

Appendices

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27 March 2018 (36 pages)
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Appendix 1

Mining Lease 1633

(Total No. of pages including blank pages = 16)



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Mining Lease Application No 279

MINING ACT 1992

MINING LEASE

THIS DEED made the fifteenth day of July
Two thousand and nine in pursuance of the provisions of the Mining Act 1992
(hereinafter called "the Act") BETWEEN **IAN MACDONALD, MLC, MINISTER FOR
MINERAL RESOURCES** of the State of New South Wales (hereinafter called "the
Minister" which expression shall where the context admits or requires include the
successors in office of the Minister and the person acting as such Minister for the time
being) AND **Walker Quarries Pty Ltd (A.C.N. 003 061 890)** (which with its successors
and transferees is hereinafter called "the lease holder") of **191 Main Street Lithgow
NSW 2790.**

WHEREAS

- (a) in conformity with the Act application was made for a mining lease over the lands hereinafter described; and
- (b) all conditions and things required to be done and performed before granting a mining lease under the Act have been done and performed NOW THIS DEED WITNESSETH that in consideration of the observance and performance of the covenants contained in this Deed and the payment of royalty by the lease holder, the Minister in pursuance of the provisions of the Act DOES HEREBY demise and lease to the lease holder ALL THAT piece or parcel of land containing by admeasurement **44.33** hectares as shown on Plan No. **M27091**, more particularly described and delineated in the plan attached for the purpose of prospecting and mining for **quartzite**.

TO HOLD the said land together with any appurtenances thereon subject to:

- (a) such rights and interests as may be lawfully subsisting therein or which may be reserved by the Act at the date of this Deed; and
- (b) such conditions, provisos and stipulations as are contained in this Deed UNTO the lease holder from and including the date of this Deed for the term of **Ten (10) Years** (coinciding with condition No 1.6 of Development Consent No 344-11-2001 endorsed 19th October 2004) for the purpose as stated and for no other purpose.

1. THAT in this lease except insofar as the context otherwise indicates or requires:
 - (a) any reference to an Act includes that Act and any Act amending or in substitution for the same; "Director-General" means the person for the time being holding office or acting as Director-General, Department of Primary Industries; the word "mine" has the meaning assigned to it by the Act; words importing the singular number shall include the plural, the masculine gender the feminine or neuter gender and vice versa; and
 - (b) any covenant on the part of two or more persons shall be deemed to bind them jointly and severally.
2. THAT the lease holder shall during the said term pay to the Minister in Sydney in respect of all such minerals as stated, recovered from the land hereby demised, royalty at the rate or rates prescribed by the Act and the Regulations thereunder at the time the minerals are recovered, or at the rate or rates fixed by the Minister from time to time during the term of this demise in exercise of the power in that behalf conferred upon him by the Act.
3. THAT the lease holder shall at all times during the term of this lease keep and preserve the said mine from all avoidable injury or damage and also the levels, drifts, shafts, watercourses, roadways, works, erections and fixtures therein and thereon in good repair and condition and in such state and condition shall on the expiration or sooner determination of the said term or any renewal thereof deliver possession of the land and the premises hereby demised to the Minister or other persons authorised to receive possession thereof.
4. THAT the conditions and provisions set forth in the Schedule of Mining Lease Conditions 2008 herein and numbered: **1 - 7 (inclusive), 9 - 23 (inclusive), 25 - 27 (inclusive)** are embodied and incorporated within this Deed as conditions and provisions of the lease hereby granted AND that the lease holder shall observe fulfil and perform the same. Conditions 2-8 inclusive, and 17- 23 (inclusive) are identified as conditions relating to environmental management for the purposes of Sections 125(3) and 374A of the Mining Act 1992.

PROVIDED always and it is hereby declared as follows:

- (a) THAT this lease is granted subject to amendment as provided under Section 79 of the Act.
- (b) THAT if the lease holder at any time during the term of this demise -
 - (i) fails to fulfil or contravenes the covenants and conditions herein contained; or
 - (ii) fails to comply with any provision of the Act or the Regulations with which the lease holder is required to comply; or
 - (iii) fails to comply with the requirements of any agreement or assessment in relation to the payment of compensation,

this lease may be cancelled by the Minister by instrument in writing and the cancellation shall have effect from and including the date on which notice of the cancellation is served on the lease holder or on such later date as is specified in the notice; and any liability incurred by the lease holder before the cancellation took effect shall not be affected.

- (c) THAT no implied covenant for title or for quiet enjoyment shall be contained herein.
- (d) THAT all the conditions and provisions contained in the Mining Act 1992 and the Regulations thereunder, the *Mine Health & Safety Act 2004*, the *Mine Health and Safety Regulation 2007*, or, *Coal Mine Health & Safety Regulation 2006*, or any other law hereafter to be passed or prescribed shall be incorporated within this Deed as conditions and provisions of the lease granted. The lease holder hereby covenants to observe, fulfil and perform the same.
- (e) THAT such of the provisions and conditions declared and contained in this Deed as requiring anything to be done or not to be done by the lease holder, shall be read and construed as covenants by the lease holder with the Minister which are to be observed and performed.

