Environmental Management Plan

Glenroy Quarry
Lots 77, 199 and 200 DP756913, Pyramul

July 2018




Australian Resource Development Group Pty Ltd
ACN 611 489 804

Environmental Management Plan

Glenroy Quarry

Lots 77, 199 and 200 DP756913, Pyramul

Quality Assurance

This document has been prepared, checked and released by Australian Resource Development Group Pty Limited.

Issue	Date	Description	Prepared By
A	19 June 2018	Rev 2	JM/DB
FINAL	30 July 2018	Final	JM/DB

This document has been authorised by

Dr Justin Meleo

Date: 30 July 2018

Acknowledgments

This document has been prepared by Australian Resource Development Group Pty Limited with support from Umwelt (Australia) Pty Limited.

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Table of Contents

Australian Resource Development Group Pty Limited ACN 611 489 804

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List of Figures

Follows page

List of Tables

Page

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1 Introduction

1.1 Purpose

This Environmental Management Plan (EMP) has been prepared for Glenroy Quarry (the Quarry) to detail the environmental management controls to be implemented during the construction and operation of the Quarry. The environmental controls within this EMP have been drawn from the Statement of Environmental Effects for Glenroy Quarry (ARDG, 2018).

1.2 Background

Australian Resource Development Group Pty Limited (ARDG) has obtained development consent from Mid-Western Regional Council to construct and operate the Quarry. The Quarry is located on 'Glenroy', a privately-owned property approximately 30 km south of Mudgee (**Figure 1.1**). The property comprises 22 individual parcels totalling approximately 860 ha and is owned by Mr John Hundy.

ARDG develops resource opportunities across the minerals industry, extractive industries and renewable energy sector. ARDG, in collaboration with the landowner, identified an opportunity to supply quarry products to the approved Crudine Ridge Wind Farm Project (CRWFP). Key features of the Quarry include the extraction, processing, stockpiling and transport of up to 30,000 m^3 of material per annum for use in the upgrade of Aarons Pass Road and construction of the internal road network for the approved CRWFP (SSD-6697). Quarry products will include road base materials. The Quarry will have a total disturbance area of 2 hectares. Operations will be undertaken during daytime hours and will be completed within 24 months from the commencement of extraction.

1.3 Land Use and Sensitive Receptors

Land use surrounding the Quarry consists of agricultural land uses, primarily grazing, consistent with the RU1 Primary Production land zoning pursuant to the Mid-Western Local Environmental Plan 2012. The approved CRWFP has approval for up to 37 wind turbines and when constructed will be located south of the Project area (**Figure 1.2**).

A number of private dwellings represent potential sensitive receptors. The closest sensitive receptor is located approximately 2.5 km to the north east of project, with eight dwellings in total located within 3 km of the Project (**Figure 1.2**). None of these dwellings have a direct line of site to the Project area, which is situated below a prominent vegetated ridge to the north east and a slightly lower ridge (closer) to the east. These ridges also act as physical barrier to noise emissions from the Project.

1.4 Relevant Approvals

A Development Consent (DA-0218/2018) has been issued to Australian Resource Development Group Pty Ltd for the Quarry from Mid-Western Regional Council. The relevant conditions of the Development Consent and where they have been addressed in this document are included in Error! Reference source not found.. A copy of the Development Consent is provided in **Appendix 1**.

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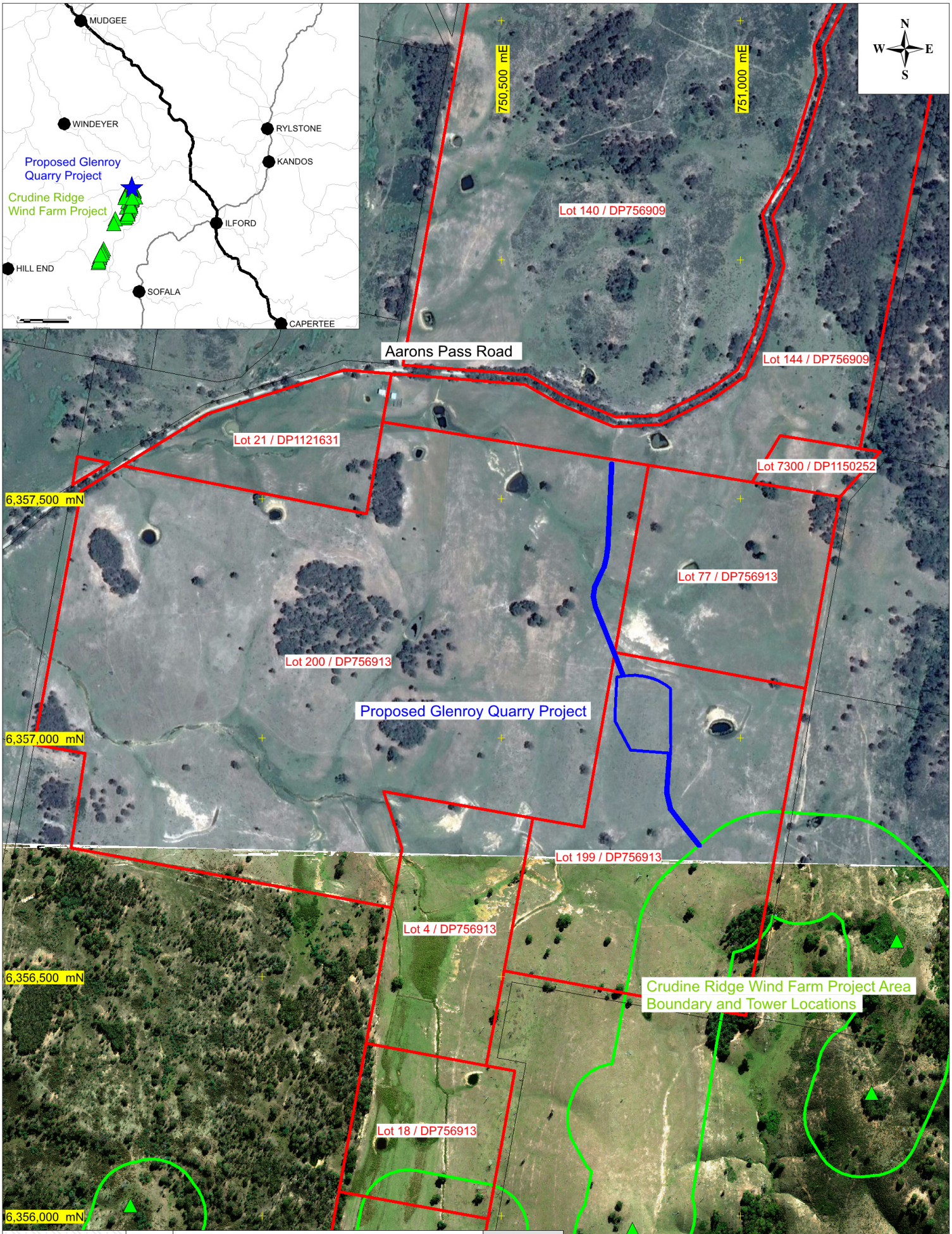
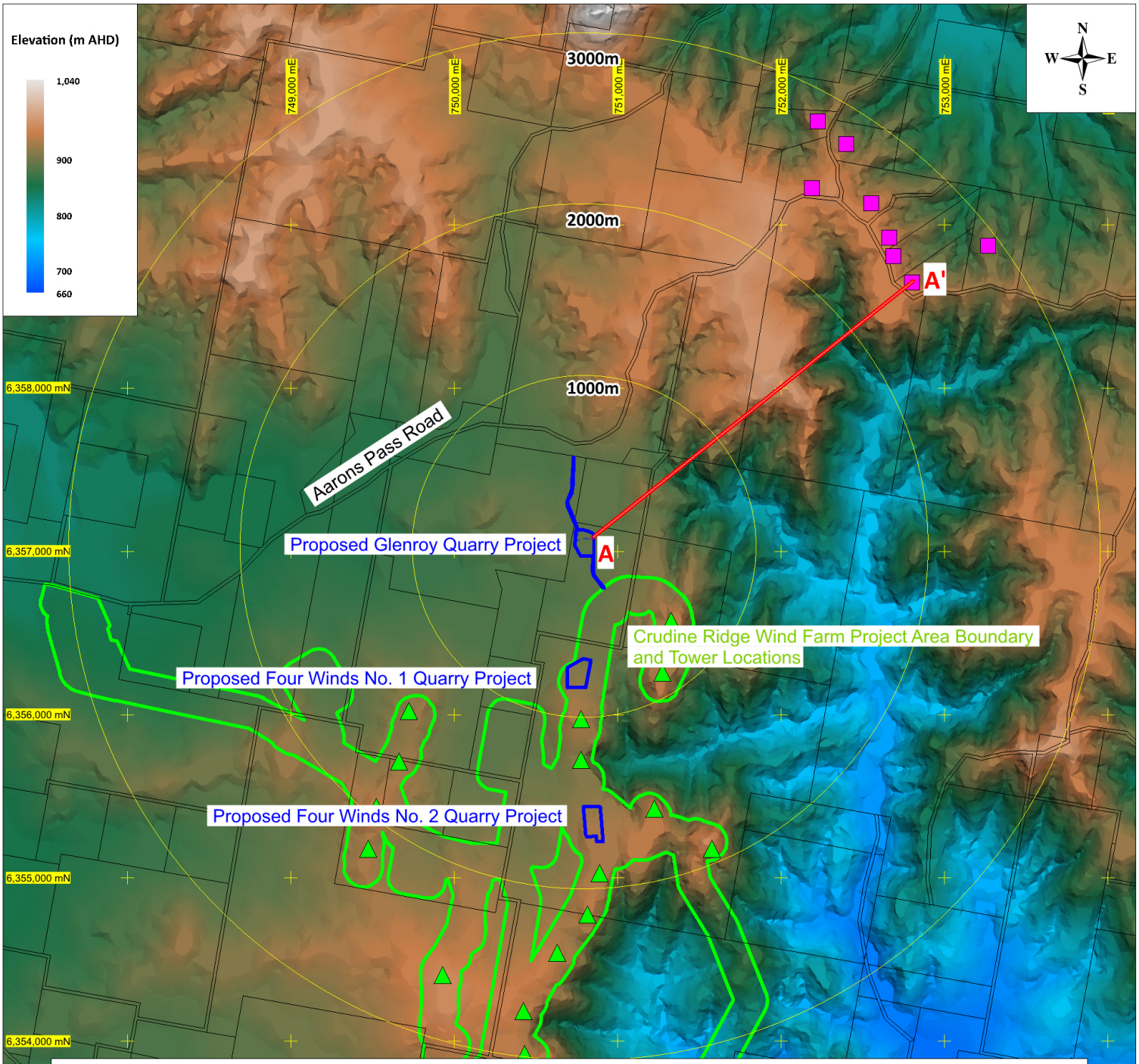
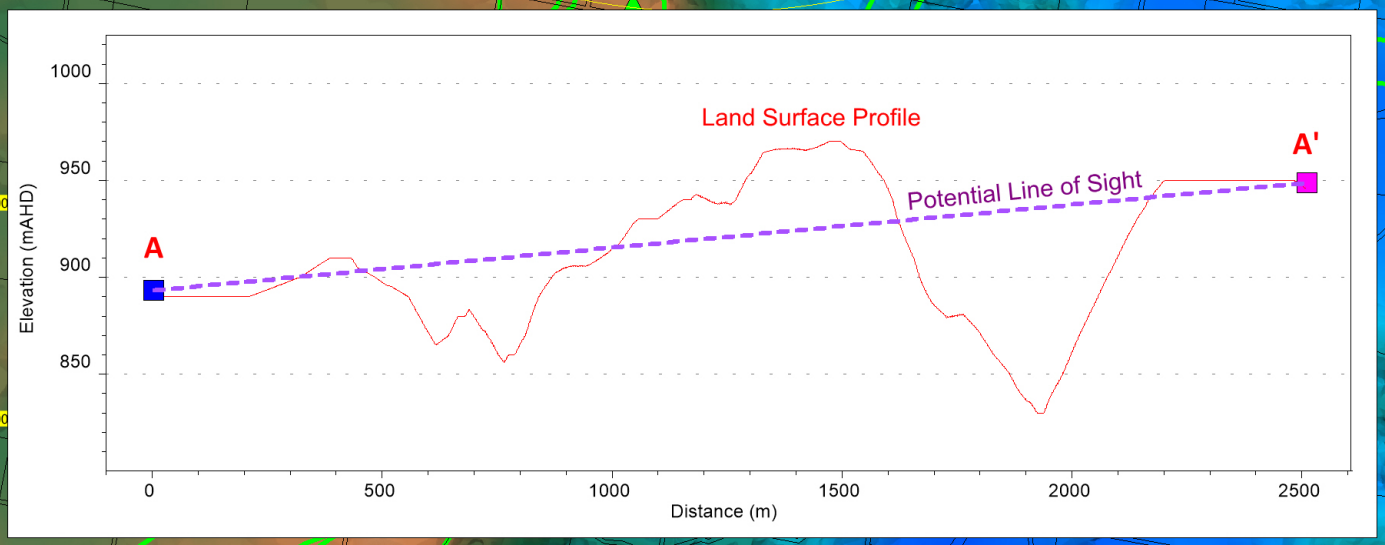


Australian Resource Development Group	Project:	GLENROY QUARRY PROJECT	Figure 1.1
	Title:	Project Site Location	
	Source:		
	Author: D.Bird	Date: 12 July 2018	
	Scale: 1:10,000 @ A4	Grid: MGA Zone 55 (GDA94)	





Australian Resource Development Group

Project:	GLENROY QUARRY PROJECT		Figure 1.2
Title:	Nearest Residences within 3 km and Surrounding Topography		
Source:			
Author:	D.Bird	Date:	16 March 2018
Scale:	1:45,000 @ A4	Grid:	MGA Zone 55 (GDA94)

An Environment Protection Licence (EPL) granted under the *Protection of the Environment Operations Act 1997* has been obtained for Glenroy Quarry (EPL 21144) a copy of which and is included in **Appendix 2.**

Table 1.1 Relevant Development Consent Conditions DA-0218/2018		
Conditions		**Addressed in Section**
Prior to Commencement of Operations		
No. 16	Preparation of Environmental Management Plan	
No. 16(b)	Statutory approvals that apply to the development	Appendix A and Appendix B
No. 16(c)	Key personnel involved in the environmental management of the development	Section 3
No. 16(d)	Initial Environmental Management Works	Section 2.2
No. 16(f)	Procedures to: (i) Keep the local community and relevant agencies informed about the operation and environmental performance of the development. (ii) Receive, handle, respond to and record complaints. (iii) Resolve any disputes that may arise. (iv) Respond to any non-compliance. (v) Respond to emergencies. (vi) Monitor environmental impacts	(i) Section 5 (ii) Section 5.1 (iii) Section 5.1 (iv) Section 5.3 (v) Section 5.2 and Appendix 4 (vi) Section 3

