Ltd's operations.
- Reducing the greenhouse gas emissions from operations and facilities.
- Protecting and, where possible, enhancing biodiversity values at and around Newman Quarrying Pty Ltd's facilities.
- Complying with environmental legislation, regulations, standards and codes of practice as the absolute minimum requirement.

Mark Newman
Director

Appendix B – Development Consent SSD 6624

Development Consent

Section 89E of the *Environmental Planning and Assessment Act 1979*

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

These conditions are required to:

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



Oliver Holm
Executive Director
Resource Assessments and Compliance

Sydney

5 / 5 /

2016

SCHEDULE 1

Application Number

SSD 6624

Applicant

Newman Quarrying Pty Ltd

Consent Authority

Minister for Planning

Land

Lot 2 DP 1055044

Development

Sly's Quarry Expansion Project

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DEFINITIONS

Aboriginal item or object	Any item or object that provides evidence of the use of an area by Aboriginal people, as defined under the <i>National Parks and Wildlife Act 1974</i>
AHD	Australian Height Datum
Annual Review	The review required by condition 9 of Schedule 5
Applicant	Newman Quarrying Pty Ltd, or any other person/s who rely on this consent to carry out the development that is subject to this consent
BCA	Building Code of Australia
Biodiversity offset strategy	The conservation and enhancement strategy described in the EIS and depicted conceptually in Appendix 6
CCC	Community Consultative Committee
Conditions of consent	Conditions contained in Schedules 2 to 5 inclusive
Construction	The demolition of buildings or works, carrying out of works and erection of buildings covered by this consent
Council	Clarence Valley Council
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment
Development	The development as described in the documents listed in condition 2(a) of Schedule 2
DPI Water	Department of Primary Industries - Water
DRE	Division of Resources and Energy (within the Department of Industry)
EIS	Environmental Impact Statement titled <i>Proposed Quarry Expansion at Lot 2 DP1055044 Tullymorgan-Jackybulbin Road, Mororo</i> dated May 2015 and the Applicant's response to submissions documentation dated 13 October 2015, 16 October 2015, 20 November 2015, 14 December 2015, 22 December 2015 and 22 January 2016 and revised Biodiversity Assessment Report dated April 2016
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6pm to 10pm
Feasible	Feasible relates to engineering considerations and what is practical to build
GPS	Global Positioning System
Incident	A set of circumstances that: <ul style="list-style-type: none"> • causes or threatens to cause material harm to the environment; and/or • breaches or exceeds the limits or performance measures/criteria in this consent <i>NSW Industrial Noise Policy</i> (NSW EPA, 2000)
INP	
Laden trucks	Trucks transporting quarry products from the site and/or trucks transporting topsoil or mulch to the site
Land	As defined in the EP&A Act, except where the term is used in the noise and air quality conditions in Schedules 3 and 4 of this consent, where it is defined as 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 consent
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Minister	Minister for Planning, or delegate
Mitigation	Activities associated with reducing the impacts of the development
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency or the Applicant (or its subsidiary)
Public infrastructure	Linear and other infrastructure that provides services to the general public, such as roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc.
Quarrying operations	The extraction, processing, stockpiling and transportation of extractive materials carried out on the site and the associated removal of vegetation, topsoil and overburden
Quarry products	Includes all saleable quarry products, but excludes tailings and other wastes
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Rehabilitation	The restoration of land disturbed by the development to a good condition and for the purpose of establishing a safe, stable and non-polluting environment
RMS	Roads and Maritime Services
Secretary	Secretary of the Department, or nominee
Site	The land described in Schedule 1

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

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

TERMS OF CONSENT

2. The Applicant must carry out the development:
 - (a) generally in accordance with the EIS; and
 - (b) in accordance with the conditions of this consent and the Development Layout Plans.

Note: The Development Layout Plans are shown in Appendix 2.

3. If there is any inconsistency between the documents in condition 2(a), the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.
4. The Applicant must comply with any requirement/s of the Secretary arising from the Department's assessment of:
 - (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this consent (including any stages of these documents);
 - (b) any reviews, reports or audits undertaken or commissioned by the Department regarding compliance with this consent; and
 - (c) the implementation of any actions or measures contained in these documents.

LIMITS ON CONSENT

Quarrying Operations

5. The Applicant may carry out quarrying operations on the site until 31 May 2041.

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

6. The Applicant must not undertake quarrying operations below a level of 44 m AHD.
7. The Applicant must not extract more than 500,000 tonnes of quarry products from the site in any calendar year.

Quarry Product Transport

8. The Applicant must not:
 - (a) transport more than 500,000 tonnes of quarry products from the site during any calendar year;
 - (b) receive or dispatch more than 125 laden trucks from the site on any day; or
 - (c) receive more than 10,000 tonnes of topsoil and 5,000 m³ of mulch during any calendar year.
9. The delivery of topsoil and mulch permitted by condition 8 (c) above must be transported by backfilled quarry product trucks only.

SURRENDER OF EXISTING DEVELOPMENT CONSENTS

10. Within 12 months of the date of this consent, or as otherwise agreed by the Secretary, the Applicant must surrender all existing development consents for extractive industry for the site in accordance with the EP&A Regulation.

Note: This requirement does not extend to the surrender of construction and occupation certificates for existing and proposed building works under Part 4A of the EP&A Act. Surrendering of consent should not be understood as implying that works legally constructed under a valid consent can no longer be legally maintained or used.

11. Prior to the surrender of existing development consents, the conditions of this consent shall prevail to the extent of any inconsistency with the conditions of these consents.

STRUCTURAL ADEQUACY

12. The Applicant must 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 Applicant is required to obtain construction and occupation certificates for the proposed building works; and
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the development or project.

DEMOLITION

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

PROTECTION OF PUBLIC INFRASTRUCTURE

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

Note: This condition does not apply to damage to roads caused as a result of general road usage or otherwise addressed by contributions required by condition 19 of this consent.

OPERATION OF PLANT AND EQUIPMENT

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

PRODUCTION DATA

16. The Applicant must:
- (a) provide annual quarry production data to DRE using the standard form for that purpose; and
 - (b) include a copy of this data in the Annual Review (see condition 9 of Schedule 5).

IDENTIFICATION OF APPROVED EXTRACTION LIMITS

17. By 30 November 2016, unless otherwise agreed with the Secretary, the Applicant must:
- (a) engage a registered surveyor to mark out the boundaries of the approved limits of extraction within the development area; and
 - (b) submit a survey plan of these boundaries with applicable GPS coordinates to the Secretary.
18. While quarrying operations are being carried out, the Applicant must ensure that these boundaries are clearly marked at all times in a manner that allows operating staff to clearly identify the approved limits of extraction.

CONTRIBUTIONS TO COUNCIL

19. The Applicant must pay to Council an annual financial contribution toward the maintenance of Tullymorgan-Jackybulbin Road. The contribution must be determined in accordance with the *Maclean Shire Council S.94 Contribution Plan for Maintenance of Quarry Roads*, November 1994, or any subsequent relevant contributions plan adopted by Council. The contribution must be paid to Council within one month of the date of this consent each year and reported in the Annual Review required in condition 9 of Schedule 5.

SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

NOISE

Hours of Operation

- The Applicant must comply with the operating hours set out in Table 1.

Table 1: Operating Hours

Activity	Permissible Hours
Employee arrival	<ul style="list-style-type: none"> From 6:30 am Monday to Saturday inclusive From 7:30 am Sundays or public holidays if engaged in maintenance, site security or other similar activities
Quarrying operations including loading and dispatch of laden trucks	<ul style="list-style-type: none"> 7 am to 6 pm Monday to Friday 7 am to 1 pm Saturday 7 am to 4 pm Saturday if fulfilling a contract for the supply of quarry products to the Pacific Highway update project (SSD 4963)* At no time on Sundays or public holidays
Blasting	<ul style="list-style-type: none"> 9 am to 3 pm Monday to Friday (except public holidays)
Maintenance	<ul style="list-style-type: none"> May be conducted at any time, provided that these activities are not audible at any privately-owned residence

**Note: Evidence of contracts that cover those periods during which extended Saturday afternoon operating hours are undertaken must be reported in the Annual Review required by condition 9 of Schedule 5.*

- The following activities may be carried out on the site outside the hours specified in condition 1:
 - delivery or dispatch of materials as requested by Police or other authorities; and
 - emergency work to avoid the loss of lives, property and/or to prevent environmental harm.

In such circumstances, the Applicant must notify the Secretary and affected residents prior to undertaking the activities, or as soon as is practical thereafter.

Noise Impact Assessment Criteria

- The Applicant must ensure that the noise generated by the development does not exceed the criteria in Table 2 at any residence on privately-owned land.

Table 2: Noise criteria dB(A)

Receiver	Day <i>L_{Aeq} (15 minute)</i>	Evening <i>L_{Aeq} (15 minute)</i>	Night <i>L_{Aeq} (15 minute)</i>
All privately-owned residences	35	35	35

Noise generated by the development is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the *NSW Industrial Noise Policy*. Appendix 4 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

However, the noise criteria in Table 2 do not apply if the Applicant has an agreement with the relevant landowner to exceed the noise criteria, and the Applicant has advised the Department in writing of the terms of this agreement.

Operating Conditions

- The Applicant must:
 - implement best practice management to minimise the operational and road transportation noise of the development;
 - minimise the noise impacts of the development during meteorological conditions when the noise criteria in this consent do not apply (see Appendix 4);
 - carry out noise monitoring (at least every 3 months or as otherwise agreed with the Secretary) to determine whether the development is complying with the relevant conditions of this consent; and
 - regularly assess noise monitoring data and modify and/or stop operations on site to ensure compliance with the relevant conditions of this consent, to the satisfaction of the Secretary.

Note: Required frequency of noise monitoring may be reduced if approved by the Secretary.

Noise Management Plan

5. The Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with the EPA;
 - be submitted to the Secretary within 6 months of the date of this consent, unless otherwise agreed by the Secretary;
 - describe the measures that would be implemented to ensure:
 - compliance with the noise criteria in this consent;
 - best practice management is being employed; and
 - the noise impacts of the development are minimised during meteorological conditions under which the noise criteria in this consent do not apply (see Appendix 4);
 - describe the proposed noise management system; and
 - include a monitoring program to be implemented to measure noise from the development against the noise criteria in Table 2 and the road noise criteria in the EIS, and which evaluates and reports on the effectiveness of the noise management system on site.
6. The Applicant must implement the approved Noise Management Plan as approved from time to time by the Secretary.

BLASTING

Blasting Impact Assessment Criteria

7. The Applicant must ensure that blasting on site does not cause any exceedance of the criteria in Table 3.

Table 3: Blasting Criteria

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

However, these criteria do not apply if the Applicant has a written agreement with the relevant owner to exceed the limits in Table 3, and the Applicant has advised the Department in writing of the terms of this agreement.

Blasting Frequency

8. The Applicant may carry out a maximum of 2 blasts per calendar month, unless an additional blast is required following a blast misfire. This condition does not apply to blasts required to ensure the safety of the quarry or workers on site.

Note: For the purposes of this condition, a blast refers to a single blast event, which may involve a number of individual blasts fired in quick succession in a discrete area of the quarry.

Operating Conditions

9. During blasting operations, the Applicant must:
- implement best practice management to:
 - protect the safety of people and livestock in the areas surrounding blasting operations;
 - protect public or private infrastructure/property in the surrounding area from damage from blasting operations and
 - minimise the dust and fume emissions of blasting;
 - operate a suitable system to enable the local community to get up-to-date information on the proposed blasting schedule on site; and
 - carry out regular monitoring to determine whether the development is complying with the relevant conditions of this consent, to the satisfaction of the Secretary.

Blast Management Plan

10. The Applicant must prepare a Blast Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be submitted to the Secretary for approval within 6 months of the date of this consent, unless otherwise agreed by the Secretary;

- (b) describe the measures that would be implemented to ensure compliance with the blast criteria and operating conditions of this consent;
 - (c) include measures to manage flyrock;
 - (d) include a monitoring program for evaluating and reporting on compliance with the blasting criteria in this consent;
 - (e) include community notification procedures for the blasting schedule, in particular to nearby residences; and
 - (f) include a protocol for investigating and responding to complaints.
11. The Applicant must implement the approved Blast Management Plan as approved from time to time by the Secretary.

AIR QUALITY

Air Quality Impact Assessment Criteria

12. The Applicant must ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the development do not cause exceedances of the criteria in Table 4 at any residence on privately-owned land.

Table 4: Air quality criteria

Pollutant	Averaging Period	Criterion
Particulate matter < 10 µm (PM ₁₀)	Annual	a,d 30 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	24 hour	b 50 µg/m ³
Total suspended particulates (TSP)	Annual	a,d 90 µg/m ³
^c Deposited dust	Annual	b 2 g/m ² /month a,d 4 g/m ² /month

Notes to Table 4:

a Cumulative impact (ie increase in concentrations due to the development plus background concentrations due to all other sources).

b Incremental impact (ie increase in concentrations due to the development alone, with zero allowable exceedances of the criteria over the life of the development).

c Deposited dust is to be assessed as insoluble solids as defined by Standards Australia, AS/NZS 3580.10.1:2003: Methods for Sampling and Analysis of Ambient Air - Determination of Particulate Matter - Deposited Matter - Gravimetric Method.

d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents or any other activity agreed by the Secretary.

e "Reasonable and feasible avoidance measures" includes, but is not limited to, the operational requirements in conditions 13, 14 and 15 to develop and implement an air quality management system that ensures operational responses to the risks of exceedance of the criteria.

Operating Conditions

13. The Applicant must:
- (a) implement best practice management to minimise the dust emissions of the development;
 - (b) regularly assess meteorological and air quality monitoring data and relocate, modify and/or stop operations on site to ensure compliance with the air quality criteria in this consent;
 - (c) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note d under Table 4);
 - (d) monitor and report on compliance with the relevant air quality conditions in this consent; and
 - (e) minimise the area of surface disturbance and undertake progressive rehabilitation of the site, to the satisfaction of the Secretary.