MINING LEASE CONDITIONS 2008

1. Notice to Landholders

Within a period of three months from the date of grant/renewal of this lease or within such further time as the Minister may allow, the lease holder must serve on each landholder of the land a notice in writing indicating that this lease has been granted/renewed and whether the lease includes the surface. An adequate plan and description of the lease area must accompany the notice.

If there are ten or more landholders affected, the lease holder may serve the notice by publication in a newspaper circulating in the region where the lease area is situated. The notice must indicate that this lease has been granted/renewed; state whether the lease includes the surface and must contain an adequate plan and description of the lease area.

2. Environmental Harm

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

3. Mining Operations Plan

- (a) Mining operations must not be carried out otherwise than in accordance with:
 - a Mining Operations Plan (MOP) which has been approved by the Director-General of the Department of Primary Industries.
- (b) The MOP must:
 - i) identify areas that will be disturbed by mining operations;
 - ii) detail the staging of specific mining operations;
 - iii) identify how the mine will be managed to allow mine closure;
 - iv) identify how mining operations will be carried out on site in order to prevent and or minimise harm to the environment;
 - v) reflect the conditions of approval under:
 - the *Environmental Planning and Assessment Act 1979*
 - the *Protection of the Environment Operations Act 1997*
 - and any other approvals relevant to the development including the conditions of this lease; and
 - vi) have regard to any relevant guidelines adopted by the Director-General.
- (c) The leaseholder may apply to the Director-General to amend an approved MOP at any time.
- (d) It is not a breach of this condition if:
 - i) the operations constituting the breach were necessary to comply with a lawful order or direction given under the *Mining Act 1992*, the *Environmental Planning and Assessment Act 1979*, *Protection of the Environment Operations Act 1997* or the *Occupational Health and Safety Act 2000*; and

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- ii) the Director-General had been notified in writing of the terms of the order or direction prior to the operations constituting the breach being carried out.
- (e) A MOP ceases to have effect 7 years after date of approval or other such period as identified by the Director-General. An approved amendment to the MOP under condition 5 does not constitute an approval for the purpose of this paragraph unless otherwise identified by the Director-General.

4. Environment Management Reporting

The lease holder must lodge Environmental Management Reports (EMR) with the Director-General annually or at dates otherwise directed by the Director-General.

5. The EMR must:

- a) report against compliance with the MOP;
 - b) report on progress in respect of rehabilitation completion criteria;
 - c) report on the extent of compliance with regulatory requirements; and
 - d) have regard to any relevant guidelines adopted by the Director-General;
6. Additional environmental reports may be required on specific surface disturbing operations or environmental incidents from time to time as directed in writing by the Director-General and must be lodged as instructed.

7. Rehabilitation

Disturbed land must be rehabilitated to a sustainable/agreed end land use to the satisfaction of the Director-General.

9. Working Requirement

The lease holder must:

- (a) ensure that at least **2** competent people are efficiently employed on the lease area on each week day except Sunday or any week day that is a public holiday,
- OR
- (b) expend on operations carried out in the course of prospecting or mining the lease area, an amount of not less than **\$35,000.00** per annum whilst the lease is in force.

The Minister may at any time or times, by instrument in writing served on the lease holder, increase or decrease the expenditure required or the number of people to be employed.

10. Control of Operations

- (a) If an Environmental Officer of the Department believes that the lease holder is not complying with any provision of the Act or any condition of this lease relating to the working of the lease, he may direct the lease holder to:-
 - (i) cease working the lease; or
 - (ii) cease that part of the operation not complying with the Act or conditions; until in the opinion of the Environmental Officer the situation is rectified.
- (b) The lease holder must comply with any direction given. The Director-General may confirm, vary or revoke any such direction.

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- (c) A direction referred to in this condition may be served on the Mine Manager.

11. Reports

The lease holder must provide an exploration report, within a period of twenty-eight days after each anniversary of the date this lease has effect or at such other date as the Director-General may stipulate, of each year. The report must be to the satisfaction of the Director-General and contain the following:

- (a) Full particulars, including results, interpretation and conclusions, of all exploration conducted during the twelve months period;
- (b) Details of expenditure incurred in conducting that exploration;
- (c) A summary of all geological findings acquired through mining or development evaluation activities;
- (d) Particulars of exploration proposed to be conducted in the next twelve months period;
- (e) All plans, maps, sections and other data necessary to satisfactorily interpret the report.

12. Licence to Use Reports

- (a) The lease holder grants to the Minister, by way of a non-exclusive licence, the right in copyright to publish, print, adapt and reproduce all exploration reports lodged in any form and for the full duration of copyright.
- (b) The non-exclusive licence will operate as a consent for the purposes of section 365 of the Mining Act 1992.