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Table 1.1 Relevant Development Consent Conditions DA-0218/2018		
Conditions		**Addressed in Section**
No. 16(g)	(i) Operation of plant and equipment. (ii) Hours of operation. (iii) Requirements of any licences. (iv) Water quality management. (v) Details of sediment erosion control. This component of the EMP must make reference to the requirements outlined in the document Managing Urban Stormwater: Soils and Construction (Landcom, 2004) and Managing Urban Stormwater: Soils and Construction – Volume 2E – Mines and Quarries (DECC, 2008). (vi) Stormwater management. (vii) Water conservation and re-use of water. (viii) Air quality and dust management. (ix) Noise management. (x) Blasting impacts management. (xi) Code of Conduct for haulage drivers, particularly addressing driver behaviour when they pass the residences on Aarons Pass Road. (xii) Waste management. (xiii) Hazards and risk management. (xiv) Complaints management. (xv) Geotechnical hold points. (xvi) Rehabilitation preparation and management and weed management, including conversion of the quarry to a farm dam.	(i) Section 2.6 (ii) Section 2.7 (iii) Section 1.4 and Appendix 2 (iv) Section 3 and Appendix 3 (v) Appendix 3 (vi) Appendix 3 (vii) Section 2.9 (viii) Table 3.1 (ix) Table 3.1 (x) Table 3.1 (xi) Section 2.8 and Appendix A (xii) Table 3.1 (xiii) Appendix 4 (xiv) Section 5.1 (xv) Section 2.4 (xvi) Section 4.1
No. 16(h)	Provide a rehabilitation plan	Section 4.1
No. 16(i)	Incorporate management measures from SEE	Table 3.1
No. 24	Drainage	Appendix 3
No. 25	Delineation of Quarry Footprint Area	Section 2.2
During Operations		
No. 30	Hours of Operations	Section 2.7
No. 32	Waste Management	Table 3.1
No. 33	Groundwater	Table 3.1
No. 34	Aboriginal Cultural Heritage	Table 3.1
No. 41	Chemicals and fuel storage	Table 3.1
No. 42	Complaints register	Section 5.1

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2 Quarry Operations

2.1 Quarry Activities

The Development Consent has been obtained for the construction and operation of a small quarry with an extraction limit of up to 30,000 m^3 per annum (**Figure 2.1**). Key features of the Quarry are summarised as follows:

The Project proposes the construction and operation of a small quarry with an extraction limit of up to 30,000 m^3 per annum. Key features of the Project are summarised as follows:

- Quarry operations would be confined to a maximum 2 ha disturbance area on Lot 199 DP756913.
- Access from Aarons Pass Road for haul trucks would be via an existing farm access track.
- Extraction, processing, stockpiling and transport of up to 30,000 m^3 of material per annum from the Project area, which equates to approximately 72,000 t of material.
- Construction and operation will be undertaken during daytime hours, being Monday to Saturday 7am to 6pm, with minor non-audible works to be undertaken outside of these hours (*e.g*. maintenance activities).
- Development of a single bench extraction pit to approximately 10 m depth.
- Development of a processing and stockpiling area adjacent to the extraction pit.
- Crushing and processing of extracted rock using mobile equipment.
- Construction of temporary administration (mobile crib room) and surface water management infrastructure.
- Reprofiling of the extraction pit to produce a final landform with batters at 1V:2.5H (≈ 22 °) and drainage of the surrounding processing and stockpiling area into the pit where possible. The final pit will function as an additional water storage dam for 'Glenroy'.
- Stabilisation of the processing and stockpiling area. To be returned to pre-disturbance existing condition (*i.e.* pasture).

It is not proposed to construct a weighbridge, as extraction tonnages will be calculated by loader scales and cross referenced with topographic survey taking account of rock density. All materials produced by the quarry will supply the Aarons Pass Road upgrade works and adjacent CRWFP with all transport of material to occur on existing private access roads. Material for the Aarons Pass Road upgrade will be transported by private access road directly to Aarons Pass Road.

The total Project disturbance area is a maximum of 2 ha (**Figure 2.1**).

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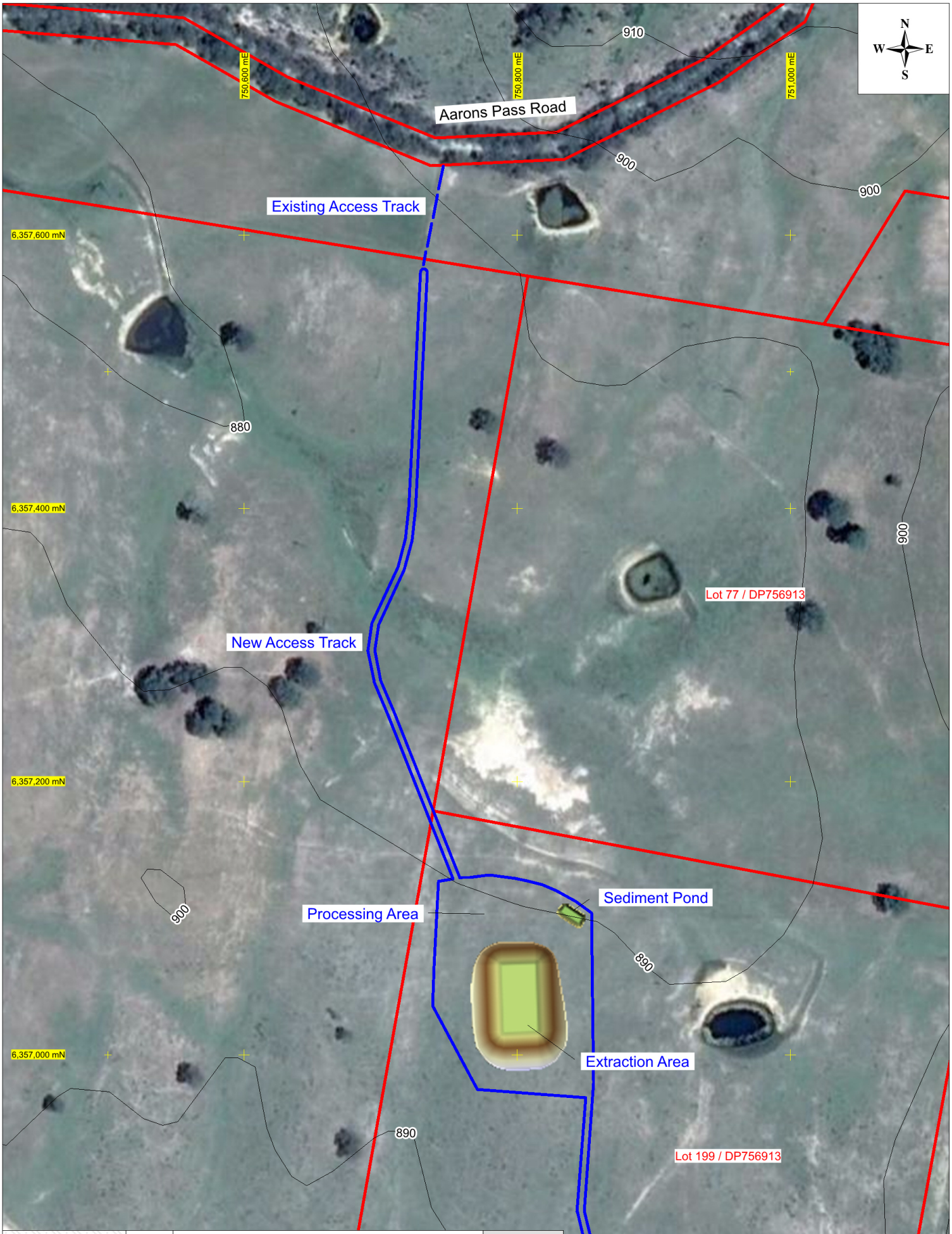

Australian Resource Development Group	Project:	GLENROY QUARRY PROJECT		Figure 2.1
	Title:	Indicative Site Layout and Topography (10m contours)		
	Source:			
	Author:	D.Bird	Date:	7 March 2018
	Scale:	1:3,500 @ A4	Grid:	MGA Zone 55 (GDA94)

2.2 Site Establishment

At the commencement of the Project the following initial site establishment/environmental works will occur:

Drill and Blasting Phase

- Prior to drill:
  - Establishment of Project disturbance boundaries from GPS survey control. The disturbance boundary for the extractive works will be retained for the duration of site operations.
  - Installation of a W5-22 Trucks Entering sign on both approaches to the entry.
    - Signage to be in accordance with the relevant requirements of AS1742.1-2014 Manual of uniform traffic control devices – General introduction and index of signs.
    - Signage to be in accordance with the relevant requirements of AS1742.2-2009 Manual of uniform traffic control devices – Traffic control devices for general use.
- Prior to blast:
  - Establishment of sediment basin (**Appendix 3**).

Extraction Operations Phase

- Obtain approval under Section 138 of the *Roads Act 1993* to undertake works in the road reserve.
- Fencing of Project disturbance boundaries to exclude stock.
- Provision of appropriate dust control as required (*e.g.* water cart).
- Upgrade the existing farm gate and access. This will require:
  - Upgrade of the existing access and gate location to comply with Council's *Access to Properties Policy*.
  - Construction of gravel formed pavement of sufficient width to enable two vehicles to safely pass each other.
  - Provision for roadside drainage.
- Construct internal quarry access road.
- Establishment of all erosion and sediment control structures (**Appendix 3**).
- Transport of mobile equipment (quarrying and crushing/infrastructure) to the Project area.
- Ground disturbance activities including commencement of quarry pit and processing area (**Figure 2.1**) with appropriate dust control as required (*e.g.* water cart).
- All works to be inspected and approved by Council prior to commencement.

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2.3 Project Timeframes

Construction of the Project and associated infrastructure is expected to commence in July-August 2018. Construction, extraction and stabilisation works will be completed within 24 months from the commencement of extraction.

2.4 Quarry Operations

Based on the results of an exploration drilling program, it is envisaged that a single 'paddock shot' blast will be undertaken to loosen up the material prior to loading of material by excavator into dump trucks for transport to the processing area. The blasting would be completed by an appropriately licensed and experienced contractor, with no requirement to store explosives and blast related materials on site.

Following confirmation by the drill and blast contractor that the blasting operation has been successful and that no explosives remain undetonated, the material in the quarry will be extracted through an excavator and truck operation. Processed rock will be stockpiled and transported by the road contractor to Aarons Pass Road for use in upgrade works as part of the CRWF Project. Should it be available, excess material will be transported to the CRWFP area via a constructed access track.

2.5 Ancillary Facilities

The proposed works include a stockpile and processing area (**Figure 2.1**). Mobile equipment will be used to crush and process extracted rock. Temporary administration and facilities, and surface water management infrastructure will be located within the Project area.

2.6 Equipment

Table 2.1 lists the equipment that will likely be used during construction and operation of the Project.

Table 2.1 Indicative Equipment to be Used in the Project	
Project Element	**Equipment**
Overburden/ bulk earthworks/ win material	• 40T excavator • 740 dump truck
Drill and Blast	• Atlas Copco hydraulically driven 76mm percussion drill rig • Up to single 70,000t shot with bomb truck (where blasting required)
Crushing and manufacture	• CAT336D excavator (load crusher) • LT106 Metso Jaw crusher • Terex Finlay C1550 Cone crusher • Metso single deck Power screen • CAT980H Front end loader (stockpile management/load) • 8 wheel Acco road water cart
Haulage	• Truck and dog

NB: The equipment listed above is indicative only and may be subject to revision

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2.7 Hours of Operation

Construction and operation will be undertaken during daytime hours, being Monday to Saturday 7am to 6pm. It is anticipated that some activities may require works outside of these hours (*e.g.* maintenance). These works will be restricted to relatively non-audible activities to limit the potential impacts on surrounding areas.

2.8 Access and Transport

The existing Glenroy property access and gate location will be upgraded to comply with Council's *Access to Properties Policy*.

An existing farm access track between Aarons Pass Road and Lot 200 DP756913 that traverses Lot 144 DP 756909 will from part of the access track to haul material between the Project area and Aarons Pass Road, for use in the road upgrade works associated with the CRWFP. This existing farm access track will be extended across Lot 200 and the corner of Lot 77 DP756913 of the Project area. If available and required for the CRWFP, any surplus materials would be hauled over a constructed access track to the south of the main Project area approximately 230 m to the CRWFP area (**Figure 1.1**).

All haulage drivers will operate in accordance with a Code of Conduct, which includes consideration of residences on Aarons Pass Road (**Appendix A**).

2.9 Operational Water Requirements

The Project will require the use of water primarily for dust suppression across all disturbed areas and as part of processing activities. Operational water requirements for the Project will be supplied by a combination of the following:

- Runoff from within the quarry pit and processing area captured in the sediment basin and/or;
- Water sourced externally (from the construction operations of the CRWFP) and carted to the site.

2.10 Proposed Rehabilitation and Key Mitigation Measures

Upon completion of extraction activities, the quarry pit will be reprofiled to produce a final landform with batters at 1V:2.5H (≈ 22°). Where possible, drainage of the surrounding processing and stockpiling area will be directed into the pit. Excess drainage will be directed to a constructed detention basin (**Section 4** and **Appendix 3**). The final pit will function as an additional water storage dam for 'Glenroy'.

The existing surface of the proposed 2 ha quarry site is highly disturbed, with all tree cover removed, surface rock exposure over a large extent, little to no topsoil and a very sparsely distributed groundcover comprising both native and introduced species. Following completion of operations at the site, all disturbed areas (including the processing and stockpiling area) will be stabilised, scarified and seeded with a pasture grass species mix.

Sediment fencing and controlled site access will be provided. All erosion and sediment control measures will be designed in accordance with relevant guidelines and will be inspected maintained and cleaned during construction and operation. Erosion and sediment controls will be established in accordance with the Soil and Water Management Plan prepared for the Project (**Appendix 3**).

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3 Environmental Management and Monitoring

All personnel and contractors working within the Quarry will undergo environmental awareness training as part of site induction. Areas that will be covered in the induction will include:

- Approved operational areas and “no go” areas;
- Noise management;
- Air quality management;
- Soil and water management;
- Hydrocarbon management;
- Waste management;
- Aboriginal cultural heritage management; and
- Incident response and reporting.

Environmental awareness training will be the responsibility of the Quarry Manager as will be ongoing training regarding relevant environmental issues that may arise. Environmental training will focus on procedures in place as well as to identify potential opportunities for improvement.

Error! Reference source not found.**Table 3.1** details the environmental controls to be implemented during the construction of the Quarry. The Quarry Manager is responsible for all aspects of site management and it is the responsibility of the Quarry Manager to ensure that all site employees and contractors are briefed in relation to relevant operational conditions and environmental procedures that are required to be followed.

Table 3.1 Summary of Mitigation Measures for Construction and Operation of the Quarry

Potential Impact	Mitigation Measures
Landform and Topography	• Upon completion of extraction activities, the quarry pit will be reprofiled to produce a final landform with batters at 1V:2.5H (≈ 22°). The final pit void will function as a farm dam for ‘Glenroy’. • All disturbed areas will be revegetated with a suitable pasture grass species mix (to be determined in consultation with the landowner), including the processing and stockpiling area. Drainage from the majority of disturbed areas will be directed towards the final pit. Any disturbed area that cannot drain to the final pit will be directed to the sediment/detention basin.

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Table 3.1	Summary of Mitigation Measures for Construction and Operation of the Quarry
Potential Impact	**Mitigation Measures**
Contaminated Land	• No grease and oil will be stored on site. Any such materials handled on site will be done so appropriately to minimise the potential for contamination of the Project area. • All waste oil and grease will be collected and will be removed from the site by a mobile mechanic/appropriately licensed contractor with all relevant waste tracking documentation completed. • Workshop wastes including oil filters and tyres will be removed from the site by the mobile mechanic providing replacement parts if and as required. • Spill kits and clean up protocols will be established for the operations and detailed in the EMP. • If contaminated soils are uncovered during the works, all works within the vicinity must cease immediately and Mid-Western Regional Council be notified.