Air Quality Management Plan

14. The Applicant must prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be submitted to the Secretary for approval within 6 months of the date of this consent, unless otherwise agree by the Secretary;
 - (b) describe the measures that would be implemented to ensure:
 - compliance with the relevant conditions of this consent;
 - best practice management is being employed; and
 - the air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events;

- (c) describe the proposed air quality management system;
 - (d) include an air quality monitoring program that:
 - is capable of evaluating the performance of the development;
 - includes a protocol for determining any exceedances of the relevant conditions of consent;
 - effectively supports the air quality management system; and
 - evaluates and reports on the adequacy of the air quality management system.
15. The Applicant must implement the approved Air Quality Management Plan as approved from time to time by the Secretary.

Meteorological Monitoring

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

Greenhouse Gas Emissions

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

SOIL AND WATER

Water Supply

18. The Applicant must ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of operations under the consent to match its available water supply, to the satisfaction of the Secretary.

Water Discharges

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

Soil and Water Management Plan

20. The Applicant must prepare a Soil and Water Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared by suitably qualified and experienced person/s approved by the Secretary;
 - (b) be prepared in consultation with the EPA and DPI Water;
 - (c) be submitted to the Secretary for approval within 6 months of the date of this consent, unless otherwise agreed by the Secretary; and
 - (d) include the EPA's requirements as set out in Appendix 5;
 - (e) include a:
 - (i) Site Water Balance that includes:
 - details of:
 - sources and security of water supply;
 - water use and management on site;
 - any off-site water transfers; and
 - reporting procedures; and
 - measures that would be implemented to minimise clean water use on site;
 - (ii) Surface Water Management Plan, that includes:
 - a program for obtaining detailed baseline data on surface water flows and quality in water bodies that could potentially be affected by the development;
 - a detailed description of the surface water management system on site including the:
 - clean water diversion system;
 - erosion and sediment controls;
 - dirty water management system;
 - water storages; and
 - mitigation measures outlined in the EIS; and
 - a program to monitor and report on:
 - any surface water discharges;
 - the effectiveness of the water management system,
 - the quality of water discharged from the site to the environment;
 - surface water flows and quality in local watercourses;
 - (iii) Groundwater Management Plan that includes:

- a provision that requires the Applicant to obtain appropriate water licence(s) to cover the volume of any unforeseen groundwater inflows into the quarry from the quarry face or floor; and
- a monitoring program to manage potential impacts, if any, on the alluvium and associated surface water source near the proposed extraction area that includes:
 - a minimum of three monitoring bores with automatic water level recording instrumentation or other method agreed with DPI-Water;
 - identification of a methodology for determining threshold water level criteria;
 - contingency measures in the event of a breach of thresholds; and
 - a program to regularly report on monitoring.

21. The Applicant must implement the approved Soil and Water Management Plan as approved from time to time by the Secretary.

TRANSPORT

Monitoring of Product Transport

22. The Applicant must keep accurate records of all laden truck movements to and from the site (including time of arrival and dispatch) and publish a summary of records on its website every 6 months.

Operating Conditions

23. The Applicant must:

- (a) ensure that all laden trucks entering or exiting the site have their loads covered, with the exception of loads consisting solely of boulders greater than one tonne in weight;
- (b) ensure that all laden trucks exiting the site are cleaned of material that may fall on the road, before leaving the site;
- (c) use its best endeavours to ensure that appropriate signage is displayed on all trucks used to transport product from the development so they can be easily identified by road users; and
- (d) if necessary, allow for the parking of early-arriving trucks (ie. between 6:30 am and 7 am) within the site to avoid queuing on Tullymorgan-Jackybulbin Road.

Traffic Management Plan

24. The Applicant must prepare a Traffic Management Plan for the development to the satisfaction of the Secretary. This plan must:

- (a) be prepared in consultation with the RMS and Council;
- (b) be submitted to the Secretary for approval within 6 months of the date of this consent, unless otherwise agreed by the Secretary;
- (c) describe the processes in place for the control of truck movements entering and exiting the site;
- (d) include a review of the existing intersection at the entrance to the quarry on Tullymorgan-Jackybulbin Road, which involves:
 - (i) undertaking a survey of the dimensions of the existing intersection to assess whether it meets the minimum road design dimensions for a BAR/BAL treatment in accordance with the relevant road design guideline and/or standard; and
 - (ii) if found to not meet these dimensions, propose a works program for the upgrade of the intersection to meet the relevant road design guideline and/or standard and a timeframe for completion of the works;
- (e) include a Drivers' Code of Conduct that details the safe and quiet driving practices that must be used by drivers transporting products to and from the quarry, with a particular focus on:
 - (i) ensuring truck drivers are aware of the school bus stop and turning area adjacent to the intersection of Tullymorgan-Jackybulbin Road and the Pacific Highway, its likely hours of use and take appropriate measures to avoid interacting with school buses and school pupils; and
 - (ii) minimising the potential for fauna strike on Tullymorgan-Jackybulbin Road; and
- (f) describe the measures that would be put in place to ensure compliance with the Drivers' Code of Conduct;
- (g) propose measures to minimise the transmission of dust and tracking of material onto the surface of the public road from vehicles leaving the quarry; and
- (h) propose measures to accommodate the parking of early-arriving trucks within the site, rather than on the public road network.

25. The Applicant must implement the approved Traffic Management Plan as approved from time to time by the Secretary.

ABORIGINAL HERITAGE

26. If any item or object of Aboriginal heritage significance is identified on site, the Applicant must ensure that:
- all work in the immediate vicinity of the suspected Aboriginal item or object ceases immediately;
 - a 10 m buffer area around the suspected item or object is cordoned off; and
 - the OEH is contacted immediately.

Work in the vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the *National Parks and Wildlife Act 1974*.

BIODIVERSITY AND REHABILITATION

Biodiversity Offset Strategy

27. The Applicant must assess in detail the biodiversity values of its proposed Biodiversity Offset Strategy (described in the EIS and shown conceptually in Appendix 6) using the *BioBanking Assessment Methodology* (OEH, 2014) and must retire ecosystem and species credits as set out in Table 5, to the satisfaction of the Secretary.

Table 5: Biodiversity credits to be retired

Credit type	Number of Credits
Ecosystem Credits	
NR 115 Blackbutt-bloodwood dry heathy open forest	567
NR123 Blackbutt-Turpentine dry heathy open forest	327
Species Credits	
Bordered Guinea Flower (<i>Hibbertia marginata</i>)	15,820
Koala (<i>Phascolarctos cinerus</i>)	317
Common planigale (<i>Planigale maculata</i>)	317
Squirrel glider (<i>Petaurus norfolcensis</i>)	268
Brush-tailed phascogale (<i>Phascogale tapoatafa</i>)	244

Security of Offsets

28. Within 18 months of this consent, unless otherwise agreed with the Secretary, the Applicant must make suitable arrangements to provide appropriate long-term security for the Biodiversity Offset Strategy, to the satisfaction of the Secretary.