13. Confidentiality

- (a) All exploration reports submitted in accordance with the conditions of this lease will be kept confidential while the lease is in force, except in cases where:
 - (i) the lease holder has agreed that specified reports may be made non-confidential.
 - (ii) reports deal with exploration conducted exclusively on areas that have ceased to be part of the lease.
- (b) Confidentiality will be continued beyond the termination of a lease where an application for a flow-on title was lodged during the currency of the lease. The confidentiality will last until that flow-on title or any subsequent flow-on title, has terminated.
- (c) The Director-General may extend the period of confidentiality.

14. Terms of the non-exclusive licence

The terms of the non-exclusive copyright licence granted under condition 12 are:

- (a) the Minister may sub-licence others to publish, print, adapt and reproduce but not on-licence reports.
- (b) the Minister and any sub-licensee will acknowledge the lease holder's and any identifiable consultant's ownership of copyright in any reproduction of the reports, including storage of reports onto an electronic database.

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- (c) the lease holder does not warrant ownership of all copyright works in any report and, the lease holder will use best endeavours to identify those parts of the report for which the lease holder owns the copyright.
- (d) there is no royalty payable by the Minister for the licence.
- (e) if the lease holder has reasonable grounds to believe that the Minister has exercised his rights under the non-exclusive copyright licence in a manner which adversely affects the operations of the lease holder, that licence is revocable on the giving of a period of not less than three months notice.

15. Blasting

(a) Ground Vibration

The lease holder must ensure that the ground vibration peak particle velocity generated by any blasting within the lease area does not exceed 10 mm/second and does not exceed 5 mm/second in more than 5% of the total number of blasts over a period of 12 months at any dwelling or occupied premises as the case may be, unless determined otherwise by the Department of Environment and Climate Change.

(b) Blast Overpressure

The lease holder must ensure that the blast overpressure noise level generated by any blasting within the lease area does not exceed 120 dB (linear) and does not exceed 115 dB (linear) in more than 5% of the total number of blasts over a period of 12 months, at any dwelling or occupied premises, as the case may be, unless determined otherwise by the Department of Environment and Climate Change.

16. Safety

Operations must be carried out in a manner that ensures the safety of persons or stock in the vicinity of the operations. All drill holes shafts and excavations must be appropriately protected, to the satisfaction of the Director-General, to ensure that access to them by persons and stock is restricted. Abandoned shafts and excavations opened up or used by the lease holder must be filled in or otherwise rendered safe to a standard acceptable to the Director-General.

17. Exploratory Drilling

- (a) At least twenty eight days prior to commencement of drilling operations the lease holder must notify the relevant Department of Water and Energy Regional Hydrologist of the intention to drill exploratory drill holes together with information on the location of the proposed holes.
- (b) If the lease holder drills exploratory drill holes he must satisfy the Director-General that:-
 - (i) all cored holes are accurately surveyed and permanently marked in accordance with Departmental guidelines so that their location can be easily established;
 - (ii) all holes cored or otherwise are sealed to prevent the collapse of the surrounding surface;
 - (iii) all drill holes are permanently sealed with cement plugs to prevent surface discharge of groundwaters;
 - (iv) if any drill hole meets natural or noxious gases it is plugged or sealed to prevent their escape;

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- (v) if any drill hole meets an artesian or sub-artesian flow it is effectively sealed to prevent contamination of aquifers.
- (vi) once any drill hole ceases to be used the hole must be sealed in accordance with Departmental guidelines. Alternatively, the hole must be sealed as instructed by the Director-General.
- (vii) once any drill hole ceases to be used the land and its immediate vicinity is left in a clean, tidy and stable condition.

18. Prevention of Soil Erosion and Pollution

Operations must be carried out in a manner that does not cause or aggravate air pollution, water pollution (including sedimentation) or soil contamination or erosion, unless otherwise authorised by a relevant approval, and in accordance with an accepted Mining Operations Plan. For the purpose of this condition, water shall be taken to include any watercourse, waterbody or groundwaters. The lease holder must observe and perform any instructions given by the Director-General in this regard.

19. Transmission lines, Communication lines and Pipelines

Operations must not interfere with or impair the stability or efficiency of any transmission line, communication line, pipeline or any other utility on the lease area without the prior written approval of the Director-General and subject to any conditions he may stipulate.

20. Fences, Gates

- (a) Activities on the lease must not interfere with or damage fences without the prior written approval of the owner thereof or the Minister and subject to any conditions the Minister may stipulate.
- (b) Gates within the lease area must be closed or left open in accordance with the requirements of the landholder.

21. Roads and Tracks

- (a) Operations must not affect any road unless in accordance with an accepted Mining Operations Plan or with the prior written approval of the Director-General and subject to any conditions he may stipulate.
- (b) The lease holder must pay to the designated authority in control of the road (generally the local council or the Roads and Traffic Authority) the cost incurred in fixing any damage to roads caused by operations carried out under the lease, less any amount paid or payable from the Mine Subsidence Compensation Fund.