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Table 3.1	Summary of Mitigation Measures for Construction and Operation of the Quarry
Potential Impact	**Mitigation Measures**
Water	• The proposed WMS for the Project will be designed to meet the requirements Managing Urban Stormwater: Soils and Construction (Blue Book) (Volumes 1 and 2E – Mines and Quarries) (Landcom, 2004 and DECC, 2008). • Construction of a sediment/detention basin to be located and sized as detailed in **Appendix 3**. **This structure is to remain in place after the completion of the operations at the site**. • Construction of clean water diversion drains/bunds upslope of areas to be disturbed to direct clean water runoff away from disturbed areas. The diversion drains will be designed to ensure effective segregation of sediment-laden runoff and allow clean surface water to return to natural watercourses. **These structures are to remain in place after the completion of the operations at the site**. • Dirty water catch drains to capture runoff from disturbed areas and direct runoff into the sediment basin. At completion of the Project runoff from disturbed areas will be directed into the extraction area. • An in-pit sump for surface water management and associated pumps to supply water to dust suppression equipment, if required. • All erosion and sedimentation controls are to be checked and maintained on a regular basis (including clearing of sediment from behind barriers) and records kept and provided on request. • All erosion and sediment control measures are not to be removed until the works are complete and areas are stabilised as part of rehabilitation activities. • If there is a deficiency in water required for dust suppression, additional water will be sourced externally and trucked to the site from the CRWFP for use as part of the Project. This water would be directly applied or stored on site in the quarry pit sump for use. • Minimising all disturbed areas and stabilisation of disturbed areas as soon as practicable. • Construction of other temporary erosion and sediment control measures, where required, such as sediment fences within the catchment area whilst permanent soil and water management structures are being established. **Some of these structures will need to remain in place after the completion of the operations at the site. This will be determined in consultation with ARDG.** • Regular maintenance of all controls and inspection of all works and after storm events to ensure erosion and sediment controls are performing adequately. • Construction of drainage controls such as table drains at roadsides and on hardstand areas and toe drains on stockpiles. • Immediate repair or redesign of erosion and sediment controls that are not performing adequately, as identified in field inspections. • If groundwater intercepted, cessation of operations and notification of DPI Water. Assessment and licensing required in accordance with the *Water Management Act 2000* for incidental take of groundwater.

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Table 3.1	Summary of Mitigation Measures for Construction and Operation of the Quarry
Potential Impact	**Mitigation Measures**
Biodiversity	• Vegetation clearance and disturbance to rocky pasture will be kept to a minimum. Vegetation clearance and ground disturbance is to be limited to the works area of the quarry. No trees within the study are will be removed. • Removal of potential fauna habitat for ground-dwelling species (*e.g*. Pink-tailed Worm-lizard) should be avoided where possible and any logs and large rocks (15 cm – 70 cm diameter) removed from within the proposed quarry site are to be relocated to adjacent areas to supplement habitat. • Establishing clearly defined areas, such as the works area and 'no-go' areas adjacent to work site boundaries that are not to be in any way disturbed or damaged by the works, locations and controls for any stockpiles and vehicle areas. • To avoid the introduction and spread of priority/noxious weeds: o Where soil has been disturbed or topsoil stripped and stockpiled, stockpiles should be monitored to ensure that germination of weeds does not occur and/or is adequately managed. o Disturbance of any kind to ground surfaces will be kept to an absolute minimum to avoid creating areas where weeds species may become established. o Vehicle movement to be limited to designated access roads to minimise potential spread of seed propagules. • Plant, equipment and stockpiles will be placed in areas of cleared land or exotic grassland along access tracks and in a manner that does not result in damage to surrounding native vegetation. • Erosion and sediment control measures will be established before work begins and maintained in effective working order throughout the duration of the works, and until the site has been stabilised to prevent off-site transport of eroded sediments. • Any stockpiles of soils or fill are to be limited to cleared areas along existing tracks and are to be managed in an appropriate manner to prevent dust, erosion and sediment runoff. • Measures will be taken to prevent tracking of soils/sediments from work sites to roadways as a result of work vehicle/machinery movement. • Any areas of bare soil created as part of the proposed works should be stabilised and returned to (as close as practical) pre-disturbance condition. The void area from the quarry will remain post-quarrying as a dam for the land owner.
Heritage	• The proponent will ensure that all parties involved in the project are aware that it is an offence under Section 86 of the NPW Act to harm an Aboriginal object unless that harm is the subject of an Aboriginal Heritage Impact Permit. • In the unlikely event that any additional Aboriginal objects are identified whilst carrying out the proposed works, all activities in the immediate vicinity of the Aboriginal object must cease and the Office of Environment and Heritage and relevant Aboriginal parties must be consulted regarding the management of the object. • In the unlikely event that unexpected historical archaeological remains or potential heritage items are discovered during the Project, all works in the immediate area will cease. The remains and potential impacts should be assessed by a qualified archaeologist or heritage consultant and, if necessary, the Heritage Division, OEH and the Department of Planning and Environment notified.

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Table 3.1	Summary of Mitigation Measures for Construction and Operation of the Quarry
Potential Impact	**Mitigation Measures**
Noise and Vibration	• The majority of works will be undertaken during daytime hours, being Monday to Saturday 7am to 6pm. • Machinery used in construction will be maintained to appropriate operating standards. • The use of broadband reversing alarms instead of beeper style alarms on mobile equipment. • The management of mobile machines as required to minimise adverse noise impacts during adverse weather conditions when wind conditions or inversion conditions enhance the noise propagation towards sensitive receiver locations. • Using equipment with efficient muffler design. • Regular inspection and maintenance of equipment in general. • Scheduling the use of noisiest equipment at the least-sensitive time of day where practicable. • Complying with quarry hours of operation. • Blast will be design and implemented by an appropriately qualified and experienced contractor. • Potential blasting impacts will be managed through: o Blasts being undertaken during least sensitive part of day. o blasting under favourable meteorological conditions where possible. o notification of closest residences prior to blasting activities. o monitoring of blasts. o proactive response to any issues raised by residences.
Air Quality	• Operating a water cart to minimise wind-blown dust from exposed areas. • Limiting dust generating quarry operations and increasing dust suppression activities during periods of unfavourable meteorological conditions.
Visual Amenity	• Ensure that areas of disturbance are kept to the minimum practicable at any one point in time. • Rehabilitation of disturbed areas as soon as practical. • Return of disturbed areas to pasture consistent with current land uses in the long term.
Waste	• All waste oil and grease will be collected and will be removed from the site by an appropriately licensed contractor with all relevant waste tracking documentation completed. • Workshop wastes including oil filters and tyres will be removed from the site by the mechanics providing replacement parts. • All office paper and general waste originating from the office and amenities will be placed in appropriate containers for collection by Council or a licensed contractor for disposal/recycling at an appropriately licenced waste management facility.
Social and Economic	• All works will be undertaken in accordance with the mitigation measures outlined in this table. • Machinery used in construction will be maintained to appropriate operating standards.

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Table 3.1	Summary of Mitigation Measures for Construction and Operation of the Quarry
Potential Impact	**Mitigation Measures**
Bushfire	• All work on plant machinery will be undertaken such that risks of sparks and other ignition sources are minimised. • Retention of a fire extinguisher in any temporary admin buildings. • In the event of a bushfire in the vicinity of the site, the quarry manager will contact the local RFS office and undertake an assessment of the risk to the personnel and operations and act in accordance with that risk assessment.

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4 Rehabilitation

4.1 Rehabilitation, Site Stabilisation and Key Environmental Safeguards/Mitigation Measures

The following process will be implemented to ensure appropriate rehabilitation of the quarry disturbance area.

4.1.1 Preparation of Rehabilitation Plan

A rehabilitation plan will be prepared and submitted to Council for approval prior to the commencement of rehabilitation. The rehabilitation plan will incorporate the following measures:

- As shown in **Appendix 3**, internal batters of the quarry pit will be reprofiled to produce a final landform with batters at 1V:2.5H (≈ 22°).
- Rehabilitation measures will comply with those identified in the Statement of Environmental Effects (ARDG, 2018) that accompanied the DA.
- As detailed in **Table 3.1**, any waste will be disposed of at an appropriately licenced waste facility.
- Sediment fencing/bunding and controlled site access shall be provided. Sediment fencing shall be constructed using UV stabilised materials capable of withstanding a minimum of 18 months exposure.
- All erosion and sediment control measures will be designed in accordance with relevant guidelines and will be inspected, maintained and cleaned during construction and operation. Erosion and sediment controls will be will be left in place in accordance with the Soil and Water Management Plan (**Appendix 3**).
- Boundary fencing will remain in place until extraction operations have been completed and the timing of removal thereafter will be determined in consultation with the landowner.
- Identification of vegetation and weed management measures, including timeframes for handover of the site back to the landowner.

Australian Resource Development Group Pty Limited ACN 611 489 804
130 Young St Carrington NSW 2294
e: *admin@ardg.com.au* ***w:*** *ardg.com.au*

5 Community Complaints, Incident and Environmental Reporting

5.1 Complaints Management

ARDG will provide telephone and email contact details on its website by 3 August 2018 for the purpose of receiving any complaints from the public in relation to activities conducted at the Quarry. Signage will also be posted at the Aarons Pass Road access entrance with contact details for any complaints. ARDG will maintain a register of community complaints in relation to the operations of the Quarry.

The Quarry Manager will be responsible for ensuring that all complaints are recorded and that appropriate response actions are implemented. All local residents and landowners will be made aware of this process.

Should a dispute with a complainant arise during the process, an independent arbiter (*e.g*. MWRC) will be engaged to assist in resolution.

5.2 Incident Reporting

The Quarry Manager will be responsible for reporting any emergencies/environmental incidents immediately to ARDG. Environmental incidents will be managed and reported in accordance with the Glenroy Quarry Pollution Incident Response Management Plan (PIRMP), which is provided in **Appendix 4**.

5.3 Environmental Reporting

ARDG will report on the performance of the operation, including any non-compliances, in accordance with the licencing requirements applicable to the Quarry.

Australian Resource Development Group Pty Limited ACN 611 489 804

130 Young St Carrington NSW 2294

e: *admin@ardg.com.au* ***w:*** *ardg.com.au*

6 References

Australian Resource Development Group (2018). *Statement of Environmental Effects – Glenroy Quarry*. Unpublished report. 37p + Apps.

Landcom, 2004 and DECC, 2008. Managing Urban Stormwater: Soils and Construction (Blue Book) (Volumes 1 and 2E – Mines and Quarries).

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Appendix 1

Development Consent

DA-0218/2018

Driver’s Code of Conduct

MID-WESTERN REGIONAL COUNCIL
PO Box 156, MUDGEE NSW 2850
86 Market Street, Mudgee | 109 Herbert Street, Gulgong | 77 Louee Street, Rylstone
T 1300 765 002 or 02 6378 2850 | F 02 6378 2815
E council@midwestern.nsw.gov.au

IS;SP;da0218/2018

27 July 2018

Australian Resource Development Group Pty Limited
C/- 130 Young Street
CARRINGTON NSW 2294

Dear Sir/Madam

DEVELOPMENT APPLICATION DA0218/2018 - EXTRACTIVE INDUSTRY – GLENROY QUARRY - LOT 199 DP 756913 – 1330 PYRAMUL ROAD PYRAMUL NSW 2850

I am pleased to advise that your application has been approved by Council.

Attached is Council's formal Development Consent No. DA0218/2018.

It is important that you read the consent and understand the requirements of any conditions imposed. Certain requirements may need to be satisfied prior to proceeding with the development.

The consent is a legal document and should be kept for your future reference as the development proceeds. It should be noted that commencement of the development implies your acceptance of the conditions of consent.

Should you have any query regarding the consent or associated conditions, do not hesitate to contact myself or the appropriate Council officer.

Yours faithfully

JULIE ROBERTSON
DIRECTOR DEVELOPMENT

MID-WESTERN REGIONAL COUNCIL
PO Box 156, MUDGEE NSW 2850
86 Market Street, Mudgee | 109 Herbert Street, Gulgong | 77 Louee Street, Rylstone
T 1300 765 002 or 02 6378 2850 | F 02 6378 2815
E council@midwestern.nsw.gov.au

Notice of Determination of a Development Application

Issued under the *Environmental Planning and Assessment Act 1979* Section 4.16(1)(a)

Our Ref:	IS;SP;DA0218/2018	**DA No:**	DA0218/2018

Applicant:	Australian Resource Development Group Pty Limited C/- 130 Young Street CARRINGTON NSW 2294	**Land to be Developed:**	Lot 199 DP 756913 1330 Pyramul Road PYRAMUL NSW 2850

Proposed Development: Extractive Industry – Glenroy Quarry	**Building Code of Australia Classification:** -

Date of Determination:	27 July 2018
Determination:	**CONSENT GRANTED** subject to conditions set out below

Consent to operate from: 27 July 2018	**Consent to lapse on:** 27 July 2023

CONDITIONS

APPROVED PLANS

1. Development is to be carried out in accordance with the following plans endorsed with Council's Stamp as well as the documentation listed below except as varied by the conditions herein and/or any plan notations.

Title/Name	Drawing No/ Document Ref	Revision/Issue	Dated	Prepared by
Project Site Location	Figure 1.1	-	12 July 2018	Australian Resource Development Group
Indicative Site Layout and Topography	Figure 3.1	-	7 March 2018	Australian Resource Development Group
Statement of Environmental Effects	-	-	March 2018	Australian Resource Development Group

Figures 1.1 and 3.1, as stamped by Council and indicated in the above table, supersede the corresponding figures in the Statement of Environmental Effects.

LIMITS ON CONSENT

Ensuring the quarry does not breach designated development thresholds

2. The total amount of extractive material extracted shall not exceed 30,000m^3 per annum.

   Note – for the purpose of this condition, the 12-month period commences on the 1 July of each year.

3. The total surface area disturbed by the quarry must not exceed 2 hectares. For the purposes of this condition, the term *disturb* includes:

   a) Clearing or excavating, or
   b) Constructing dams, ponds, drains, roads or conveyors, or
   c) Storing or depositing overburden, extractive material or tailings.

4. No part of the quarry and ancillary uses are to be located any closer than 500m from another quarry.

Link to Construction of Crudine Ridge Wind Farm Project approved under SSD-6697

5. All truck movements and works <u>within the site</u> are to be confined to the access tracks shown on the approved plans, the approved quarry footprint and the approved Crudine Ridge Wind Farm corridor. No works, stockpiles, vehicle parking, machinery storage and other temporary facilities shall extend beyond these defined limits.

6. Extracted material is to be only delivered to:

   a) That part of Aarons Pass Road requiring road upgrade in accordance with Condition 28 of Development Consent SSD-6697 – Crudine Ridge Wind Farm; and

   b) That part of the subject site and properties within the approved development footprint of the Crudine Ridge Wind Farm approved by Development Consent SSD-6697.

7. The period during which the development may be carried out is limited to:

   a) 2 years from the date of commencement notified under Condition 26; or
   b) The end of the construction period for the Crudine Ridge Wind Farm approved by State Significant Development Consent SSD-6697 – whichever occurs earlier.

   This condition does not prevent the undertaking of approved rehabilitation works after the expiration of the quarry operation.

Other

8. The only buildings to be installed on the site are to be transportable, temporary, self-supporting structures (ie site sheds, crib rooms).