Note: Mechanisms to provide appropriate long-term security to the land within the Biodiversity Offset Strategy in accordance with the NSW Biodiversity Offset Policy for Major Projects 2014, include a Biobanking Agreement, Voluntary Conservation Agreement or an alternative mechanism that provides for a similar conservation outcome. Any mechanism must remain in force in perpetuity.

Rehabilitation Objectives

29. The Applicant must rehabilitate the site to the satisfaction of the Secretary. This rehabilitation must be generally consistent with the rehabilitation strategy in the EIS and the conceptual rehabilitation plan in Appendix 3 and must comply with the objectives in Table 6.

Table 6: Rehabilitation Objectives

Feature	Objective
Site (as a whole)	<ul style="list-style-type: none">Safe, stable and non-pollutingFinal landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land
Surface Infrastructure	<ul style="list-style-type: none">Decommissioned and removed, unless otherwise agreed by the Secretary

<i>Quarry benches and pit floor (Site A)</i>	<ul style="list-style-type: none"> • Landscaped and vegetated using native tree and understorey species
<i>Past sand mining sites (Sites B and C)</i>	<ul style="list-style-type: none"> • Returned to the pre-development ground level • Landscaped and revegetated using native tree and understorey species
<i>Final Void</i>	<ul style="list-style-type: none"> • Minimise the size, depth and slope of the batters of the final void • Minimise the drainage catchment of the final void

Progressive Rehabilitation

30. The Applicant must rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance. All reasonable and feasible measures must be taken to minimise the total area exposed for dust generation at any time. Interim stabilisation measures must be implemented where reasonable and feasible to control dust emissions in disturbed areas that are not active and which are not ready for final rehabilitation.

Note: It is accepted that parts of the site that are progressively rehabilitated may be subject to further disturbance in future.

Biodiversity and Rehabilitation Management Plan

31. The Applicant must prepare a Biodiversity and Rehabilitation Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared in consultation with OEH and Council;
 - be submitted to the Secretary for approval within 6 months of the date of this consent, unless the Secretary agrees otherwise;
 - be approved by the Secretary, prior to commencing quarrying operations in Stages 2 or 3 (refer Appendix 2), unless the Secretary agrees otherwise
 - provide details of the conceptual final landform and associated land uses for the site;
 - describe how the implementation of the Biodiversity Offset Strategy would be integrated with the overall rehabilitation of the site;
 - include detailed performance and completion criteria for evaluating the performance of the Biodiversity Offset Strategy and rehabilitation of the site, including triggers for any necessary remedial action;
 - describe the short, medium and long term measures that would be implemented to:
 - manage remnant vegetation and habitat on site, including within the Biodiversity Offset Strategy area; and
 - ensure compliance with the rehabilitation objectives and progressive rehabilitation obligations in this consent;
 - include a detailed description of the measures that would be implemented over the next 3 years (to be updated for each 3 year period following initial approval of the plan) including the procedures to be implemented for:
 - maximising the salvage of environmental resources within the approved disturbance area, including tree hollows, vegetative and soil resources, for beneficial reuse in the enhancement of the offset area or site rehabilitation;
 - restoring and enhancing the quality of native vegetation and fauna habitat in the biodiversity offset and rehabilitation areas through assisted natural regeneration, targeted vegetation establishment and the introduction of fauna habitat features;
 - protecting and conserving habitat for the Bordered Guinea Flower (*Hibbertia marginata*);
 - protecting vegetation and fauna habitat outside the approved disturbance area on-site;
 - minimising the impacts on native fauna, including undertaking pre-clearance surveys;
 - establishing vegetation screening to minimise the visual impacts of the site on surrounding receivers;
 - ensuring minimal environmental consequences for threatened species, populations and habitats;
 - avoiding and minimising the spread of Exotic Rust Fungi of the order Uredinales pathogenic on plants of the family Myrtaceae (Myrtle Rust), *Phytophthora cinnamomi* (Phytophthora) and Chytrid fungus;
 - collecting and propagating seed;
 - controlling weeds and feral pests;
 - controlling erosion;
 - ensuring no obstruction of legal public access along the Crown public road referred to as 'Slys Road' in accordance with public rights of access under the *Roads Act 1993*; and
 - controlling access to Slys Road, including managing public safety risks associated with rights of access over Slys Road by installing appropriate fencing and signage; and
 - managing bushfire risk;
 - include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria;

- (j) identify the potential risks to the successful implementation of the Biodiversity Offset Strategy, and include a description of the contingency measures that would be implemented to mitigate these risks; and
 - (k) include details of who would be responsible for monitoring, reviewing, and implementing the plan.
32. The Applicant must implement the approved Biodiversity and Rehabilitation Management Plan as approved from time to time by the Secretary.

Conservation and Rehabilitation Bond

33. Within 6 months of the approval of the Biodiversity and Rehabilitation Management Plan, the Applicant must lodge a Biodiversity and Rehabilitation Bond with the Department to ensure that the Biodiversity Offset Strategy and rehabilitation of the site are implemented in accordance with the performance and completion criteria set out in the plan and relevant conditions of this consent. The sum of the bond must be determined by:
- (a) calculating the cost of implementing the Biodiversity Offset Strategy over the next 3 years;
 - (b) calculating the cost of rehabilitating the site, taking into account the likely surface disturbance over the next 3 years of quarrying operations; and
 - (c) employing a suitably qualified quantity surveyor or other expert to verify the calculated costs, to the satisfaction of the Secretary.

Notes:

- *Alternative funding arrangements for long term management of the Biodiversity Offset Strategy, such as provision of capital and management funding as agreed by OEH as part of a Biobanking Agreement, or transfer to conservation reserve estate can be used to reduce the liability of the Conservation and Rehabilitation Bond.*
- *If capital and other expenditure required by the Biodiversity and Rehabilitation Management Plan is largely complete, the Secretary may waive the requirement for lodgement of a bond in respect of the remaining expenditure.*
- *If the Biodiversity Offset Strategy and/or rehabilitation of the site area are completed (or partially completed) to the satisfaction of the Secretary, then the Secretary will release the bond (or relevant part of the bond). If the Biodiversity Offset Strategy and rehabilitation of the site are not completed to the satisfaction of the Secretary, then the Secretary will call in all or part of the bond, and arrange for the completion of the relevant works.*

34. Within 3 months of each Independent Environmental Audit (see condition 10 of Schedule 5), the Applicant must review, and if necessary revise, the sum of the Conservation and Rehabilitation Bond to the satisfaction of the Secretary. This review must consider the:
- (a) effects of inflation;
 - (b) likely cost of implementing the Biodiversity Offset Strategy and rehabilitating the site (taking into account the likely surface disturbance over the next 3 years of the development); and
 - (c) performance of the implementation of the Biodiversity Offset Strategy and rehabilitation of the site to date.

VISUAL

35. The Applicant must implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development to the satisfaction of the Secretary, including those mitigation measures listed in the EIS.