- 22. Access tracks must be kept to a minimum and be positioned so that they do not cause any unnecessary damage to the land. Temporary access tracks must be ripped, topsoiled and revegetated as soon as possible after they are no longer required for mining operations. The design and construction of access tracks must be in accordance with specifications fixed by the Department of Environment and Climate Change.

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23. Trees and Timber

- (a) The lease holder must not fell trees, strip bark or cut timber on the lease without the consent of the landholder who is entitled to the use of the timber, or if such a landholder refuses consent or attaches unreasonable conditions to the consent, without the approval of a warden.
- (b) The lease holder must not cut, destroy, ringbark or remove any timber or other vegetative cover on the lease area except such as directly obstructs or prevents the carrying on of operations. Any clearing not authorised under the Mining Act 1992 must comply with the provisions of the *Native Vegetation Act 2003*.
- (c) The lease holder must obtain all necessary approvals or licences before using timber from any Crown land within the lease area.

25. Resource Recovery

- (a) Notwithstanding any description of mining methods and their sequence or of proposed resource recovery contained within the Mining Operations Plan, if at any time the Director-General is of the opinion that minerals which the lease entitles the lease holder to mine and which are economically recoverable at the time are not being recovered from the lease area, or that any such minerals which are being recovered are not being recovered to the extent which should be economically possible or which for environmental reasons are necessary to be recovered, he may give notice in writing to the lease holder requiring the holder to recover such minerals.
- (b) The notice shall specify the minerals to be recovered and the extent to which they are to be recovered, or the objectives in regard to resource recovery, but shall not specify the processes the lease holder shall use to achieve the specified recovery.
- (c) The lease holder must, when requested by the Director-General, provide such information as the Director-General may specify about the recovery of the mineral resources of the lease area.
- (d) The Director-General shall issue no such notice unless the matter has firstly been thoroughly discussed with and a report to the Director-General has incorporated the views of the lease holder.
- (e) The lease holder may object to the requirements of any notice issued under this condition and on receipt of such an objection the Minister shall refer it to a Warden for inquiry and report under Section 334 of the *Mining Act, 1992*.
- (f) After considering the Warden's report the Minister shall decide whether to withdraw, modify or maintain the requirements specified in the original notice and shall give the lease holder written notice of the decision. The lease holder must comply with the requirements of this notice.

26. Indemnity

The lease holder must indemnify and keep indemnified the Crown from and against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses which may be brought against the lease holder or which the lease holder may incur in respect of any accident or injury to any person or property which may arise out of the construction, maintenance or working of any workings now existing or to be made by the lease holder within the lease area or in connection with any of the operations notwithstanding that all other conditions of this lease shall in all respects have been observed by the lease holder or that any such accident or injury shall arise from any act or thing which the lease holder may be licensed or compelled to do.

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27. Security

- (a) A security in the sum of **\$434,000.00** must be given and maintained with the Minister by the lease holder for the purpose of ensuring the fulfilment by the lease holder of obligations under this lease. If the lease holder fails to fulfil any one or more of such obligations the said sum may be applied at the discretion of the Minister towards the cost of fulfilling such obligations. For the purpose of this clause the lease holder shall be deemed to have failed to fulfil the obligations of this lease if the lease holder fails to comply with any condition or provision hereof, any provision of the Act or regulations made thereunder or any condition or direction imposed or given pursuant to a condition or provision hereof or of any provision of the Act or regulations made thereunder.
- (b) The lease holder must provide the security required by sub-clause (a) in one of the following forms:
 - (i) cash,
 - (ii) a security certificate in a form approved by the Minister and issued by an authorised deposit-taking institution.

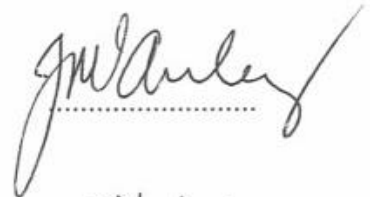
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IN WITNESS WHEREOF the parties hereto have executed this Deed the day and year first abovewritten.

SIGNED AND DELIVERED
BY

Walker Quarries Pty Ltd
(A.C.N. 003 061 890)

in the presence of

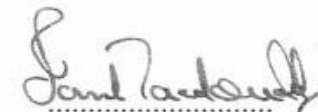


.....
Witness NSW J.P. 193270

SIGNED AND DELIVERED
BY

in the presence of

P ANQUETIL
10 STEWART AVE
HAMMONDVILLE NSW 2170



.....
Witness

	
Office of State Revenue	
NSW Treasury	
Client No: 1846988	2372
Duty: N/A	Trans No: M/61633
Asst details: MINERAL	

MINING LEASE

MINING ACT 1992

NO 1633

DATED 15th July 2009

THE MINISTER FOR MINERAL
RESOURCES

OF THE STATE

OF NEW SOUTH WALES

TO

Walker Quarries Pty Ltd
(A.C.N. 003 061 890)

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Appendix 2

DA 344-11-2001

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Notice of Modification

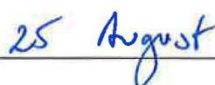
Section 75W of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning, I modify the development consent referred to in Schedule 1, as set out in Schedule 2.