   Note – Should a building requiring a Construction Certificate be required on the site, it will be necessary to either modify this development consent or seek a new development consent for such buildings.

9. The quarry is to operate in accordance with the conditions imposed by an Environmental Protection Licence (EPL), issued by the Environmental Protection Authority (EPA).

10. This development consent allows excavation of extractive material (ie road-base) from the site and the crushing and processing of the extracted material, by mobile crushing and processing plant.

11. This consent includes approval to convert the quarry to a farm dam, at the cessation of the operation of the quarry, as part of the rehabilitation works.

12. This development consent does not include approval to import waste material, including soil for rehabilitation. Separate development consent may be required for the importation of fill material, if it is not exempt development.

13. At the expiration of the consent under Condition 7, the developer shall remove all buildings, facilities, machinery and plant associated with the development from the land and rehabilitate the site in accordance with the rehabilitation plan approved in accordance with Condition 16.

14. All rehabilitation works shall be completed within 12 months of the completion of the quarry extraction and processing activities.

PRIOR TO COMMENCEMENT OF OPERATIONS

Secure Legal Access

15. Prior to the commencement of the development, either of the following is to occur:

    a) A right of carriageway, or similar instrument, is to be registered over Lot 144 DP756909, Lot 200 DP756913 and Lot 77 DP756913, to benefit Lot 199 DP756913 (ie the quarry lot); or

    b) An alternative means of ensuring that Lot 144 DP756909, Lot 200 DP756913, Lot 77 DP756913, and Lot 199 DP756913 do not become separately owned during the life of the quarry or the quarry does not lose access rights to Aarons Pass Road in some other way, shall be provided to the satisfaction of Council.

Environmental Management Plan

16. The developer shall prepare an Environmental Management Plan (EMP) for the development and obtain Council's written approval of the EMP, prior to commencement of operations. The EMP must:

    a) Be prepared by a suitably qualified and experienced expert.

    b) Identify the statutory approvals that apply to the development.

    c) Describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development.

    d) Identify Initial Environmental Management Works to be undertaken prior to commencement of operations, within its own section within the EMP. The Initial Environmental Management Works must include:

        (i) Sediment and erosion control works.
        (ii) Water quality management measures.
        (iii) Fencing around the quarry site to keep out grazing stock.
        (iv) Dust suppression measures.

(v) A clear indication of what works are required prior to the blasting phase and what works are required prior to the extraction phase (refer to Condition 18).

e) Have regard to the *Guideline for the Preparation of Environmental Management Plans* prepared by the Department of Planning and Infrastructure, 2004.

f) Describe the procedures that would be implemented to:

(i) Keep the local community and relevant agencies informed about the operation and environmental performance of the development.
(ii) Receive, handle, respond to and record complaints.
(iii) Resolve any disputes that may arise.
(iv) Respond to any non-compliance.
(v) Respond to emergencies.
(vi) Monitor environmental impacts.

g) Address the following components of the operation of the quarry:

(i) Operation of plant and equipment.
(ii) Hours of operation.
(iii) Requirements of any licences.
(iv) Water quality management.
(v) Details of sediment erosion control. This component of the EMP must make reference to the requirements outlined in the document *Managing Urban Stormwater: Soils and Construction (Landcom, 2004)* and *Managing Urban Stormwater: Soils and Construction – Volume 2E – Mines and Quarries (DECC, 2008).*
(vi) Stormwater management.
(vii) Water conservation and re-use of water.
(viii) Air quality and dust management.
(ix) Noise management.
(x) Blasting impacts management.
(xi) Code of Conduct for haulage drivers, particularly addressing driver behaviour when they pass the residences on Aarons Pass Road.
(xii) Waste management.
(xiii) Hazards and risk management.
(xiv) Complaints management.
(xv) Geotechnical hold points.
(xvi) Rehabilitation preparation and management and weed management, including conversion of the quarry to a farm dam.

h) Provide a rehabilitation plan that incorporates the following:

(i) A commitment that a plan of the final landform of the rehabilitated site will be prepared, submitted to and approved by Council, prior to commencement of rehabilitation works;
(ii) Sloping the sides of the quarry/dam so that the batters are no steeper than 1V:2.5H;
(iii) Compliance with the rehabilitation measures identified in the approved Statement of Environmental Effects;
(iv) Require any waste (excluding topsoil) to be disposed of at an authorised waste disposal facility;
(v) Maintenance of safety fencing until the quarry area is fully rehabilitated;
(vi) Vegetation and weed management measures and time frame for quarry operator management prior to handover to the landowner.

i) Incorporate the management measures summarised in Section 7 of the approved Statement of Environmental Effects.

17. A copy of the Environmental Management Plan (EMP) shall be kept on site at all times.

Initial Environmental Management Works

18. Prior to commencement of each phase (ie blasting and extraction) of site operations, all Initial Environmental Management Works identified in the approved Environmental Management Plan as being required prior to commencement of that particular phase of works shall be completed. As a minimum, the works required for each phase shall entail:

    a) Prior to commencement of blasting phase:

        (i) Installation of 2 advisory warning signs within the road reserve (refer to Condition 22).
        (ii) Pegging out or stock fencing around the perimeter of the quarry footprint.
        (iii) Installation of sediment basins and trenches.

    b) Prior to commencement of extraction phase:

        (i) Completion of the access upgrade to the property from Aarons Pass Road.
        (ii) Provision of internal road from the access to the quarry.
        (iii) Stock proof fencing to stop grazing animals entering the quarry footprint area.
        (iv) Provision of dust control measures, such as a water truck.

Environmental Protection Licence

19. Prior to commencement of operations, the developer is to obtain an Environmental Protection Licence for a Scheduled Activity, in accordance with the *Protection of the Environment Operations Act 1997.*

    Note – refer to General Terms of Approval issued by the Environmental Protection Authority for the proposed quarry.

Access upgrade

20. Prior to commencement of blasting or extraction operations, the developer is to obtain approval under Section 138 of the *Roads Act 1993* to undertake works in the road reserve.

    a) Prior to commencement of blasting operations, an approval under Section 138 of the *Roads Act 1993* is to be obtained for the installation of signage, in accordance with Condition 22 of this development consent.

    b) Prior to commencement of extraction operations, an approval under Section 138 of the *Roads Act 1993* is to be obtained for the upgrade of the existing access and gate location, in accordance with Condition 21 of this development consent.

    This condition may be satisfied by obtaining two separate Section 138 approvals, or a single Section 138 approval covering all the required works.

21. Prior to commencement of the extraction phase of operations, the developer is to upgrade the existing farm gate and access to an acceptable standard. This will require:

a) Upgrade of the existing access and gate location to comply with Council's *Access to Properties Policy*;
b) Construction of gravel formed pavement of sufficient width to enable two vehicles to safely pass each other; and
c) Provision for roadside drainage.

22. Prior to commencement of the blasting phase of operations, the developer must install advisory warning signage in conjunction with the property access, in accordance with the following requirements:

a) Installation of a W5-22 Trucks Entering sign on both approaches to the entry;
b) Signage to be in accordance with the relevant requirements of *AS1742.1-2014 Manual of uniform traffic control devices – General introduction and index of signs.*
c) Signage to be in accordance with the relevant requirements of *AS1742.2-2009 Manual of uniform traffic control devices – Traffic control devices for general use.*
d) All costs associated with the installation of signs are to be borne by the developer.

23. Council is to inspect and approve the required works in the road reserve, prior to commencement of:

a) The blasting phase – installation of advisory warning signage only; and
b) The extraction phase – upgrade the existing access and gate location.

Drainage

24. Prior to commencement of operations, a detailed stormwater drainage design must be submitted to and approved by Council. The stormwater drainage design must incorporate suitably sized detention/sedimentation storage to ensure that stormwater runoff from the site is not increased beyond the existing undeveloped state and must ensure that all stormwater runoff does not carry any sediment or contaminants.

Delineation of Quarry Footprint Area

25. Prior to commencement of blasting operations, the boundary of the disturbance area for the extractive industry is to be clearly marked using metal star pickets at generally 20 metre intervals. The star pickets must be made clearly visible by the use of flagging tape or florescent spray paint on the pickets.

Alternatively, stock proof fencing may be used to delineate the extremities of the quarry footprint area.

The pickets or stock fencing are to be maintained in place for the duration of operation.

Notice of commencement

26. Prior to commencing blasting or extraction operations, the developer is to:

a) Arrange for Council to inspect and approve the Initial Environment Management Works specifically required for the blasting or extraction phase; and

b) Submit a written notice to Council, advising of the commencement date of operations of the blasting phase. In general, the commencement date will be the first day that the first preparations (eg drilling) are undertaken for the initial blast.

OPERATIONAL CONDITIONS

Operation of Plant and Equipment

27. The developer shall ensure that all plant and equipment on site:

    a) Is maintained in a proper and efficient condition; and
    b) Operated in a property and efficient manner.

28. Trucks entering and leaving the premises that are carrying loads on public roads must be covered at all times, except during loading and unloading.

29. All trucks and mobile plant operating within the premises must be fitted (where there is a requirement for such devices to be fitted under the Work Health and Safety legislation) with broad-spectrum reversing alarms.

Hours of Operation

30. The hours of operation shall be limited to the hours as set out in the following table:

Activity	Days	Hours
Quarry Extraction Crushing and processing activities	Monday to Saturday	7.00am to 6.00pm
	Sundays and public holidays	Nil
Blasting	Monday to Friday	9.00am to 5.00pm
	Saturdays, Sundays and public holidays	Nil
Servicing of plant and equipment onsite – only where not audible at any residence	As required	As required
Emergency works	As required	As required

Environmental Management Plan

31. The quarry operator and associated workers are to adhere to the ongoing actions identified in the approved Environmental Management Plan required by Condition 16.

Waste Management

32. All waste, with the exception of topsoil to be re-used, generated on site shall be disposed of to a licenced waste disposal facility.

Groundwater

33. If groundwater interception occurs during the life of the project, the proponent must cease extraction operations immediately and notify DoI Water. Appropriate assessment and licencing under the *Water Management Act 2000* will be required prior to any incidental take of groundwater.

Aboriginal Cultural Heritage

34. In the event of any Aboriginal archaeological material being discovered during earthmoving/construction works, all work in that area shall cease immediately and the Office

of Environment and Heritage (OEH) notified of the discovery as soon as practicable. Work shall only recommence upon the authorisation of the OEH.

Maintenance of access crossover, advisory warning signage and driveway

35. The driveway crossover and advisory warning signage shall be maintained by the developer or operator, at all times, and to the satisfaction of Council.

36. The internal access road/driveway is to be maintained so that it is trafficable to two-wheel drive traffic, at all times.

37. The internal quarry access/haulage road must be maintained in a condition that prevents or minimises the emission into the air of air pollutants (eg dust).

Staff and services.

38. A maximum of 4 staff are to be on the quarry site, at any one time.

39. All staff vehicles are to be parked within the approved quarry disturbance area footprint. A gravel area, of sufficient area to park 4 cars, is to be provided and maintained for this purpose.

40. Staff are to utilise toilet facilities located at the northern Crudine Ridge Wind Farm Project work compound.

Chemicals and fuel storage

41. No liquid chemicals, fuel, oil, or similar products/materials are to be stored on the site, at any time.

Complaints register

42. A complaints register is to be maintained by the operator of the quarry. Details of the date, time, complainant contact details (if offered), nature of the complaint and adopted corrective actions are to be recorded in the complaints register. A copy of the complaints register is to be given to Council upon request.

OTHER APPROVALS

A. GENERAL TERMS OF APPROVAL (GTA) – NSW ENVIRONMENTAL PROTECTION AGENCY

Protection of the Environment Operations Act 1997

General Terms of Approval - Issued

NSW EPA

Notice No: 1565975

ATTACHMENT A
EPA's GENERAL TERMS OF APPROVAL
RECOMMENDED CONDITIONS OF DEVELOPMENT CONSENT

- Except as expressly provided by these General Terms of Approval (GTAs) or by any conditions of consent granted by Mid-Western Regional Council or the conditions of an in-force environment protection licence issued by the Environment Protection Authority, works and activities must be carried out in accordance with the proposal contained in:
  - the Development Application 0218/2018 submitted to Mid-Western Regional Council; and
  - any other additional information provided to Council.

- Should any conflict exist between the abovementioned documents, the most recent document or revision supersedes the conflict, except where superseded by any conditions of approval issued by Council or the conditions of an in-force environment protection licence issued by the Environment Protection Authority.

- An Environmental Management Plan must be prepared and implemented within 3 months of development consent being granted and prior to the commencement of any surface disturbance. The plan must include, but not be limited to:-:
  i. The identification and mitigation of potential impacts to surface water and soils. The plan must make reference to the requirements outlined in the document "*Managing Urban Stormwater: Soils and Construction (Landcom, 2004)* and "*Managing Urban Stormwater: Soils and Construction - Volume 2E - Mines and Quarries (DECC, 2008)*;
  ii. Air quality (dust) management measures;
  iii. Waste handling measures; and
  iv. Noise and Blast management measures.

- Hours of Operation:

  Construction Activities: Construction activities related to the Proposal must only be undertaken during the following hours:
  - 7 am to 6 pm, Monday to Saturday; and
  - At no time on Sunday's or Public Holiday's.

  Except where superseded by the condition above, construction activities must be undertaken in accordance with the "Interim Construction Noise Guidelines" (DECC, 2009) or any revision.

  Operational Activities: Operational activities related to the Proposal may only be undertaken during the following hours:

  - 7:00 am to 6:00 pm, Monday to Saturday; and
  - at no time on Sundays or Public Holidays.

  Blasting activities: must only be undertaken between the hours of 9:00 am and 5:00 pm, Monday to Friday and at no times on weekends or Public Holidays.

- Trucks entering and leaving the premises that are carrying loads on public roads must be covered at all times, except during loading and unloading.

- The internal quarry access/haulage road must be maintained in a condition that prevents or minimises the emission into the air of air pollutants (which includes dust).
- All trucks and mobile plant operating within the premises must be fitted (where there is a requirement for such devices to be fitted under the Work Health and Safety legislation) with broad-spectrum reversing alarms.
- The Proponent must apply for and hold an in-force environment protection licence issued by the Environment Protection Authority prior to the Proponent carrying out any scheduled activities under the *Protection of the Environment Operations Act 1997* as proposed.

ADVISORY NOTES

1 The removal of trees within any road reserve requires the separate approval of Council in accordance with the policy "Tree Removal and Pruning – Public Places".

2 The land upon which the subject building is to be constructed may be affected by restrictive covenants. This approval is issued without enquiry by Council as to whether any restrictive covenant affecting the land would be breached by the construction of the building, the subject of this approval. Persons to whom this approval is issued must rely on their own enquiries as to whether or not the building breaches any such covenant.

3 Sections 8.2, 8.3, 8.4 and 8.5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) gives you the ability to seek a review of the determination. This request is made to Council and must be made within 6 months after the date on which you receive this notice. The request must be made in writing and lodged with the required fee; please contact Council's Planning and Development Department for more information or advice.

4 If you are dissatisfied with this decision sections 8.7 and 8.10 of the EP&A Act 1979 gives you the right to appeal to the Land and Environment Court within 6 months after the date on which you receive this notice.