WASTE

36. The Applicant must:
- (a) manage on-site sewage treatment and disposal in accordance with the requirements of its EPL, and to the satisfaction of the EPA and Council;
 - (b) minimise the waste generated by the development;
 - (c) ensure that the waste generated by the development is appropriately stored, handled, and disposed of; and
 - (d) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.
37. Except as expressly permitted in an EPL, the Applicant must not receive waste at the site for storage, treatment, processing, reprocessing or disposal.

LIQUID STORAGE

38. The Applicant must ensure that all tanks and similar storage facilities (other than for water) are protected by appropriate bunding or other containment, in accordance with the relevant Australian Standards.

DANGEROUS GOODS

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

BUSHFIRE

40. The Applicant must:
- (a) prepare a Bushfire Management Plan to the satisfaction of the RFS;
 - (b) ensure that the development is suitably equipped to respond to any fires on site; and
 - (c) assist the Rural Fire Service and emergency services as much as possible if there is a fire in the vicinity of the site.
41. The Applicant must implement the Bushfire Management Plan.

SCHEDULE 4 ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. As soon as practicable after obtaining monitoring results showing:
 - (a) an exceedance of any relevant criteria in Schedule 3, the Applicant must notify the affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the development is again complying with the relevant criteria; and
 - (b) an exceedance of any relevant air quality criteria in Schedule 3, the Applicant must send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and current tenants of the land (including the tenants of land which is not privately-owned).

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.

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

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. If the Secretary requires, the Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
 - (a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Applicant;
 - (b) be prepared in consultation with Council;
 - (c) provide the strategic framework for environmental management of the development;
 - (d) identify the statutory approvals that apply to the development;
 - (e) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
 - (f) 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.
2. The Applicant must implement any Environmental Management Strategy as approved from time to time by the Secretary.

Management Plan Requirements

3. 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.

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

Revision of Strategies, Plans & Programs

4. Within 3 months of the submission of an:
 - (a) Annual Review under condition 9 below;
 - (b) incident report under condition 7 below;
 - (c) audit report under condition 10 below; and
 - (d) any modifications to this consent,

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

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

Updating and Staging of Strategies, Plans or Programs

5. To ensure that strategies, plans or 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, the Applicant may at any time submit revised strategies, plans or programs for the approval of the Secretary. With the agreement of the Secretary, the Applicant may also submit any strategy, plan or program required by this consent on a staged basis.

With the agreement of the Secretary, the Applicant 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.

Notes:

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

Adaptive Management

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

Where any exceedance of these criteria and/or performance measures has occurred, the Applicant 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 Department describing those options and any preferred remediation measures or other course of action; and
 - (c) implement remediation measures as directed by the Secretary;
- to the satisfaction of the Secretary.

Community Consultative Committee

7. If directed by the Secretary, the Applicant must establish and operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. Any such CCC must 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).

Notes:

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

REPORTING

Incident Reporting

8. The Applicant must immediately notify the Secretary and any other relevant agencies of any incident. Within 7 days of the date of the incident, the Applicant must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Regular Reporting

9. The Applicant must provide regular reporting on the environmental performance of the development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

Annual Review

10. By the end of September 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 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 development 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; and
 - 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; and
 - (f) describe what measures will be implemented over the current financial year to improve the environmental performance of the development.

INDEPENDENT ENVIRONMENTAL AUDIT

11. Within a year of the date of this consent, and every 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 and (if established) the CCC;
 - (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; and
 - (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.

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

12. Within 6 weeks of completion of this audit, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary, Council, the EPA and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report.

ACCESS TO INFORMATION

13. Within 6 months of the date of this consent, the Applicant must:
 - (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; and
 - any other matter required by the Secretary; and
 - (b) keep this information up-to-date, to the satisfaction of the Secretary.

APPENDIX 1 DEVELOPMENT AREA



Figure 1: Location of existing (Site A) and previous extraction areas (Sites B and C)

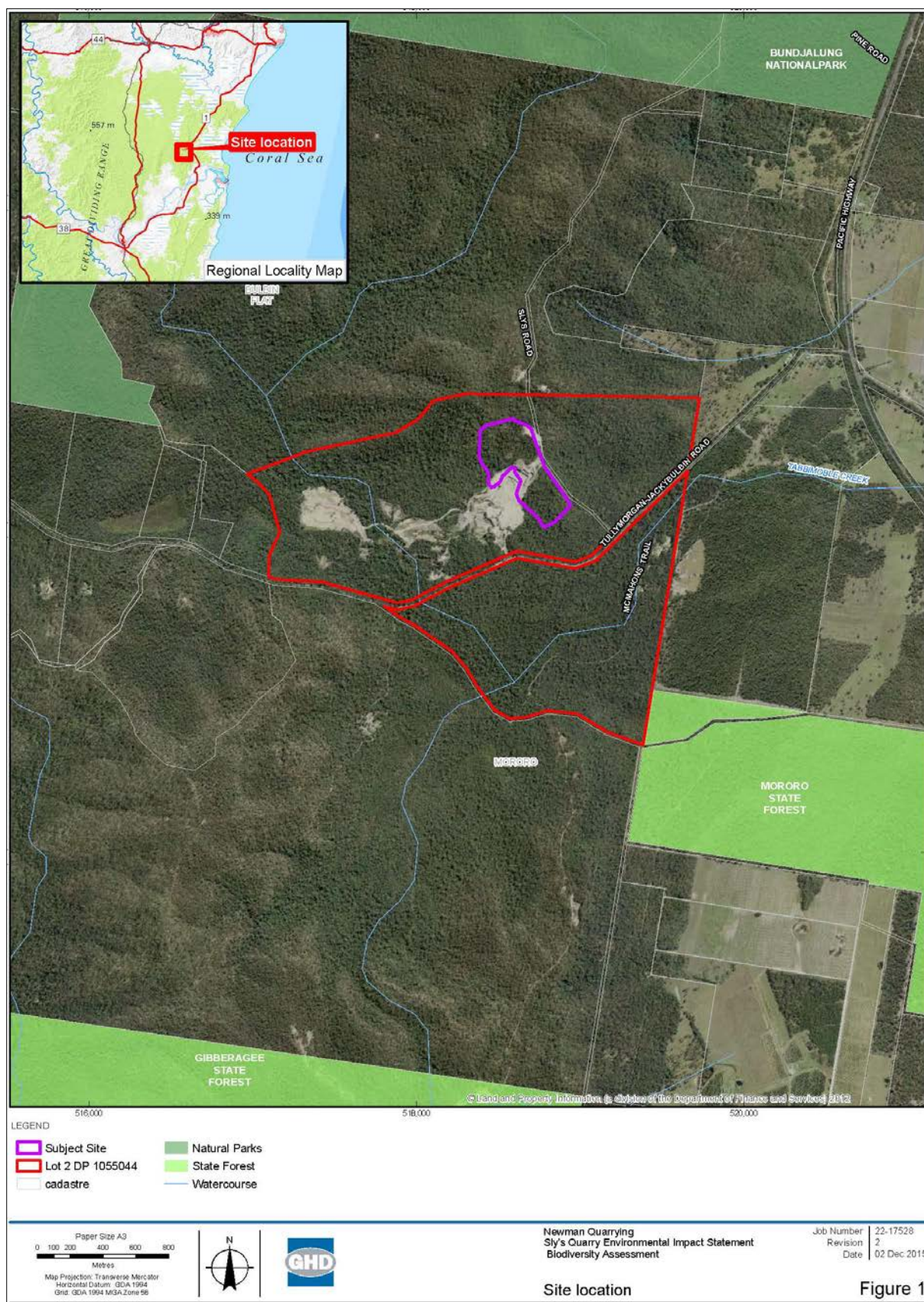


Figure 2: Outline of expanded quarry footprint (shown in purple edge and labelled "subject site")