Howard Reed
Director Resource Assessments

Sydney



2017

SCHEDULE 1

The Development Consent (DA 344-11-2001) for the Wallerawang Quarry granted by the Minister for Infrastructure and Planning on 19 October 2004.

SCHEDULE 2

1. Delete all words after Schedule 1 and replace with:

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DEFINITIONS

AHD	Australian Height Datum
Annual Review	The review required by condition 11 of Schedule 5
Applicant	Walker Quarries Pty Ltd, or any other person/s who rely on this consent to carry out the development that is subject to this consent
BCA	Building Code of Australia
CCC	Community Consultative Committee
Conditions of consent	Conditions contained in Schedules 2 to 5 inclusive
Construction	The demolition of buildings or works, carrying out of works and erection of buildings covered by this consent
Council	Lithgow City Council
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment
Development	The development as described in the documents listed in condition 2(a) of Schedule 2
DPI Water	Department of Primary Industries - Water
DRG	Division of Resources and Geoscience of the Department
EIS	Environmental Impact Statement titled <i>Proposed Wallerawang Quarry</i> , dated November 2001 and the Applicant's Supplementary Report to the EIS, dated July 2002
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPL	Environment Protection Licence under the POEO Act
Evening	The period from 6pm to 10pm
Feasible	Feasible relates to engineering considerations and what is practical to build
FCNSW	Forestry Corporation NSW
Incident	A set of circumstances that: <ul style="list-style-type: none"> • causes or threatens to cause material harm to the environment; and/or • breaches or exceeds the limits or performance measures/criteria in this consent <i>NSW Industrial Noise Policy</i> (NSW EPA, 2000)
INP	
Land	As defined in the EP&A Act, except where the term is used in the noise and air quality conditions in Schedules 3 and 4 of this consent, where it is defined as the whole of a lot, or contiguous lots owned by the same landowner, in a current plan registered at the Land Titles Office at the date of this consent
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Minister	Minister for Planning, or delegate
Mitigation	Activities associated with reducing the impacts of the development
Negligible	Small and unimportant, such as to be not worth considering
Night	The period from 10pm to 7am on Monday to Saturday, and 10pm to 8am on Sundays and Public Holidays
OEH	Office of Environment and Heritage
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency or the Applicant (or its subsidiary)
Public infrastructure	Linear and other infrastructure that provides services to the general public, such as roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc.
Quarrying operations	The extraction, processing, stockpiling and transportation of extractive materials carried out on the site and the associated removal of vegetation, topsoil and overburden
Quarry products	Includes all saleable quarry products, but excludes tailings, other wastes and rehabilitation material
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Rehabilitation	The restoration of land disturbed by the development to a good condition and for the purpose of establishing a safe, stable and non-polluting environment
RMS	Roads and Maritime Services
Secretary	Secretary of the Department, or nominee
EA (Mod 1)	Environmental Assessment titled <i>'Modification to Operations at the Wallerawang Quarry (DA 344-11-2001)'</i> dated May 2017 and the Applicant's response to submissions documentation dated July 2017
Site	The land described in Schedule 1
WaterNSW	Water NSW
WSEA	Western Stockpile Extension Area

SCHEDULE 2
ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

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

TERMS OF CONSENT

2. The Applicant must carry out the development:
 - (a) generally in accordance with the EIS and EA (Mod 1); and
 - (b) in accordance with the conditions of this consent and Development Layout Plan.

Note: The Development Layout Plan is shown in Appendix 1.

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

LIMITS ON CONSENT

Quarrying Operations

5. The Applicant may carry out quarrying operations on the site until 15 July 2019.

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

6. The Applicant must not undertake quarrying operations below a level of 930 m AHD.

Note: Construction of drainage sumps may be constructed below this level with the agreement of the Secretary.

7. The Applicant must not extract and/or transport more than 500,000 tonnes of quarry products from the site in any calendar year.

STRUCTURAL ADEQUACY

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

Notes:

- Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works; and
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the development or project.

DEMOLITION

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

PROTECTION OF PUBLIC INFRASTRUCTURE

10. Unless the Applicant and the applicable authority agree otherwise the Applicant must:
 - (a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and

- (b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Note: This condition does not apply to damage to roads caused as a result of general road usage.

OPERATION OF PLANT AND EQUIPMENT

- 11. The Applicant must ensure that all the plant and equipment used at the site, or to monitor the performance of the development is:
 - (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

PRODUCTION DATA

- 12. The Applicant must:
 - (a) from the commencement of quarrying operations provide calendar year annual quarry production data to DRG using the standard form for that purpose; and
 - (b) include a copy of this data in the Annual Review.