5 To ascertain the date upon which the consent becomes effective, refer to Sections 4.20 and 8.13 of the EP&A Act.

6 To ascertain the extent to which the consent is liable to lapse, refer to Section 4.53 of the EP&A Act.

7 The development is to operate so as to not emit offensive noise, as defined in the *Protection of the Environment Operations Act 1997.*

8 Separate development consent may be required for the importation of fill material removed from Aarons Pass Road. This material may be considered to be waste material. Please contact the Environmental Protection Authority for guidance in relation to dealing with this material.

9 The quarry manager is responsible for the monitoring of the quarry for any evidence of salt (salinity) effects. In the event the quarry manager observes salt crystals forming on the site or significant vegetation die back, a suitably qualified professional should be engaged to provide advice on appropriate management of the site.

10 The landowner is advised to contact NSW Water in relation to the need for any licences to install a farm dam.

REASONS FOR DECISION

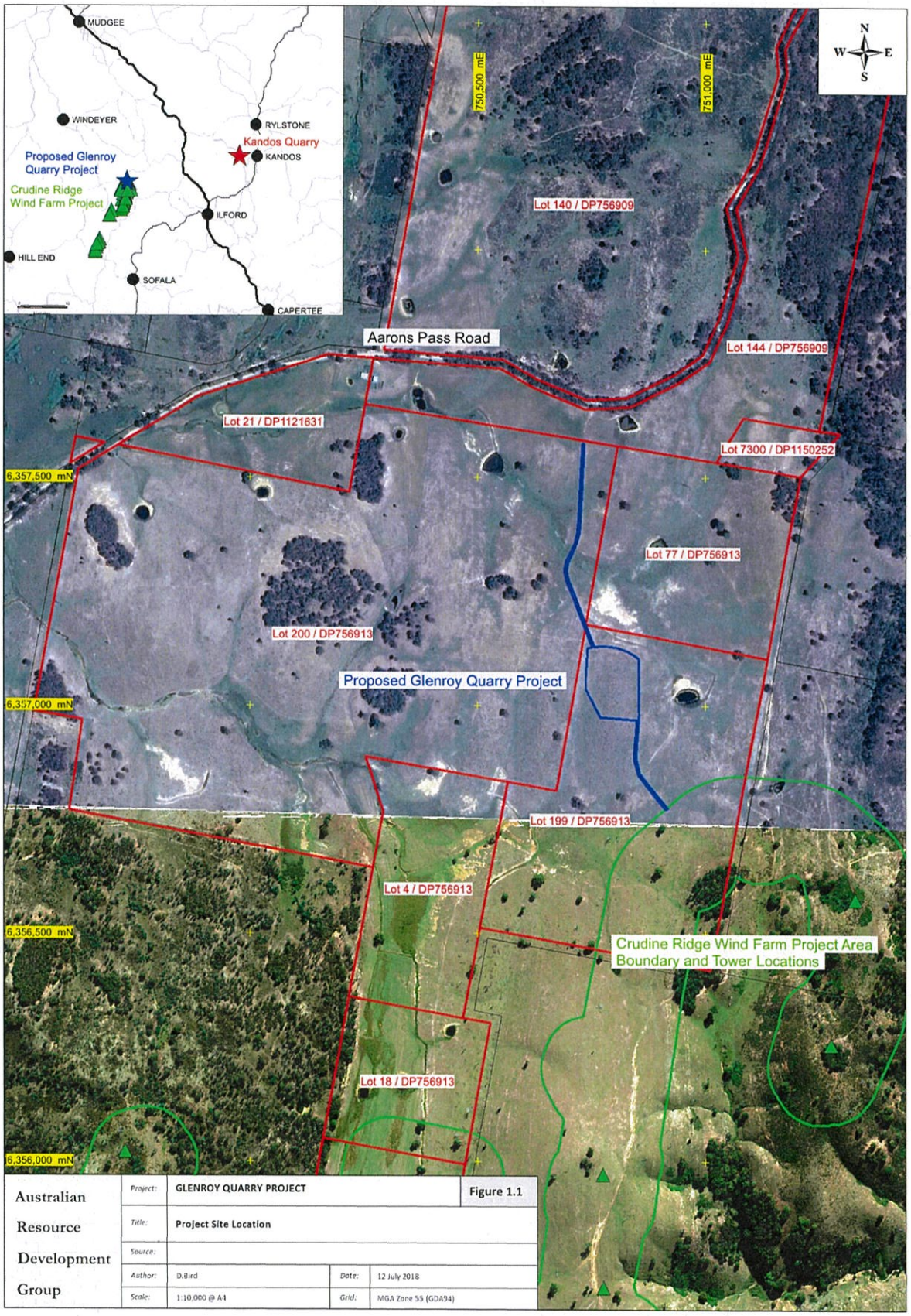
1. The proposed development complies with the applicable environmental planning instruments, Mid-Western Development Control Plan 2013 and the relevant Council policies.

2. No submissions were received in response to public notification of the proposed development.

3. Any environmental, social and economic impacts associated with the proposed development may be appropriately addressed through the conditions on the development consent.

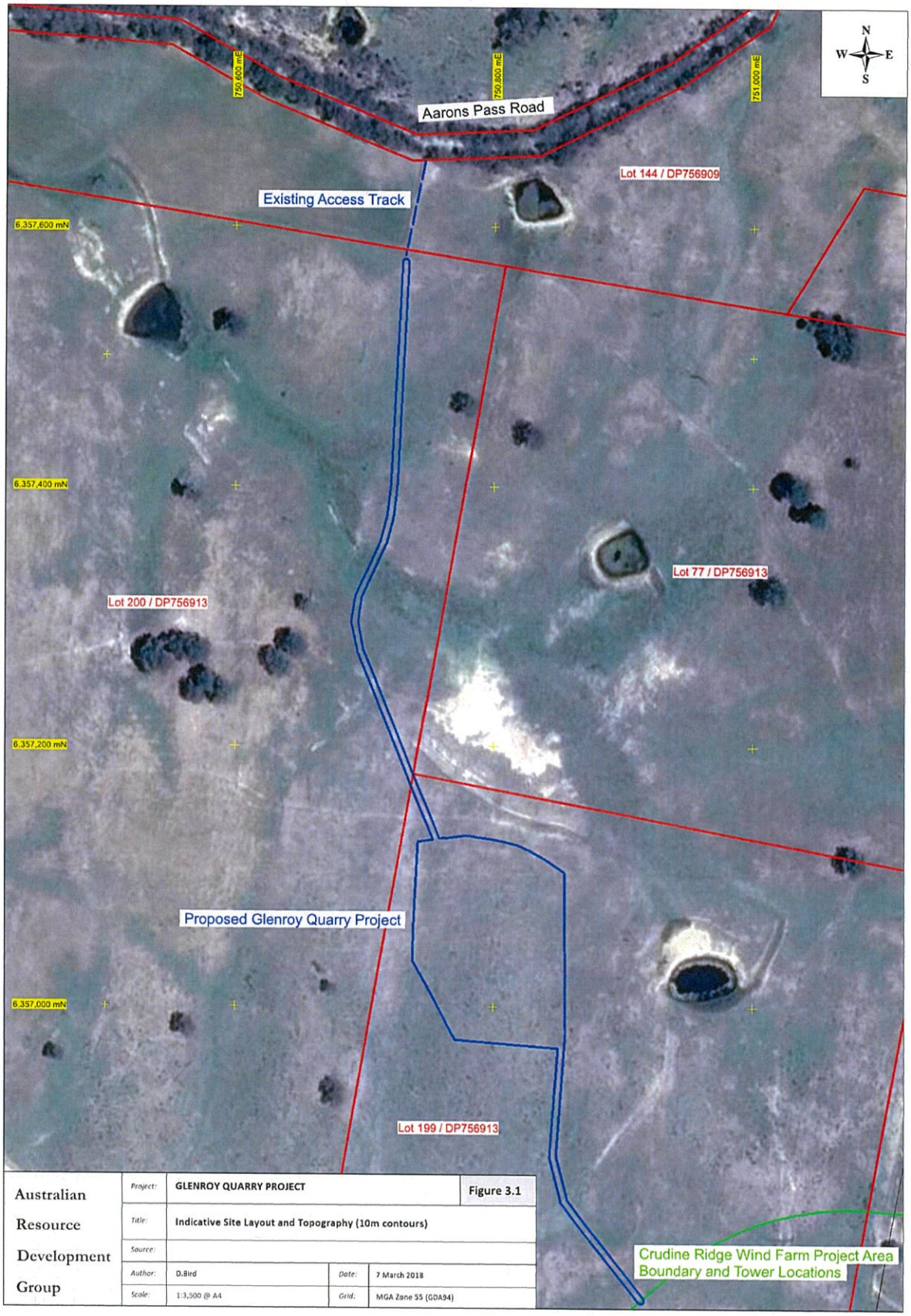
Signed on behalf of Mid-Western Regional Council by:

JULIE ROBERTSON
DIRECTOR DEVELOPMENT



Australian Resource Development Group	Project:	GLENROY QUARRY PROJECT		Figure 1.1
	Title:	Project Site Location		
	Source:			
	Author:	D.Bird	Date:	12 July 2018
	Scale:	1:10,000 @ A4	Grid:	MGA Zone 55 (GDA94)

MID-WESTERN REGIONAL COUNCIL
APPROVED PLAN
APPLICATION NO. DA0218/2018
SIGNED.....
Authorised person
DATE 27/07/18



Australian Resource Development Group	Project:	GLENROY QUARRY PROJECT		Figure 3.1
	Title:	Indicative Site Layout and Topography (10m contours)		
	Source:			
	Author:	D.Bird	Date:	7 March 2018
	Scale:	1:3,500 @ A4	Grid:	MGA Zone 55 (GDA94)

MID-WESTERN REGIONAL COUNCIL
APPROVED PLAN
APPLICATION NO. DA0218/2018
SIGNED.....
Authorised person
DATE.....27/07/18.....

DRIVER'S CODE OF CONDUCT

While carting materials from Glenroy Quarry (herein referred to as 'the site'), to the Aarons Pass Road upgrade works or the Crudine Ridge Wind Farm Project, the driving behaviour of all employees/subcontractors is on display to the general public. Australian Resource Development Group Pty Limited (herein referred to as 'the Company' operating under EPL 21144) has made a commitment to Mid-Western Regional Council and the local community to perform our business in a manner which protects people, property and the environment. As such, all employees/subcontractors working for the Company shall adhere to this Code of Conduct.

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1. All vehicles entering the site must be fully roadworthy and maintained. A representative of the Company may, at any time, inspect any vehicle or request maintenance records for any vehicle. Further, The Company reserves the right to prohibit any vehicle from the site if it is believed to not be roadworthy or safe to operate.
2. All drivers must obey all signs, speed limits, directions and instructions and display respect and courtesy for other road users.
3. The use of engine brakes is prohibited when passing residences located along Aarons Pass Road.
4. All drivers must operate within the realms of the law. This includes not carting in excess of the legal limits.
5. No maintenance or repairs to be performed on trucks within the site.
6. No unnecessary use of radio systems so as to allow good communication on site.
7. All loads shall be covered with tarps and be secured. Drawbars, tailgates and side combing are to be cleaned of all material.
8. All quarry mobile equipment has right of way at all times.
9. Drivers must remain in the truck cabin while being loaded unless directed by the loader driver.
10. All quarry safety rules, signs, directives, must be strictly adhered to.
11. Drug and Alcohol random testing may be undertaken by the Company at any time. Refusal to be tested will result in refusal to be loaded.
12. Where a designated route is issued for cartage, it must be used.
13. Any accidents, incidents, or complaints that occur on or off site, must be reported to the Quarry Manager as soon as possible.
14. Failure to comply with any of these directives, may result in refusal to load and /or future work with the Company.

For any issues that may arise while carting from the site, please contact the Quarry Manager.

Appendix 2

Environmental Protection Licence

EPL 21144

Environment Protection Licence

Licence - 21144

Licence Details	
Number:	21144
Anniversary Date:	01-August

Licensee
AUSTRALIAN RESOURCE DEVELOPMENT GROUP PTY LIMITED
130 YOUNG STREET
CARRINGTON NSW 2294

Premises
GLENROY
1330 PYRAMUL ROAD
PYRAMUL NSW 2850

Scheduled Activity
Crushing, grinding or separating
Extractive activities

Fee Based Activity	Scale
Crushing, grinding or separating	> 30000-100000 T annual processing capacity
Land-based extractive activity	> 50000-100000 T annual capacity to extract, process or store

Region
Central West
L102, 346 PANORAMA AVENUE BATHURST NSW 2795
Phone: (02) 6333 3800
Fax: (02) 6332 7630
PO Box 1388
BATHURST NSW 2795

Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

The EPA publication "A Guide to Licensing" contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

AUSTRALIAN RESOURCE DEVELOPMENT GROUP PTY LIMITED
130 YOUNG STREET
CARRINGTON NSW 2294

subject to the conditions which follow.

1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Crushing, grinding or separating	Crushing, grinding or separating	> 30000 - 100000 T annual processing capacity
Extractive activities	Land-based extractive activity	> 50000 - 100000 T annual capacity to extract, process or store

A1.2 Notwithstanding A1.1, the scale of the land-based extractive activity authorised under this licence must not exceed 30,000 cubic metres per annum, being the extraction limit approved by the development consent granted under the *Environmental Planning and Assessment Act 1979* for the premises specified in A2.

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
GLENROY
1330 PYRAMUL ROAD
PYRAMUL
NSW 2850
LOT 199 DP 756913, LOT 214 DP 756913

A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:
a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998;

and
b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

3 Limit Conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Waste

L2.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.
Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.
Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.
This condition does not limit any other conditions in this licence.

Code	Waste	Description	Activity	Other Limits
NA	General or Specific exempted waste	Waste that meets all the requirements of a resource recovery exemption under Clause 92 of the Protection of the Environment Operations (Waste) Regulation 2014	As specified in each particular resource recovery exemption	NA

L3 Noise limits

L3.1 Noise from the premises must not exceed 40dB(A) $L_{Aeq(15\ minute)}$ at any time at a noise sensitive location except as expressly provided by this licence.

Where L_{Aeq} means the equivalent continuous noise level - the level of noise equivalent to the energy-average of noise levels occurring over a measurement period.

Note: The above noise limits do not apply at any noise sensitive location where the licensee has a written agreement with the noise sensitive receiver to exceed the noise limit.

Note: 'Noise sensitive locations' include buildings used as a residence, hospital, school, child care centre, places of public worship and nursing homes. A noise sensitive location includes the land within 30 metres of the building.

L3.2 The noise limit in condition L3.1 applies under all meteorological conditions except for the following:

a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or
b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
c) Stability category G temperature inversion conditions.

L3.3 To determine compliance with condition L3.1, noise from the premises is to be measured:
a) approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or
b) within 30 metres of a dwelling façade, but not closer than 3 metres where any dwelling on the property is more than 30 metres from the boundary closest to the premises.

L3.4 For the purposes of condition L3.2 data recorded at the Australian Bureau of Meteorology's weather station located at Mudgee Airport must be used to determine meteorological conditions unless an alternative meteorological site has approved by the EPA.

L4 Blasting

L4.1 The overpressure level from blasting operations at the premises must not exceed 115dB (Lin Peak) for more than five per cent of the total number of blasts over each reporting period at any time and at any point within 30 metres of any non-project related residential building or other noise sensitive location. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L4.2 The overpressure level from blasting operations at the premises must not exceed 120dB (Lin Peak) at any time and at any point within 30 metres of any non project related residential building or other noise sensitive location. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L4.3 Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 5 mm/sec for more than five percent of the total number of blasts over each reporting period. Error margins

associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L4.4 Ground vibration peak particle velocity from the blasting operations at the premises must not exceed 10 mm/sec at any noise sensitive location at any time. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

L4.5 Blasting operations at the premises may only take place between 9:00am and 5:00pm Monday to Friday (excluding public holidays). (Where compelling safety reasons exist, the Authority may permit a blast to occur outside the abovementioned hours. Prior written (or facsimile) notification of any such blast must be made to the Authority).