APPENDIX 2 DEVELOPMENT LAYOUT

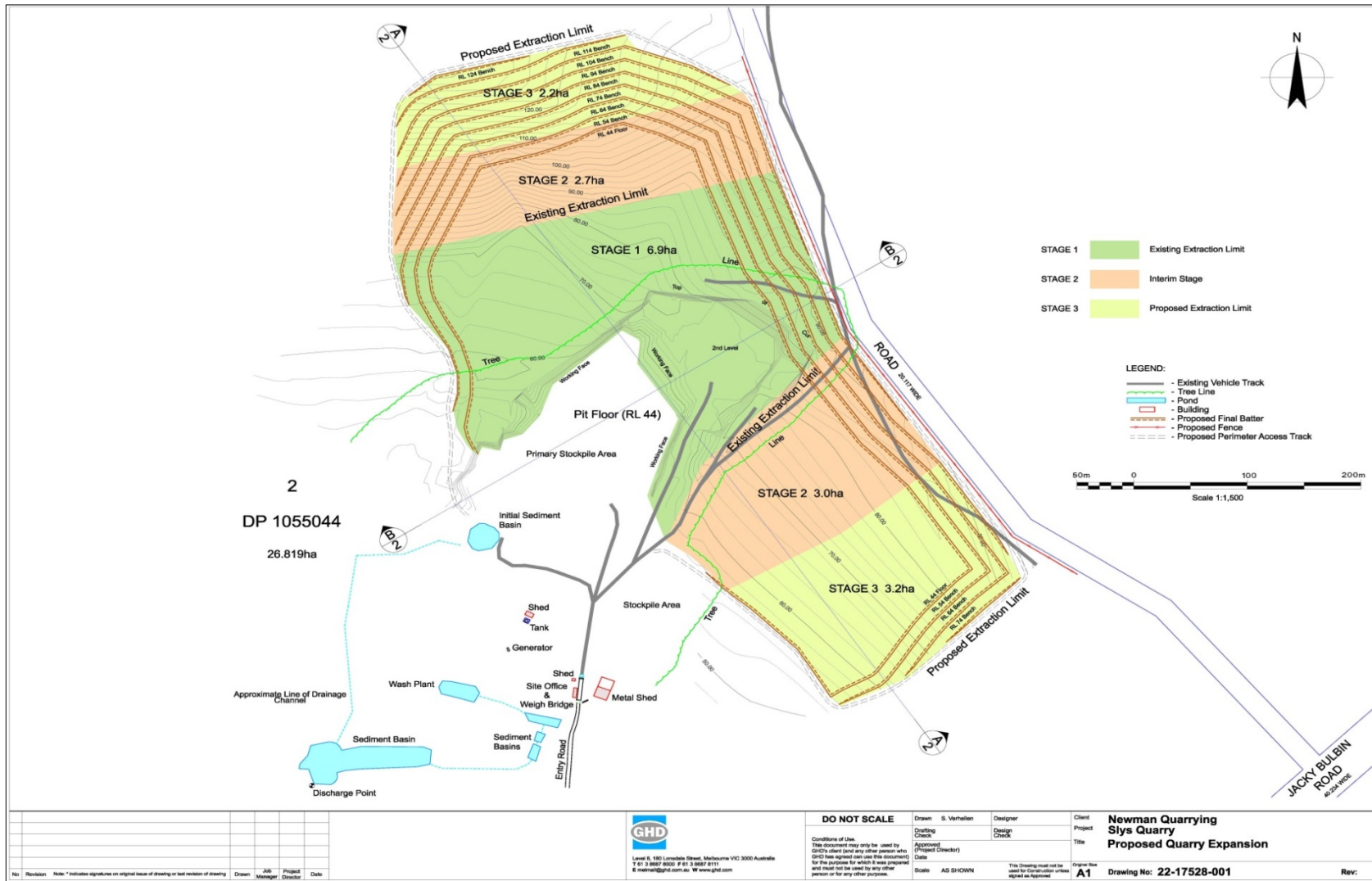
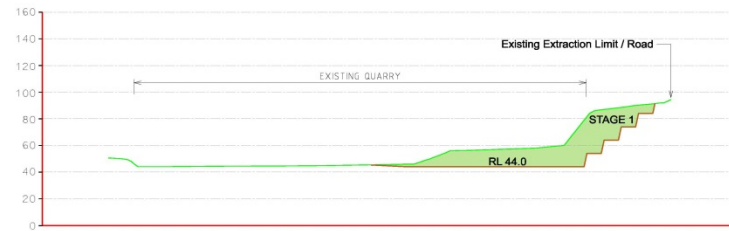
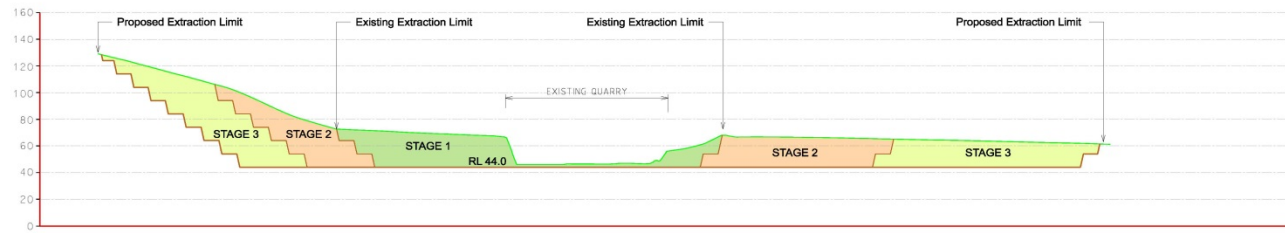


Figure 3: Stages of extraction



50m 0 100 200m
Horizontal & Vertical Scale 1:1,500

No	Revision	* Indicates signatures on original issue of drawing or last revision of drawing		Drawn	Job Manager	Project Director	Date				

Figure 01

PRECISION INDUSTRIES PTY LTD
NEWMANS QUARRY
REHABILITATION PLAN

Job Number 22-17528
 Revision A
 Date FEB. 2015

230 Harbour Drive Coffs Harbour NSW 2450 Australia T 61 2 6650 5600 F 61 2 6650 5601 E cfsmail@ghd.com W www.ghd.com

NSW Government
Department of Planning and Environment

APPENDIX 4 NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Table 2 are to apply under all meteorological conditions except the following:
 - a) wind speeds greater than 3 m/s at 10 m above ground level; or
 - b) temperature inversion conditions between 1.5°C and 3°C/100 m and wind speed greater than 2 m/s at 10 m above ground level; or
 - c) temperature inversion conditions greater than 3°C/100 m.