COMPLIANCE

- 13. The Applicant must ensure that all employees, contractors and sub-contractors are aware of, and comply with, the conditions of this consent relevant to their respective activities.

SCHEDULE 3
SPECIFIC ENVIRONMENTAL CONDITIONS

NOISE

Hours of Operation

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

Table 1: Operating Hours

Activity	Permissible Hours
Quarrying operations	<ul style="list-style-type: none"> • 7 am to 6 pm Monday to Friday • 8 am to 1 pm Saturday • At no time on Sundays or public holidays
Loading and dispatch of trucks	<ul style="list-style-type: none"> • May be conducted at any time, provided these activities comply with the noise criteria in Table 2
Blasting	<ul style="list-style-type: none"> • 9 am to 5 pm Monday to Friday • 9 am to 1 pm on Saturdays • At no time on Sundays or public holidays
Maintenance	<ul style="list-style-type: none"> • May be conducted at any time, provided that these activities are not audible at any privately-owned residence

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

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

Noise Impact Assessment Criteria

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

Table 2: Noise criteria dB(A)

Receiver	Day <i>L_{Aeq} (15 minute)</i>	Evening <i>L_{Aeq} (15 minute)</i>	Night <i>L_{Aeq} (15 minute)</i>
Any residence on privately owned land	43	43	39

Noise generated by the development is to be measured in accordance with the relevant requirements and exemptions (including certain meteorological conditions) of the *NSW Industrial Noise Policy*. Appendix 3 sets out the meteorological conditions under which these criteria apply and the requirements for evaluating compliance with these criteria.

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

Operating Conditions

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

to the satisfaction of the Secretary.

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

Noise Management Plan

5. The Applicant must prepare a Noise Management Plan for the development to the satisfaction of the Secretary. This plan must:
 - (a) be prepared in consultation with the EPA;
 - (b) be submitted to the Secretary within three months of the determination of Modification 1, unless otherwise agreed by the Secretary;
 - (c) describe the measures to be implemented to ensure:
 - compliance with the noise criteria and operating conditions of this consent;
 - best practice management is being employed; and
 - the noise impacts of the development are minimised during meteorological conditions under which the noise criteria in this consent do not apply (see Appendix 3);
 - (d) describe the proposed noise management system; and
 - (e) include a monitoring program to be implemented to measure noise from the development against the noise criteria in Table 2, and which evaluates and reports on the effectiveness of the noise management system on site.

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

BLASTING

Blasting Impact Assessment Criteria

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

Table 3: Blasting Criteria

Receiver	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance
Any residence on privately-owned land	120	10	0%
	115	5	5% of the total number of blasts over a period of 12 months
All public infrastructure	-	50	0%

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

Property Inspections

7. If the Applicant receives a written request from the owner of any privately-owned land within 2 kilometres of the site for a property inspection to establish the baseline condition of any buildings and structures on their land, or to have a previous property inspection updated, then within 2 months of receiving this request the Applicant must:
 - (a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties to:
 - establish the baseline condition of any buildings and other structures on the land, or update the previous property inspection report; and
 - identify measures that should be implemented to minimise the potential blasting impacts of the development on these buildings and structures; and
 - (b) give the landowner a copy of the new or updated property inspection report.

If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or the landowner disagrees with the findings of the property inspection report, either party may refer the matter to the Secretary for resolution.

Property Investigations

8. If the owner of any privately-owned land within 2 kilometres of the site or any other landowner where the Secretary is satisfied an investigation is warranted, or claims in writing that buildings or structures on their land have been damaged as a result of blasting on the site, then within 2 months of receiving this written claim the Applicant must:
 - (a) commission a suitably qualified, experienced and independent person, whose appointment is acceptable to both parties to investigate the claim; and

- (b) give the landowner a copy of the property investigation report.

If this independent property investigation confirms the landowner's claim, and both parties agree with these findings, then the Applicant must repair the damage to the satisfaction of the Secretary.

If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the Applicant or the landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Secretary for resolution.

Operating Conditions

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

Blast Management Plan

10. The Applicant must prepare a Blast Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be submitted to the Secretary for approval within three months of the determination of Modification 1, unless otherwise agreed by the Secretary;
 - describe the measures to be implemented to ensure compliance with the blast criteria and operating conditions of this consent;
 - include measures to manage flyrock to ensure the safety of people and livestock and to protect properties;
 - include a monitoring program for evaluating and reporting on compliance with the blasting criteria in this consent;
 - include local community notification procedures for the blasting schedule, in particular to nearby residences; and
 - include a protocol for investigating and responding to complaints related to blasting operations.
- The Applicant must implement the Blast Management Plan as approved from time to time by the Secretary.