L5 Hours of operation

L5.1 Activities covered by this licence must only be carried out between the hours of 7:00am and 6:00pm Monday to Saturday and at no time on Sundays and Public Holidays.

L5.2 The licensee may undertake works outside of the hours permitted by Condition L5.1 if:
(i) Those works are inaudible at non-associated residences;
(ii) Those works constitute emergency works required to avoid loss of life, damage to property or environmental harm; or
(iii) Those works constitute deliveries of oversized plant or structures that have been determined by the police or other authorised authorities to require special arrangements for transport along public roads for safety reasons.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.
This includes:
a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
a) must be maintained in a proper and efficient condition; and
b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 Activities occurring in or on the premises must be carried out in a manner that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.

O3.2 Trucks entering and leaving the premises that are carrying loads of dust generating materials must have their loads covered at all times, except during loading and unloading.

5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:
a) in a legible form, or in a form that can readily be reduced to a legible form;
b) kept for at least 4 years after the monitoring or event to which they relate took place; and
c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:
a) the date(s) on which the sample was taken;
b) the time(s) at which the sample was collected;
c) the point at which the sample was taken; and
d) the name of the person who collected the sample.

M2 Recording of pollution complaints

M2.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M2.2 The record must include details of the following:
a) the date and time of the complaint;
b) the method by which the complaint was made;
c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
d) the nature of the complaint;
e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
f) if no action was taken by the licensee, the reasons why no action was taken.

M2.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M2.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M3 Telephone complaints line

M3.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

M3.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M3.3 The preceding two conditions do not apply until 3 months following the date of the issue of this licence.

6 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:
a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is

given; or
b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
a) the licence holder; or
b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R2 Notification of environmental harm

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
a) where this licence applies to premises, an event has occurred at the premises; or
b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:
a) the cause, time and duration of the event;
b) the type, volume and concentration of every pollutant discharged as a result of the event;
c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;

e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

7 General Conditions

G1 Copy of licence kept at the premises or plant

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales.*
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales.*
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

w weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environmen t Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder describe d at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
centile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 mo nths. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*.

TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste

Ms Sheridan Ledger

Environment Protection Authority

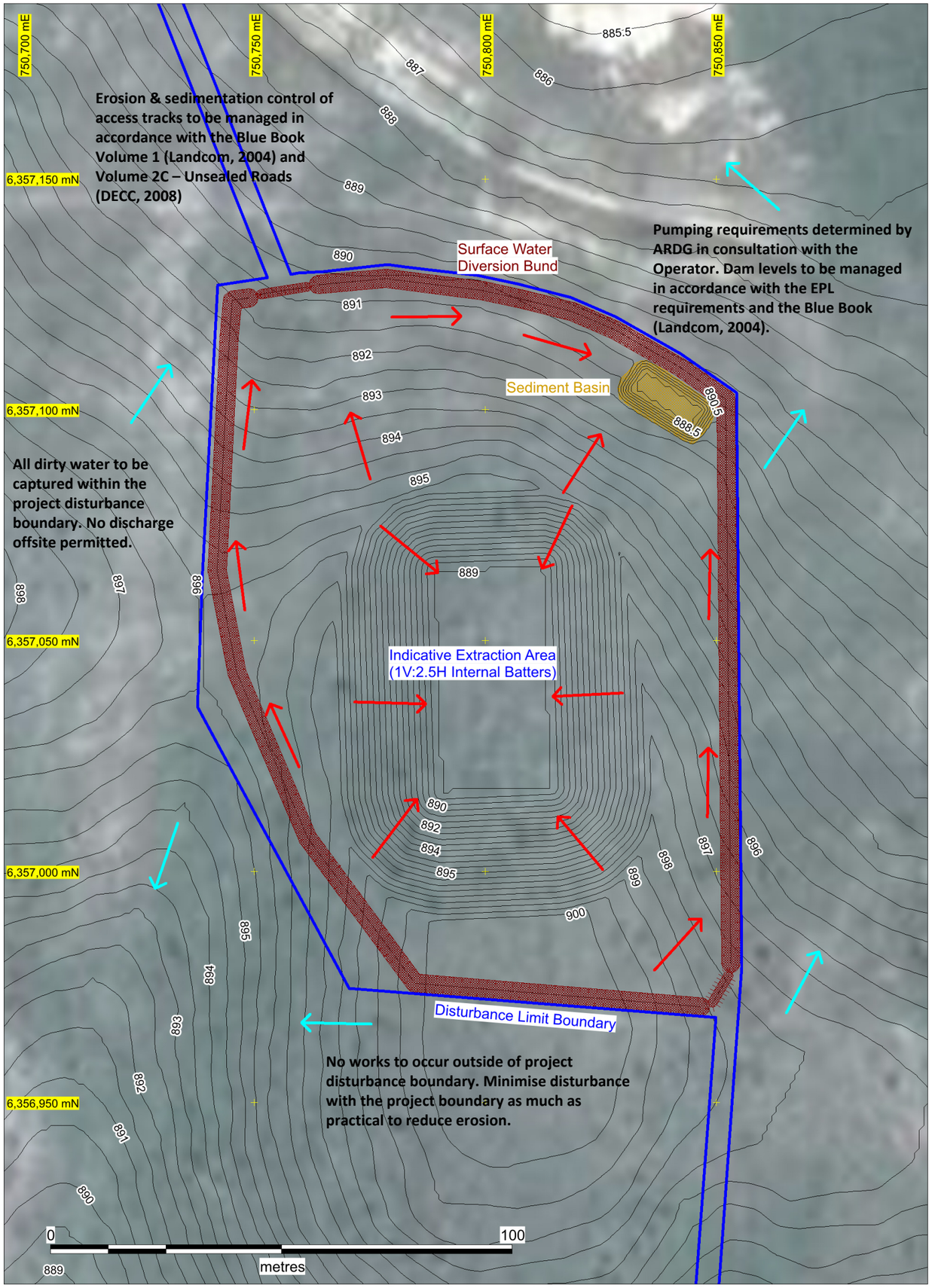
(By Delegation)

Date of this edition: 01-August-2018

End Notes

Appendix 3

Soil and Water Management Plan



General Notes:

1. All erosion and sediment controls to be installed, managed and maintained in accordance with Landcom's Managing Urban Stormwater: Volume 1 (Landcom, 2004) and Volume 2 (DECC, 2008).
2. Erosion and sediment control plan design prepared by ARDG.
3. The following Blue Book (Landcom, 2004) standard drawings should be referred to when managing erosion and sediment on site:
   - SD 4-1 Stockpiles
   - SD 4-2 Replacing Topsoil
   - SD 5-2 RECP: Sheet flow
   - SD 5-4 Rock Check Dam
   - SD 5-5 Earth Bank (low-flow)
   - SD 6-4 Earth Basin – Wet
   - SD 6-6 Sediment Fence
   - SD 6-14 Stabilised site access
4. Sediment basins to be sized, constructed and maintained for the maximum catchment during construction and operation to a minimum volume as indicated on the SWMP Information Summary sheet.
5. Rehabilitation to be undertaken in accordance with the Blue Book (Landcom, 2004).
6. Clearing and topsoil stripping to be limited to the minimum amount required for construction.
7. All disturbed areas to drain to an appropriate sediment control at all times. Disturbed areas to be minimised as much as practical to the areas essential for construction work only.
8. No tracking of material onto public roads. Appropriate stabilised site access points to be established where required as per SD 6-14 of the Blue Book (Landcom, 2004).
9. Stockpiles are to be located at least 40 metres away from the top of bank of any drainage lines and should be managed as per SD 4-1 including a sediment fence installed on the downslope side, clean water diversion upslope and covered to prevent dust generation and dirty water runoff.
10. Erosion and sediment controls to be updated as required if the site conditions change or if installed controls are not operating effectively.
11. Erosion and sediment controls as displayed on this figure are conceptual only and have been designed and sized by ARDG.

Staging:

A. Install stabilised site access and access road.
B. Install sediment basin.
C. Install and stabilise diversion bunds.
D. Install sediment fences associated with any stockpile locations.
E. Strip and stockpile topsoil in accordance with SD 4-1.
F. Undertake construction works.
G. Inspect, maintain and manage all erosion and sediment controls on a weekly basis and prior to and post 10 mm of rainfall in accordance with the Blue Book (Landcom, 2004).

Legend

Clean water flow path | Dirty water flow path | Surface water diversion bund | Sediment pond

Australian Resource Development Group	*Project:*	**GLENROY QUARRY**		**Figure 1**
	Title:	**Conceptual Schematic Erosion and Sediment Control Plan**		
	Cont.Int.:	0.5m		
	Author:	D.Bird	*Date:*	July 2018
	Scale:	1:1,000 @ A3	*Grid:*	MGA Zone 56 (GDA94)

Table A3.1 – Glenroy Quarry Soils and Water Management Plan Information Overview	
Parameters	**Comment**
Disturbance Area	1.69 ha (excludes access roads – 0.31 ha)
Constraints Analysis	
Riparian/Flood Prone Lands	No
Rainfall Erosivity (R)	1328
Soil Erodibility (K)	0.06
Soil Erosion Hazard	
Soil Loss Class	1 – very low
Dispersibility	Dispersible based on soil landscapes
Soil Texture Group	D
Expansive/Reactive Soils	No
Runoff Co-efficient (Cv)	0.5
Runoff Potential	Low to Moderate
Soil pH	N/A
Watertable	Not present at depth of drilling/base of pit (*i.e.* 8-10 m below ground level)
Salinity	N/A
ASS	N/A
Soil Contamination	N/A
Mass Movement	N/A
Erosion Hazard Assessment	Slope – < 10%
	Low Erosion Hazard
Sediment Basin Test	Basin required
	Approx. 2 Month project length
	Type D Design Soil Hydrologic Group - sourced from eSPADE
	Type D Sediment
	K – 0.06
	LS – 1.19
	P – 1.3 (default)
	C – 1.0 (default)
	80th percentile, 5 day rainfall event – Lithgow – 20.6 mm (rainfall depth)
Basin Sizing	Total Basin Volume - 299 m^3 – calculated using the Settling Zone + Sediment zone (0.5 x settling zone) method.
Settling Zone Size	200 m^3
Sediment Zone Size	99 m^3
	Settling zone depth – up to 1.5 m
Maintenance	
Clean water diversion bund	Inspected regularly (weekly or fortnightly) by site operations manager for bund wall integrity and functionality in diverting water around the site
Settling basin	Any water collected to be pumped regularly into a water cart and used for dust suppression on Crudine Ridge Wind Farm construction site/road network, including quarry access road
	Sediment depth in settling zone to be regularly (weekly or fortnightly) inspected to maintain design settling zone depth
	Excess sediment collected to be incorporated into product stockpiles
	Note: constructed basin may exceed design basin volume
Site rehabilitation	As detailed in approval documents and contract docs.
Inspection and test plan	(refer **Table A3.2**)

Notes and Assumptions:

- Sediment basin design detail:
  - Construction volume – 437 m^3
  - Floor area – 74.2 m^2
  - Floor level – 888 m AHD
  - Spill level – 890.5 m AHD
  - Storage volume – 300 m^3
  - Batter angle – 45 °

- Sediment basin has been sized based on the nominated 8 – 12 week disturbance period (from breaking ground to full rehab). If it is anticipated that this disturbance period will be extended beyond 6 months then the sediment basin sizes will need to be revised.

- Sediment basin has been sized as the maximum of either (a) the 5-day, 80th percentile rainfall water volume for Lithgow plus 50% sediment zone or (b) the 5-day, 80th percentile plus soil storage determined using RUSLE (revised universal soil loss equation).

- Due to lack of available site-specific soil information the k-factor used within the RUSLE calculations has been assumed to be a default value of 0.06 (0.05 + 20% to account for any dispersive soils).

- eSPADE was used to source soil hydrologic groups for each quarry.

- The maximum slope of the site has been used to size the sediment basin.

- It has been assumed that the entirety of the area within the disturbance boundary for each quarry will be disturbed and all dirty water runoff will be directed by appropriate erosion and sediment controls to a single sediment basin located at the lowest point within the site boundary.

Table A3.2 – Glenroy Quarry Inspection and Test Plan							
Step	**Activity**	**Standard**	**Test**				**Sign off**
			Method	**Freq**	**Resp.**	**Records/remarks**	
1	Review ESCP and SWMP	Blue Book Ch 2.0	Review	Before start	QM		
2	Review Construction	Blue Book Ch 3.0	Review	Before start	QM		
3	Confirm approvals received	Contract docs	Review	Before start	Contractor/QM		
4	Confirm site erosion control measures in place	Blue Book Ch 5.0; Ch 6.0; Ch 9.0	Visual	Before blast/extraction commencement			
5	Check condition of all erosion and sediment control measures including any on access roads	Blue Book Ch 4.0; Ch 6.0; Ch 9.0	Visual	Weekly/after storm events	QM		
6	Check storage of all materials and operations confirmed to approved disturbance area	Blue Book Ch 9.0	Visual	Weekly	QM		
7	Inspect site restoration	Blue Book Ch 4.0; Ch 7.0; Contract docs	Visual	At completion	Contractor/QM		
8	Final inspection	Contract docs	Visual	At completion	Contractor/QM		

Appendix 4

Pollution Incident Response Management Plan

Pollution Incident Response Management Plan

Glenroy Quarry
Lots 77, 199 and 200 DP756913, Pyramul

July 2018




Australian Resource Development Group Pty Ltd
ACN 611 489 804

Pollution Incident Response Management Plan

Glenroy Quarry

Lots 77, 199 and 200 DP756913, Pyramul

Quality Assurance

This document has been prepared, checked and released in accordance with the *Protection of the Environment Operations Act 1997* by Australian Resource Development Group Pty Limited.

Issue	Date	Description	Prepared By
A	19 June 2018	Rev 2	JM/DB
FINAL	30 July 2018	Final	JM/DB

This document has been authorised by

Dr Justin Meleo

Date: 30 July 2018

Acknowledgments

This document has been prepared by Australian Resource Development Group Pty Limited.

Australian Resource Development Group Pty Limited ACN 611 489 804

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Table of Contents

List of Figures

Follows page

List of Tables

Page

Australian Resource Development Group Pty Limited ACN 611 489 804

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1 Introduction

1.1 Background and Scope

The NSW *Protection of the Environment Operations Act 1997* (POEO Act) provisions include a requirement for holders of Environment Protection Licences (EPLs) to prepare, keep, test and implement a Pollution Incident Response Management Plan (PIRMP). This PIRMP has been prepared by Australian Resource Development Group Pty Limited (ARDG) to address this legislative requirement for Glenroy Quarry. The location of Glenroy Quarry is shown in **Figure 1.1**.