Determination of Meteorological Conditions

2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions must be that recorded by the meteorological station required under condition 16 of Schedule 3.

Compliance Monitoring

3. A noise compliance assessment must be undertaken within two months of commencement of the proposed increased extraction rate. The assessment must be conducted by a suitably qualified and experienced acoustical practitioner and must assess compliance with noise criteria presented above. A report must be provided to the EPA within 1 month of the assessment.
4. Unless the Secretary agrees otherwise, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the *NSW Industrial Noise Policy* (as amended from time to time), in particular the requirements relating to:
 - a) monitoring locations for the collection of representative noise data;
 - b) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment;
 - c) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration; and
 - d) the use of an appropriate modifying factor for low frequency noise to be applied during compliance testing at any individual residence if low frequency noise is present (in accordance with the INP) and before comparison with the specified noise levels in the consent.

APPENDIX 5
EPA'S REQUIREMENTS FOR THE SOIL AND WATER MANAGEMENT PLAN

1. The Soil and Water Management Plan required under condition 20 of Schedule 3 must:
 - a) describe stormwater management measures to control pollutants at the source and contain them within the site;
 - b) describe erosion and sediment control measures to minimise disturbance of land, minimise water flow through the site and filter, trap or detain sediment;
 - c) describe measures to maintain and monitor any stormwater controls;
 - d) describe methods of storage of topsoil and associated erosion and sediment control measures;
 - e) describe waste water treatment measures, including systems for the reuse and/or recycling of waste water and measures for treating the unavoidable discharges from the site to meet specific water quality requirements;
 - f) describe the size and location of sediment basins for each stage of the quarry development in accordance with the sizing requirements of the *Managing Urban Stormwater Soils and Construction: Volume 1 and 2E* guidelines based on a minimum standard of 90th percentile five-day rainfall event (75 mm); and
 - g) include a water balance to ensure the design of the volume of sediment basins required for stormwater capture and treatment is not compromised by water storage required for re-use purposes. Such dual purpose basins must be designed and managed to accommodate both stormwater management and water re-use objectives.

APPENDIX 6 BIODIVERSITY OFFSET STRATEGY

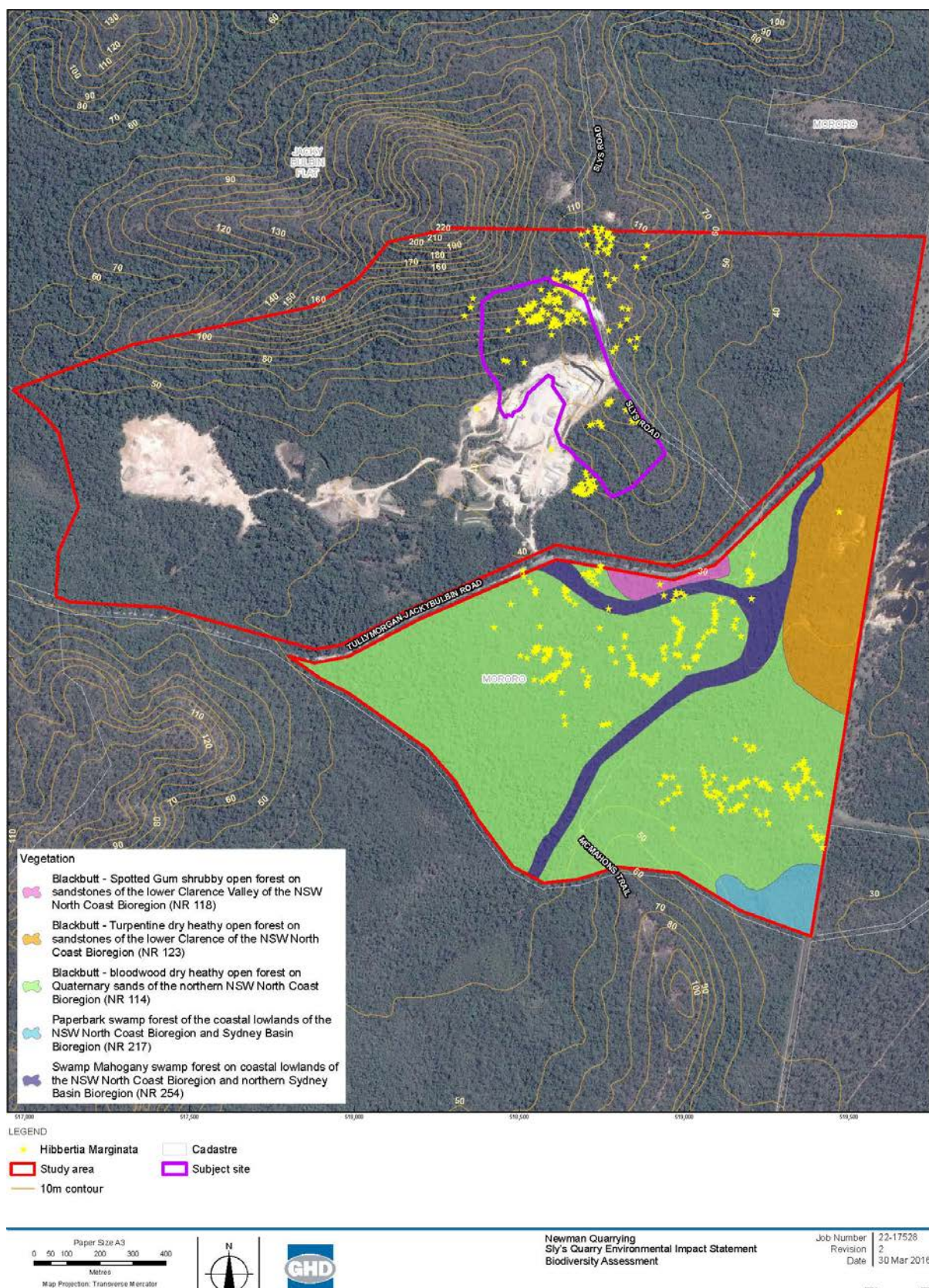
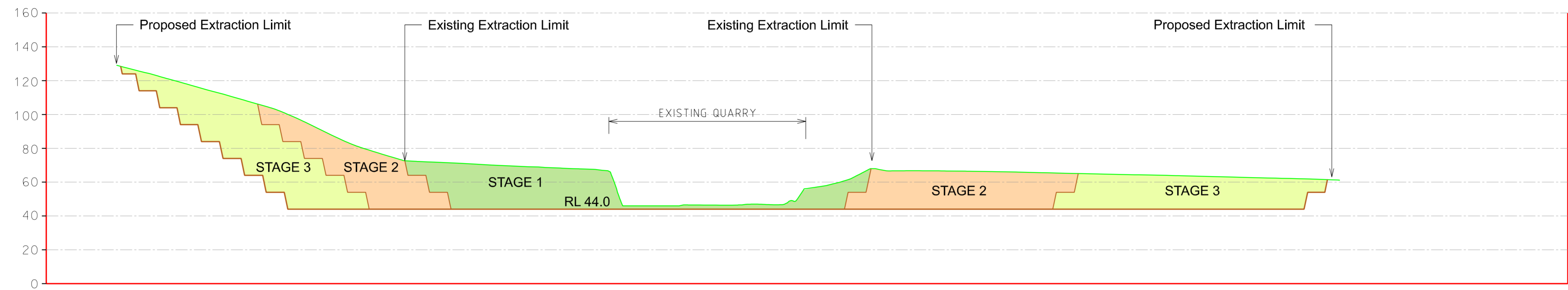