AIR QUALITY

Air Quality Impact Assessment Criteria

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

12. *Table 4: Air quality criteria*

Pollutant	Averaging Period	Criterion	
Particulate matter < 10 µm (PM ₁₀)	Annual	a,d 25 µg/m ³	
Particulate matter < 10 µm (PM ₁₀)	24 hour	b 50 µg/m ³	
Particulate matter < 2.5 µm (PM _{2.5})	Annual	a,d 8 µg/m ³	
Total suspended particulates (TSP)	Annual	a,d 90 µg/m ³	
^c Deposited dust	Annual	b 2 g/m ² /month	a,d 4 g/m ² /month

Notes to Table 4:

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

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

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

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

e "Reasonable and feasible avoidance measures" includes, but is not limited to, the operational requirements in conditions 11, 12 and 13 to develop and implement an air quality management system that ensures operational responses to the risks of exceedance of the criteria.

Operating Conditions

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

Air Quality Management Plan

14. The Applicant must prepare an Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be submitted to the Secretary for approval within three months of the determination of Modification 1, unless otherwise agreed by the Secretary;
 - (b) describe the measures to be implemented to ensure:
 - compliance with the air quality criteria and operating conditions of this consent;
 - best practice management is being employed; and
 - the air quality impacts of the development are minimised during adverse meteorological conditions and extraordinary events;
 - (c) describe the proposed air quality management system;
 - (d) include an air quality monitoring program that:
 - is capable of evaluating the performance of the development;
 - includes a protocol for determining any exceedances of the relevant conditions of consent;
 - effectively supports the air quality management system; and
 - evaluates and reports on the adequacy of the air quality management system.

The Applicant must implement the approved Air Quality Management Plan as approved from time to time by the Secretary.

Meteorological Monitoring

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

SOIL AND WATER

Water Supply

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

Water Discharges

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

Soil and Water Management Plan

18. The Applicant must prepare a Soil and Water Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared by suitably qualified and experienced person/s approved by the Secretary;
 - (b) be prepared in consultation with the EPA, DPI Water and WaterNSW;
 - (c) be submitted to the Secretary for approval within three months of the determination of Modification 1, unless otherwise agreed by the Secretary; and
 - (d) include a:
 - Site Water Balance that includes:
 - details of:
 - sources and security of water supply;
 - water use and management on site;
 - any off-site water transfers; and
 - reporting procedures; and
 - measures to be implemented to minimise clean water use on site;
 - Surface Water Management Plan, that includes:
 - a program for obtaining detailed baseline data on surface water flows and quality in water bodies that could potentially be affected by the development;
 - a detailed description of the surface water management system on site including the:
 - clean water diversion system;
 - erosion and sediment controls;
 - dirty water management system; and
 - water storages; and
 - a program to monitor and report on:
 - any surface water discharges;
 - the effectiveness of the water management system,
 - the quality of water discharged from the site to the environment;
 - surface water flows and quality in local watercourses;
 - Groundwater Management Plan that includes:
 - a provision that requires the Applicant to obtain appropriate water licence(s) to cover the volume of any unforeseen groundwater inflows into the quarry from the quarry face or floor; and
 - a monitoring program to manage potential impacts, if any, on any alluvium and associated surface water source near the proposed extraction area that includes:
 - identification of a methodology for determining threshold water level criteria;
 - contingency measures in the event of a breach of thresholds; and
 - a program to regularly report on monitoring.

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

TRANSPORT

Monitoring of Product Transport

19. The Applicant must keep accurate records of all laden truck movements to and from the site and publish a summary of records on its website every 6 months.

Operating Conditions

20. The Applicant must:
- (a) ensure that all laden trucks entering or exiting the site have their loads covered, with the exception of loads consisting solely of boulders greater than one tonne in weight;
 - (b) ensure that all laden trucks exiting the site are cleaned of material that may fall from vehicles, before leaving the site; and
 - (c) use its best endeavours to ensure that appropriate signage is displayed on all trucks used to transport product from the development so they can be easily identified by road users.

ABORIGINAL HERITAGE

21. The Applicant must not disturb the area marked "Aboriginal Heritage Site" on the Development Layout Plan in Appendix 1.

22. Throughout the life of the development, the Applicant must protect and conserve the area subject to condition 20, in consultation with the Bathurst Local Aboriginal Land Council, and to the satisfaction of the Secretary.
23. If any item or object of Aboriginal heritage significance is identified on site, the Applicant must ensure that:
- (a) all work in the immediate vicinity of the suspected Aboriginal item or object ceases immediately;
 - (b) a 10 m buffer area around the suspected item or object is cordoned off; and
 - (c) the OEH is contacted immediately.

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

BIODIVERSITY AND REHABILITATION

Biodiversity Offset Strategy

24. By 28 February 2018, the Applicant must provide a Biodiversity Offset Strategy in accordance with the *Framework for Biodiversity Assessment - NSW Biodiversity Offsets Policy for Major Projects*, for the retirement of ecosystem and species credits as set out in Table 5, to the satisfaction of the Secretary and OEH.