Specific requirements for PIRMPs are set out in Part 5.7A of the POEO Act and the Protection of the Environment Operations (General) Regulation 2009 (POEO(G) Regulation), which includes the following:

- Holders of EPLs must prepare a pollution incident response management plan (section 153A, POEO Act)
- The plan must include the information detailed in the POEO Act (section 153C) and the POEO(G) Regulation (clause 98C) and be in the form required by the POEO(G) Regulation (clause 98B)
- Licensees must keep the plan at the premises to which the EPL relates (section 153D, POEO Act)
- Licensees must test the plan at least every 12 months and after a pollution incident in accordance with the POEO(G) Regulation (clause 98E); and
- If a pollution incident occurs in the course of an activity so that material harm to the environment is caused or threatened within the meaning of Part 5.7 of the POEO Act, licensees must immediately implement the plan (section 153F, POEO Act).

As the holder of EPL 21144, ARDG is required to comply with the POEO Act and as such, this document has been developed to satisfy the PIRMP requirements, including those detailed above.

This document also details the procedures for notification of pollution incidents resulting in or having the potential to cause material harm to the environment, as defined in the POEO Act (refer **Section 3.1**).

1.2 Regulatory Requirements

Specific detail is required for inclusion in the PIRMP. **Table 1.1** lists information mandated under Section 153C of the POEO Act and clause 98C of the POEO(G) Regulation and details where this information is located in this document.

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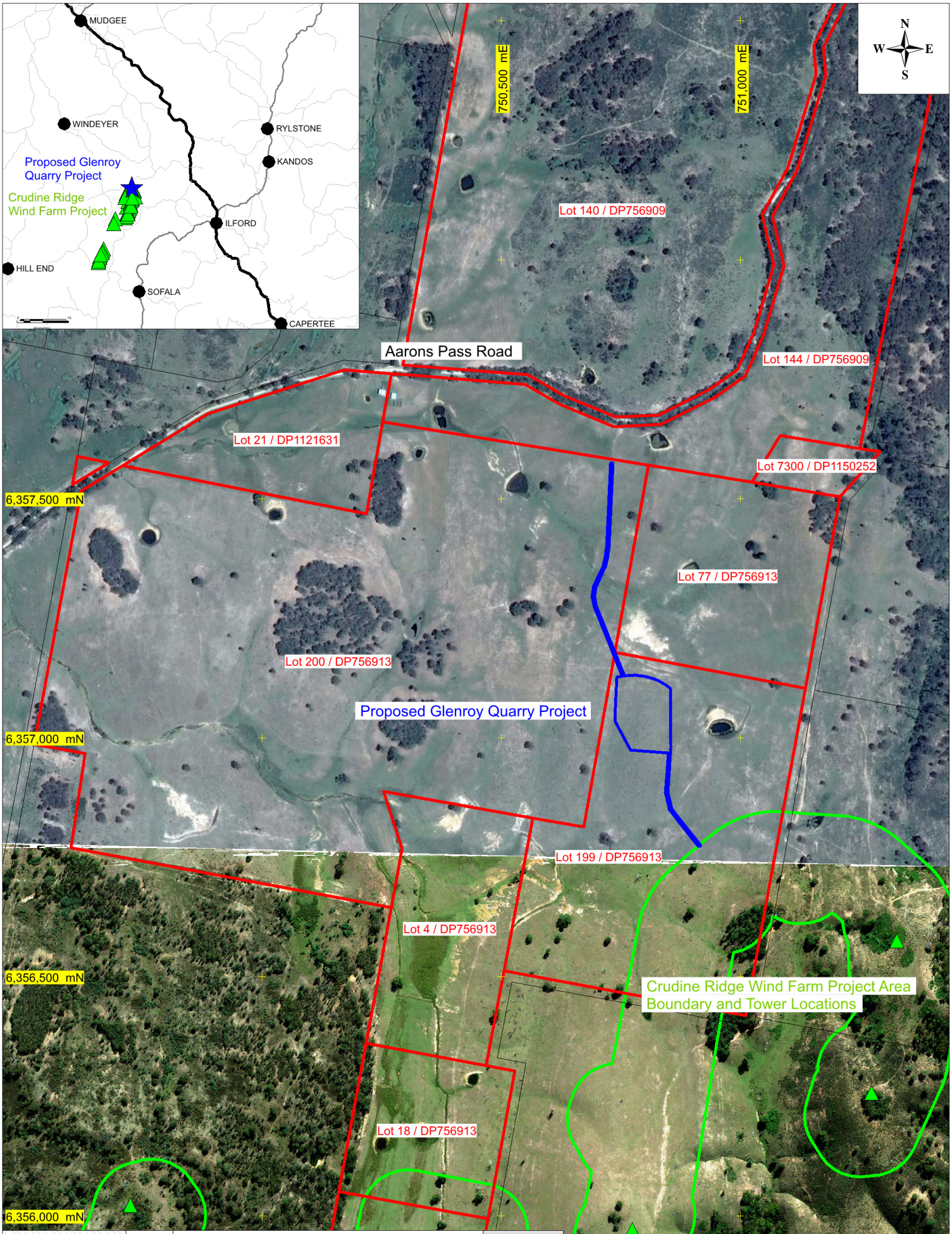

Australian Resource Development Group	Project:	GLENROY QUARRY PROJECT	Figure 1.1
	Title:	Project Site Location	
	Source:		
	Author: D.Bird	Date: 12 July 2018	
	Scale: 1:10,000 @ A4	Grid: MGA Zone 55 (GDA94)	

Table 1.1 PIRMP Document Directory		
Section 153C	**Detail Required**	**Addressed in Section**
(a)	The procedures to be followed by the holder of the relevant EPL in notifying a pollution incident to: (i) The owners or occupiers of premises in the vicinity of the premises to which the EPL relates, and	**Section 5.3**
	(ii) The local authority for the area in which the premises to which the EPL relates are located and any area affected, or potentially affected, by the pollution, and	**Section 5.2**
	(iii) Any persons or authorities required to be notified by Part 5.7 (of the POEO Act).	**Section 5.2**
(b)	A detailed description of the action to be taken, immediately after a pollution incident, by the holder of the relevant EPL to reduce or control any pollution.	**Section 4.0**
(c)	The procedures to be followed for co-ordinating, with the authorities or persons that have been notified, any action taken in combating the pollution caused by the incident and, in particular, the persons through whom all communications are to be made.	**Section 5.2**
(d)	Any other matter required by the Protection of the Environment Operations (General) Regulation 2009 (as set out below): 98C (1)(a) A description of the hazards to human health or the environment associated with the activity to which the licence relates (the "relevant activity").	**Section 2.2**
	98C (1)(b) The likelihood of any such hazards occurring, including details of any conditions or events that could, or would, increase that likelihood.	**Section 2.2** and **Appendix 2**
	98C (1)(c) Details of the pre-emptive action to be taken to minimise or prevent any risk of harm to human health or the environment arising out of the relevant activity.	**Section 4**
	98C (1)(d) An inventory of potential pollutants on the premises or used in carrying out the relevant activity.	**Section 2.4**
	98C (1)(e) The maximum quantity of any pollutant that is likely to be stored or held at particular locations (including underground tanks) at or on the premises to which the licence relates.	**Section 2.4**

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Table 1.1 PIRMP Document Directory		
Section 153C	**Detail Required**	**Addressed in Section**
	98C (1)(f) A description of the safety equipment or other devices that are used to minimise the risks to human health or the environment and to contain or control a pollution incident.	**Section 2.5** and **Section 4**
	98C (1)(g) The names, positions and 24-hour contact details of those key individuals who: (i) are responsible for activating the plan, and (ii) are authorised to notify relevant authorities under section 148 of the POEO Act, and (iii) are responsible for managing the response to a pollution incident.	**Section 3.2**
	98C (1)(h) The contact details of each relevant authority referred to in section 148 of the POEO Act	**Section 5.2**
	98C (1)(i) Details of the mechanisms for providing early warnings and regular updates to the owners and occupiers of premises in the vicinity of the premises to which the licence relates or where the scheduled activity is carried on.	**Section 5.3**
	98C (1)(j) The arrangements for minimising the risk of harm to any persons who are on the premises or who are present where the scheduled activity is being carried on.	**Section 4.0**
	98C (1)(k) A detailed map (or set of maps) showing the location of the premises to which the licence relates, the surrounding area that is likely to be affected by a pollution incident, the location of potential pollutants on the premises and the location of any stormwater drains on the premises.	**Figure 1.1** Note: No stormwater drains are located on the premises. Potential pollutants to be kept as described in **Section 2.4**.
	98C (1)(l) A detailed description of how any identified risk of harm to human health will be reduced, including (as a minimum) by means of early warnings, updates and the action to be taken during or immediately after a pollution incident to reduce that risk.	**Section 4.0** and **5.3**
	98C (1)(m) The nature and objectives of any Workers training program in relation to the plan.	**Section 6.1**

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130 Young St Carrington NSW 2294
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Table 1.1 PIRMP Document Directory		
Section 153C	**Detail Required**	**Addressed in Section**
	98C (1)(n) The dates on which the plan has been tested and the name of the person who carried out the test.	**Section 6.2**
	98C (1)(o) The dates on which the plan is updated.	**Section 6.2**
	98C (1)(p) The manner in which the plan is to be tested and maintained.	**Section 6.2**

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130 Young St Carrington NSW 2294
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2 Premise Details

2.1 Site Details

Glenroy Quarry is located within the central tablelands of NSW. It is located approximately 30 km south of Mudgee, within the Mid-Western Regional Council (MWRC) Local Government Area (**Figure 1.1**). The Quarry is located on the rural property 'Glenroy', a privately-owned property comprising 22 individual parcels totalling approximately 860 ha and is owned by Mr John Hundy.

The surrounding area which could potentially be impacted by a pollution incident include the following:

- Land holders adjacent to the Quarry; or
- Private dwellings including the closest sensitive receptor located approximately 2.5 km to the north east of the Quarry; and
- Additional private dwellings located over 2.5 km to the north-east of the Quarry.

The Quarry is primarily located on one of the parcels, Lot 199 DP756913 approximately 550 m south of Aarons Pass Road, Pyramul, New South Wales. The Project access road is also located on Lots 77 and 200 DP756913. Land use surrounding the Project area consists of agricultural land uses, primarily grazing, consistent with the RU1 Primary Production land zoning.

2.2 Quarrying Operations

The material in the quarry will be extracted from a single bench extraction pit, up to approximately 10 m in depth, through an excavator and truck operation. Based on the results of an exploration drilling program, it is envisaged that a single 'paddock shot' blast will be undertaken to loosen up the material prior to loading of material by excavator into dump trucks for transport to the processing area. The blasting would be completed by an appropriately licensed and experienced contractor, with no requirement to store explosives and blast related materials on site.

Mobile equipment will be used for crushing and processing extracted rock. Processed rock will be stockpiled and transported by the road contractor to Aarons Pass Road for use in upgrade works as part of the CRWF Project. Should it be available, excess material will be transported to the CRWFP area via a constructed access track.

2.3 Main Hazards

The potential main hazards relevant to this PIRMP which have been identified for Glenroy Quarry operations are:

- spills (*e.g.* hydrocarbon, chemicals, greases and oils etc.) resulting in land contamination
- spills (*e.g.* hydrocarbon, chemicals, saline or sediment laden water, etc.) resulting in contamination of local creeks;
- water discharge (*e.g.* sediment basin failure); and

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- explosions.

The likelihood of environmental hazards occurring at Glenroy Quarry is addressed in **Appendix 1**.

The risk assessment was undertaken generally in accordance with the risk assessment process detailed within AS/NZS ISO 31000:2009. The purpose of the risk assessment was to identify the potential environmental aspects and impacts resulting from operations at Glenroy Quarry. The hazards which have been identified with a moderate or higher risk ranking have been included in this PIRMP and are considered the main hazards for the operation.

2.4 Chemicals and Potential Pollutants

The following is noted with respect to chemicals and/or hydrocarbons storage:

- No grease and oil will be stored on site. Any such materials handled on site will be done so appropriately to minimise the potential for contamination of the Project area.
- All waste oil and grease will be collected and will be removed from the site by a mobile mechanic/appropriately licensed contractor with all relevant waste tracking documentation completed.
- Workshop wastes including oil filters and tyres will be removed from the site by the mobile mechanic providing replacement parts if and as required.
- Spill kits and clean up protocols will be established for the operations and detailed in the EMP.

If contaminated soils are uncovered during the works, all works within the vicinity must cease immediately and Mid-Western Regional Council be notified.

2.5 Safety Equipment

Minimum Personal Protection Equipment (PPE) requirements are in place for workers, contractors and visitors are communicated to relevant personnel by the Quarry Manager or his / her delegate.

Other onsite safety related equipment and monitoring includes:

- onsite safety sign-in and Inductions for all workers, contractors and visitors;
- fire extinguishers/fire blankets;
- emergency stop/shut down and alarm points;
- spill kits;
- SDS Register;
- appropriate process and chemical identification signage and labelling;
- first aid kits;
- restricted chemical access;
- communication via two-way radio; and
- regular maintenance inspections.

Australian Resource Development Group Pty Limited ACN 611 489 804
130 Young St Carrington NSW 2294
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3 Management and Responsibilities

3.1 Legal Duty to Notify

All workers and contractors at Glenroy Quarry are responsible for alerting the Quarry Manager to all environmental incidents or hazards which may result in an environmental impact, regardless of the nature or scale.

Notification responsibilities are detailed in the POEO Act 1997 (Section 148), which encompasses all site workers, including contractors and sub-contractors. These can be categorised broadly as follows:

- The duty of Workers or any person undertaking an activity:
    - Any person engaged as an employee or undertaking an activity (at the Quarry) must, immediately after becoming aware of any potential incident that is believed to cause or threatened to cause material harm to the environment, notify the Quarry Manager of the incident and all relevant information about it. This is to be undertaken as per **Section 5.2**; and
- The duty of the employer or occupier of a premises to notify:
    - An employer or occupier of the premises on which the incident occurs, who is notified (or otherwise becomes aware of) a potential pollution incident, must undertake notification to the appropriate regulatory authority of any “material harm incidents”, including relevant information. Notification shall be undertaken by an ARDG representative (or their delegate) as per **Section 5.2**.

3.2 PIRMP Management

The specific responsibilities associated with the management and implementation of the PIRMP are outlined in **Table 3.1**.

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130 Young St Carrington NSW 2294
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Table 3.1 PIRMP Management Responsibilities			
Name	**Contact Details**	**Position**	**Responsibility**
Justin Meleo Damon Bird	0427 180 923 0437 313449	ARDG	• Determination and notification of material harm incidents to relevant authorities/stakeholders. • Responsible for undertaking notification to external authorities as defined in this PIRMP. • Responsible for coordinating communications with external stakeholders including the local landholder and relevant regulatory authorities. • Providing information as requested from relevant government agencies. • Undertaking testing/updating of the PIRMP.
TBC	TBC	Quarry Manager	• Managing the response to a pollution incident in consultation with ARDG. • Completing relevant training in regards to the implementation of the PIRMP, as required.

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130 Young St Carrington NSW 2294
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4 Incident Management

A pollution incident is defined in the POEO Act as an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of noise.

In the case of an environmental incident, prior to any other action, the site must contact Fire and Rescue New South Wales (NSW) (1300 729 579 or 000) if the incident presents an immediate threat to human health or property. Fire and Rescue NSW are the first responders, as they are responsible for controlling and containing incidents. Where there is no threat to human health or services, Fire and Rescue NSW must still be contacted for information purposes, but as the last point of contact as detailed in **Section 5.2**.

All possible actions should be taken to control the pollution incident in order to minimise health, safety and environmental consequences. These actions, to the maximum extent possible, aim to:

- provide for the safety of people at and within the vicinity of the site; and
- contain the pollution incident.