Figure 6: Location of Biodiversity Offset area (shown in red edge and labelled as "Study area")

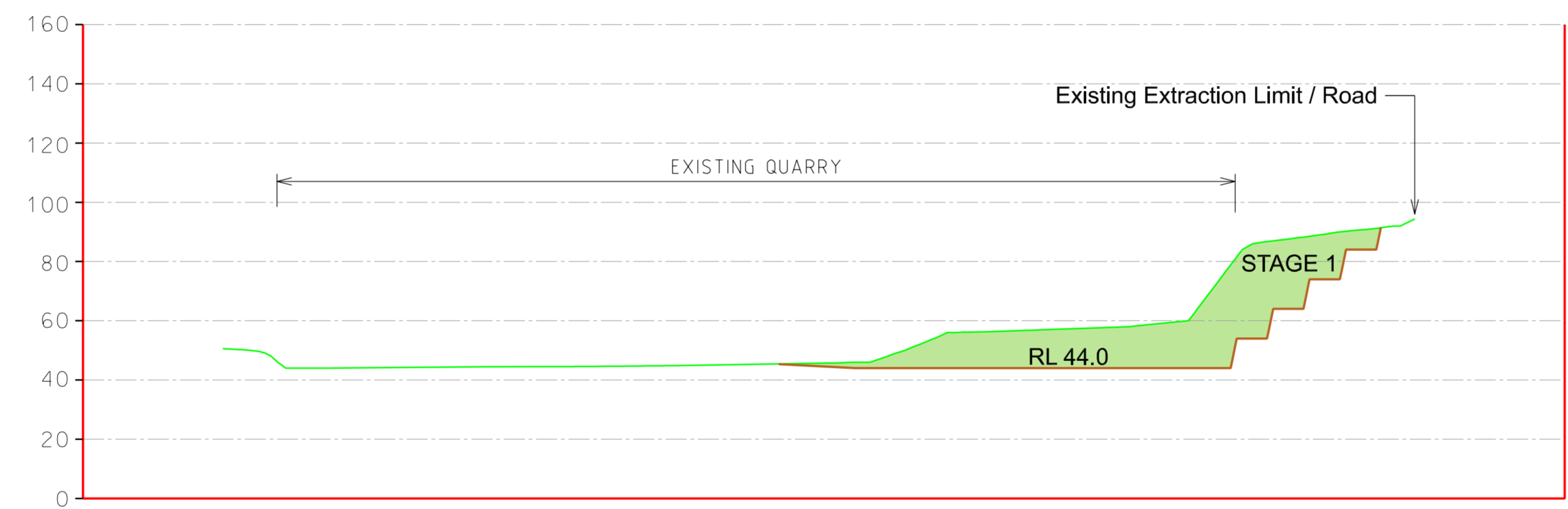
Appendix C – Site Plans



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SECTION A - A

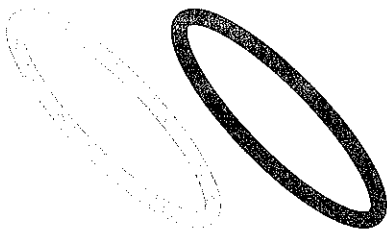


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Appendix D – Agency correspondence



16 November 2016

Ben Luffman
Senior Environmental Scientist/Planner
GHD
PO Box 1340
Coffs Harbour NSW 2450
Email: ben.luffman@dhd.com

RE: Consultation regarding Environmental Management Strategy, Biodiversity and Rehabilitation Management Plan & Traffic Management plan, as required under Sly's Quarry Expansion Project, approved under SSD6624, Lot 2 DP 1055044

Thank you for the opportunity to comment on the draft reports provided to Council 31 October & 14 November 2016. Council's comments are provided under the headings below.

Environmental Management Strategy

- It is noted that you have provided a copy of an Environmental Management Plan (EMP); it is assumed that this document is intended to be the Environmental Management Strategy (EMS) as described in Schedule 5 of the consent.
- Comments are provided to the Traffic Management Plan and Biodiversity and Rehabilitation Management Plan; Appendices F & J of the EMP.
- It is noted that Section 4.1.2 refers to a Fauna & Flora Management Plan in Appendix F, this should be amended to reference the Biodiversity and Rehabilitation Management Plan.

Biodiversity and Rehabilitation Management Plan

- Part 8.2 of the EMP refers to Environmental Monitoring Schedule for the Biodiversity and Rehabilitation Management Plan (BRMP), being weekly, during and post clearing and quarterly monitoring. It is considered that Quarterly monitoring will provide a useful benchmarking as to rehabilitation - no detail is provided in the BRMP in regard to how or what happens during quarterly monitoring.
- The plan talks generally conceptually like the EIS and needs to specify specific details. The essential document of concern to Council is the Rehabilitation Plan - Appendix B of the BRMP. The Draft Rehabilitation Plan does not meet the requirements of the consent, Schedule 3 - condition 31 in that:
 - There is no detail of conceptual land forms, existing or final desired outcome for the different sites.
 - It is not clear how it integrates with the Biodiversity Offset Strategy of the consent.

- The plan only refers to weed species with the potential to occur at each of the sites/zones. There is no mapping of weeds or existing vegetation at each site. This should be provided to benchmark the success of the rehabilitation from the onset and including stage 1 area.
- Identification, the location and extent of weed infestation would dictate the removal methods (cut paste, foliage spray, high pressure or back pack etc.) and anticipated stages and timeframe of weed removal and management on the different areas to be rehabilitated.
- When weeds are removed the cleared areas should be revegetated. If seeding is proposed the seeds could be sourced from native vegetation on the site.

Traffic Management Plan

- Condition 24 of Schedule 3 requires that the intersection at the entrance on Tullymorgan-Jackybulbin Road be surveyed and required the works to be scheduled. There is no schedule provided in the plan.
- It is noted that the plan is also to be prepared in consultation with the RMS; Council has previously provided comments regarding concerns intersection of Tullymorgan – Jackybulbin Road and the Pacific Highway.

Council thanks you for this opportunity to provide comment. If you require further information please contact Pat Ridgway Council's Environment Planning and Regulatory Services on 6643 0288.

Yours faithfully,



Pat Ridgway
Senior Development Planner