Included in the pre-emptive actions to minimise risk, diversion drains have been constructed around the disturbance area which ensures that any sediment-laden water is directed to an onsite sediment pond.

The following actions are to be implemented in the event of an incident:

1. Secure the scene and contain the incident
2. Undertake notification of material harm incident (as required)
3. Gather information (i.e. environmental monitoring)
4. Undertake investigation into the cause of the incident
5. Review and classify information from investigation and identify any ongoing actions; and
6. Implement those actions identified.

Incident management at Glenroy Quarry focuses on actions to:

- provide and maintain response resources, including equipment and/or training to minimise the environmental impacts associated with the incident
- establish that response operations are carried out in a safe, well-organised, legal and effective fashion
- provide for the safety and welfare of all responders, employees, contractors and visitors (where applicable)
- continuously assess the incident to determine the adequacy of incident response operations
- minimise effects on people, the environment, property, production, and company reputation; and

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130 Young St Carrington NSW 2294
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- where necessary, utilise environmental monitoring to quantify impacts as a result of the incident.

With regards to the main hazards identified in **Section 2.3**, the actions detailed below shall be undertaken.

4.1 Spills

In the event of spills (including hydrocarbons or chemicals) resulting in land or water contamination, workers shall stop the source of the spill (if safe to do so), utilise spills kits located on site and any other resources available to ensure that spills are contained or directed in such a manner as to be captured by existing controls (*i.e.* sediment basins).

4.2 Discharge

Discharge of dirty water (*e.g.* dam failure) resulting in land or water contamination. Operational water requirements for the Quarry will primarily be supplied by capturing runoff from within the quarry pit and processing area. The quarry pit has been designed to enable capture and reuse of water as part of operations. Alternatively, water from the operational area is directed into a sediment basin for storage until required for reuse. In the case of failure of the sediment basin or overtopping, where possible water will be redirected (or pumped) into alternative containment areas.

4.3 Explosions and Fire

The use of explosives will be managed by utilising appropriately qualified personnel. All workers at Glenroy Quarry will follow the instruction of these qualified personnel for the management of blasting activities. In the case of an unintended fire and/or explosion, standard evacuations proceedings will be followed in accordance with site emergency management and evacuation procedures. It is noted that ARDG has no authority to undertake pollution control activities outside the property boundary.

Australian Resource Development Group Pty Limited ACN 611 489 804
130 Young St Carrington NSW 2294
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5 Notification Procedures

5.1 Determination of Material Harm

Following containment of the incident, immediate action must be taken to determine if the incident can be classified as a 'material harm incident'. As defined by Section 147 of the POEO Act, a material harm incident has occurred if the incident:

- involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial; or
- results in actual or potential loss (including all reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment) or property damage of an amount, or amounts in aggregate, exceeding $10,000.00 (or such other amount as is prescribed by the regulations).

It is possible for a material harm incident to occur on land that is within the boundary of the EPL. The determination of a material harm incident will be made by an ARDG representative at the time of the incident.

5.2 Internal and External Notifications

As discussed in **Section 3.1**, notification of an environmental incident is the responsibility of all site and contractor personnel. In the event of a 'material harm incident', response and notification must be undertaken as per Error! Reference source not found.. The agencies listed in **Table 5.1** must be contacted immediately in the order shown.

Table 5.1 PIRMP Notification Requirements

Agency	Contact Details
1. Fire and Rescue NSW	000 (to be contacted first if the incident presents an immediate threat to human health or property and emergency services are required. Fire and rescue to be contacted last if emergency response is not required).
2. Environment Protection Authority – Environment Line	131 555
3. Ministry of Health (via Public Health Unit)	1300 066 055
4. SafeWork NSW	13 10 50
5. Mid-Western Regional Council	1300 765 002 or 02 6378 2850

On the identification of an environmental incident or hazard, personnel will report the issue immediately to their manager, who in turn shall report it to the Quarry Manager on site. Immediately is taken to mean 'promptly and without delay'. **The decision on whether to notify the incident in accordance with**

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130 Young St Carrington NSW 2294
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Part 5.7 of the POEO Act should not delay immediate actions to provide the safety of people or contain a pollution incident. However, incident notification will be made as soon as it is safe to do so[1].

After initial notification of any 'material harm incident', it will be the responsibility of the ARDG representative or delegated person to liaise with any authority listed in **Table 5.1** that requests additional information, or is providing directions for management of the material harm incident. This may include incident investigation reports and ongoing environmental monitoring results.

5.3 Notification to Local Landholders and Community

Community notification shall be undertaken at the determination of the ARDG representative or Fire and Rescue (as relevant) and may be based on environmental monitoring results.

Contact details for stakeholders are included in **Table 5.1**. It is not envisaged that notification of local landowners will be required. However, in the event of an incident, local landholders will be contacted by ARDG.

The following notification methodology is proposed to be utilised as required:

- Early warnings: same day telephone notification to landholders whom may be affected by the incident over the subsequent 24 hour period; and
- Updates: follow up phone calls to all landholders who received an early warning notification or now require notification will be undertaken by relevant personnel. Updates are to be provided to the broader local community in affected areas via phone consultation. Other forms of communication will be utilised as required.

Information provided to the community will be relevant to the incident and may include the following details:

- Type of incident that has occurred.
- Potential impacts on the local landholders and the community.
- Site contact details.
- Advice or recommendations based on the incident type and scale.

[1] EPA, *Frequently Asked Questions Regarding the Duty to Notify of a Pollution Incident* <http://www.epa.nsw.gov.au/legislation/poefaqsnotify.htm>

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6 Training, Testing and Communication

6.1 Training

The contents of this document will be included in standard site inductions. All workers shall be made aware of their reporting requirements with regards to environmental incidents.

6.2 Testing, Review and Maintenance

Testing of the PIRMP will be undertaken to check that the information is accurate and current and that the plan is capable of being implemented in a workable and effective manner. Testing shall be undertaken in the following ways:

1. The PIRMP will be tested by assessing and reviewing it and making any necessary changes as required. Testing is taken to be either a desktop review or an environmental emergency drill procedure. Testing will include all components of the plan, including training requirements.

2. A review of the PIRMP will occur every 12 months commencing from the date of authorisation by ARDG.

3. The PIRMP will be reviewed within one month from the date of any pollution incident that occurs in the course of an activity to which the EPL relates. This review will be undertaken in light of the incident, to provide the information included in the plan is accurate and up to date and the plan is still capable of being implemented in a workable and effective manner.

Records of testing and review will be included in **Appendix 1** of this plan, including:

- the manner in which the test was undertaken;
- dates when the plan has been tested;
- the person who carried out the testing; and
- the date and description of any update of or amendment to the plan.

6.3 Availability of the PIRMP

The PIRMP shall be kept in written form at the EPL premises and shall be made available to all personnel responsible for implementing the plan and to an authorised officer (as defined in the POEO Act) on request.

The PIRMP will be made publicly available within 14 days of approval by ARDG of the original or any subsequent revisions. No personal information (within the meaning of the *Privacy and Personal Information Protection Act 1998*) will be made publicly available as part of the PIRMP.

Australian Resource Development Group Pty Limited ACN 611 489 804
130 Young St Carrington NSW 2294
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Appendix 1

Environmental and Community Risk Assessment

Table A1.1 Glenroy Quarry Qualitative Measures of Environmental Consequence				
Consequence	**Natural Environment**	**Legal/Government**	**Heritage**	**Community/Reputation/ Media**
(1) Insignificant	Limited damage to minimal area of low significance.	Low-level legal issue. On the spot fine. Technical non-compliance prosecution unlikely. Ongoing scrutiny/attention from regulator.	Low-level repairable damage to commonplace structures.	Low level social impacts. Public concern restricted to local complaints. Could not cause injury or disease to people.
(2) Minor	Minor effects on biological or physical environment. Minor short-medium term damage to small area of limited significance.	Minor legal issues, non-compliances and breaches of regulation. Minor prosecution or litigation possible. Significant hardship from regulator.	Minor damage to items of low cultural or heritage significance. Mostly repairable. Minor infringement of cultural heritage values.	Minor medium-term social impacts on local population. Could cause first aid injury to people. Minor, adverse local public or media attention and complaints.
(3) Moderate	Moderate effects on biological or physical environment (air, water) but not affecting ecosystem function. Moderate short-medium term widespread impacts (e.g. significant spills).	Serious breach of regulation with investigation or report to authority with prosecution or moderate fine possible. Significant difficulties in gaining approvals.	Substantial damage to items of moderate cultural or heritage significance. Infringement of cultural heritage/scared locations.	Ongoing social issues. Could cause injury to people, which requires medical treatment. Attention from regional media and/or heightened concern by local community. Criticism by Non-Government Organisations. Environmental credentials moderately affected.
(4) Major	Serious environmental effects with some impairment of ecosystem function. Relatively widespread medium-long term impacts.	Major breach of regulation with potential major fine and/or investigation and prosecution by authority. Major litigation. Project approval seriously affected.	Major permanent damage to items of high cultural or heritage significance. Significant infringement and disregard of cultural heritage values.	On-going serious social issues. Could cause serious injury or disease to people. Significant adverse national media/public or NGO attention. Environment/management credentials significantly tarnished.

Table A1.1 Glenroy Quarry Qualitative Measures of Environmental Consequence				
Consequence	**Natural Environment**	**Legal/Government**	**Heritage**	**Community/Reputation/ Media**
(5) Catastrophic	Very serious environmental effects with impairment of ecosystem function. Long term, widespread effects on significant environment (e.g. national park).	Investigation by authority with significant prosecution and fines. Very serious litigation, including class actions. License to operate threatened.	Total destruction of items of high cultural or heritage significance. Highly offensive infringement of cultural heritage.	Very serious widespread social impacts with potential to significantly affect the wellbeing of the local community. Could kill or permanently disable people. Serious public or media outcry (international coverage). Damaging NGO campaign. Reputation severely tarnished. Share price may be affected.

Table A1.2 Glenroy Quarry Qualitative Measures of Likelihood			
Level	**Descriptor**	**Description**	**Guideline**
A	Almost Certain	Consequence is expected to occur in most circumstances	Occurs more than once per month
B	Likely	Consequence will probably occur in most circumstances	Occurs once every 1 month – 1 year
C	Occasionally	Consequence should occur at some time	Occurs once every 1 year – 10 years
D	Unlikely	Consequence could occur at some time	Occurs once every 10 years – 100 years
E	Rare	Consequence may only occur in exceptional circumstances	Occurs less than once every 100 years

Table A1.3 Glenroy Quarry Qualitative Risk Matrix					
Likelihood of Consequence	**Maximum Reasonable Consequence**				
	(1) Insignificant	(2) Minor	(3) Moderate	(4) Major	(5) Catastrophic
(A) Almost Certain	Medium	Medium	High	High	High
(B) Likely	Medium	Medium	High	High	High
(C) Occasionally	Low	Medium	Medium	High	High
(D) Unlikely	Low	Low	Medium	Medium	High
(E) Rare	Low	Low	Low	Medium	Medium

Table A1.4 Glenroy Quarry Environmental Risk Assessment							
Activity	**Aspect**	**Potential Impact**	**Status and Implemented Control**	**Risk Assessment with Controls Implemented**			**Further Assessment Requirements or Ongoing Actions**
				C	**L**	**R**	
General Quarry Operations	Ground Disturbance	Loss of Native Flora and Fauna	• No ground disturbance outside approved disturbance limits will be undertaken without appropriate regulatory approval. • Clear demarcation of the disturbance area so that the boundaries for areas to be disturbed and those to be left intact are clearly defined.	1	D	Low	Should ground disturbance be required outside the current approved disturbance area, an environmental assessment will be undertaken as require by regulatory authorities for this activity.
		Sedimentation of waterways	• Appropriate erosion and sediment control measures to be adhered to. • Operations undertaken within the dirty water management system. • Erosion and sediment controls implemented and maintained as required. • Construction / operations Soil Water Management Plan (SWMP) developed.	2	D	Low	Erosion and sediment controls will be inspected as part of routine site activities. Erosion control measures will be implemented in accordance with SWMP.

Table A1.4 Glenroy Quarry Environmental Risk Assessment							
Activity	**Aspect**	**Potential Impact**	**Status and Implemented Control**	**Risk Assessment with Controls Implemented**			**Further Assessment Requirements or Ongoing Actions**
				C	**L**	**R**	
	Fire	Potential offsite impacts	• Fire extinguishers, fire blankets and water truck are available on site for fire fighting purposes. • Equipment maintained and operated in accordance with Daracon procedures. • All workers are trained in evacuation procedures.	2	D	Low	All workers, contractors and visitors to site receive a safety induction which covers evacuation and fire fighting requirements.
Equipment Refuelling and Maintenance	Hydrocarbon spills during equipment operation / refuelling	Spill to land/water	• Regular maintenance and inspections will be undertaken of all equipment in operation. • Spill kits will be maintained on site. • Training will be made available to all workers as required. • Water diversions are installed and sedimentation ponds have been constructed to capture dirty water on site.	1	C	Low	Maintenance of equipment and inspections of controls including water diversions and sedimentation ponds will be ongoing throughout operations.

Table A1.4 Glenroy Quarry Environmental Risk Assessment							
Activity	**Aspect**	**Potential Impact**	**Status and Implemented Control**	**Risk Assessment with Controls Implemented**			**Further Assessment Requirements or Ongoing Actions**
				C	**L**	**R**	
Hydrocarbon Storage (including Diesel, Hydraulic oil, Greases and other Oils)	Damage to storage tanks	Spill to land	• No hydrocarbons will be stored on site.	1	E	Low	As above
Quarry Operations	Dust generation	Failure to meet EPA air quality goals.	• Water carts will be utilised as appropriate. • Stockpiles will be consistently watered as deemed necessary by the operator to minimise dust generation. • Tipping distance will be reduced where possible. • Controls implemented in accordance with EMP.	1	D	Low	Implement controls in accordance with site EMP.

Table A1.4 Glenroy Quarry Environmental Risk Assessment							
Activity	**Aspect**	**Potential Impact**	**Status and Implemented Control**	**Risk Assessment with Controls Implemented**			**Further Assessment Requirements or Ongoing Actions**
				C	**L**	**R**	
	Noise Generation	Degradation to noise amenity for nearby receivers.	• The majority of works will be undertaken during daytime hours, being Monday to Saturday 7am to 6pm. • Scheduling the use of noisiest equipment at the least-sensitive time of day where practicable. • Controls implemented in accordance with EMP.	1	D	Low	Implement controls in accordance with site EMP.
	Blast management	Blast impacts on privately owned residences	• Blasting activities will be managed solely by appropriately licensed and qualified sub-contractors. • Controls will be implemented in accordance with the EMP. • Limited number of blasts required for quarry operations.	2	D	Low	Implement controls in accordance with site EMP.

NB: C = Consequence, L = Likelihood, R = Risk

Appendix 2

PIRMP Testing and Review Record

Table A2.1 Glenroy Quarry PIRMP testing Dates and Review Record				
Date of Test/Document Review	**Name of Personnel Undertaking Test/Review**	**Name of Personnel Approving Test/Review**	**Manner of Testing**	**Summary of Changes (include brief detail and section number)**
31/01/19	Justin Meleo	Damon Bird	Desktop review	Review of SWMP adequacy (Appendix 3 of EMP) relating to rainfall event of 10/01/19. No changes required, however, basin size increased as precautionary measure