Table 5: Biodiversity credits to be retired

Credit type	Number of Credits
Ecosystem Credits	
PCT 732 – Broad-leaved Peppermint - Ribbon Gum grassy open forest in the north east of the South Eastern Highlands Bioregion	120
PCT 1093 – Red Stringybark – Brittle Gum – Inland Scribbly Gum dry open forest of the tablelands, South Eastern Highlands Bioregion	34
Species Credits	
Purple Copper Butterfly	184

Security of Offsets

25. By 31 December 2018, unless otherwise agreed with the Secretary, the Applicant must make suitable arrangements to provide appropriate long-term security for the Biodiversity Offset Strategy, to the satisfaction of the Secretary. Any mechanism must remain in force in perpetuity.

Note: Mechanisms to provide appropriate long-term security to the land within the Biodiversity Offset Strategy in accordance with the NSW Biodiversity Offset Policy for Major Projects 2014.

Biodiversity Management Plan

26. The Applicant must prepare a Biodiversity Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;
 - (b) be prepared in consultation with OEH;
 - (c) be submitted to the Secretary within three months of providing a satisfactory Biodiversity Offset Strategy or by 31 March 2018, whichever is earlier;
 - (d) describe the short, medium, and long term measures to be undertaken to manage the remnant vegetation and fauna habitat on the site a describe the short, medium and long term measures to be implemented to manage remnant vegetation and habitat on site, including within any biodiversity offset areas;
 - (e) include a detailed description of the measures described in paragraph (d) to be implemented over the next 3 years (to be updated for each 3 year period following initial approval of the plan) including the procedures to be implemented for:
 - maximising the salvage of environmental resources within the approved disturbance area, including tree hollows, vegetative and soil resources, for beneficial reuse in the enhancement of any biodiversity offset areas or site rehabilitation;

- restoring and enhancing the quality of native vegetation and fauna habitat in any biodiversity offset and rehabilitation areas through assisted natural regeneration, targeted vegetation establishment and the introduction of fauna habitat features;
 - protecting vegetation and fauna habitat outside the approved disturbance area on-site;
 - minimising the impacts on native fauna, including undertaking pre-clearance surveys;
 - ensuring minimal environmental consequences for threatened species, populations and habitats, including the Purple Copper Butterfly;
 - collecting and propagating seed;
 - controlling weeds and feral pests;
 - controlling erosion; and
 - managing bushfire risk;
- (f) include a program to monitor and report on the effectiveness of these measures, and progress against the performance and completion criteria;
- (g) identify the potential risks to the successful implementation of the Biodiversity Offset Strategy, and include a description of the contingency measures to be implemented to mitigate these risks; and
- (h) include details of who is responsible for monitoring, reviewing, and implementing the plan.

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

Conservation Bond

27. Within six months of the approval of the Biodiversity Offset Strategy, unless otherwise agreed by the Secretary, the Applicant must lodge a Conservation Bond with the Department to ensure that the Biodiversity Offset Strategy is implemented in accordance with the performance and completion criteria in the Biodiversity Management Plan. The sum of the bond must be determined by:
- (a) calculating the full cost of implementing the Biodiversity Offset Strategy at third party rates (other than land acquisition costs); and
 - (b) employing a suitably qualified, independent and experienced person to verify the calculated costs.

The calculation of the Conservation Bond must be submitted to the Department for approval at least 1 month prior to the lodgment of the bond.

28. The Conservation Bond must be reviewed and if required, an updated bond must be lodged with the Department within 3 months following:
- (a) an update or revision to the Biodiversity Management Plan;
 - (b) the completion of an Independent Environmental Audit in which recommendations relating to the implementation of the Biodiversity Offset Strategy have been made; or
 - (c) in response to a request by the Secretary.

If the Biodiversity Offset Strategy is completed generally in accordance with the completion criteria in the Biodiversity Management Plan to the satisfaction of the Secretary, the Secretary will release the bond.

If the Biodiversity Offset Strategy is not completed generally in accordance with the completion criteria in the Biodiversity Management Plan, the Secretary will call in all, or part of, the conservation bond, and arrange for the completion of the relevant works.

Rehabilitation Objectives

29. The Applicant must rehabilitate the site to the satisfaction of DRG. This rehabilitation must be generally consistent with the proposed rehabilitation activities described in the documents listed in condition 2 of Schedule 2 (and shown conceptually in the Rehabilitation Plan in Appendix 2), and comply with the objectives in Table 6.

Table 6: Rehabilitation Objectives

Feature	Objective
All areas of the site affected by the development	<ul style="list-style-type: none"> • Safe • Hydraulically and geotechnically stable • Non-polluting • Fit for the intended post-mining land use(s) • Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land

Surface Infrastructure	<ul style="list-style-type: none"> Decommissioned and removed, unless otherwise agreed by the Secretary
Quarry benches and pit floor	<ul style="list-style-type: none"> Landscaped and vegetated using native tree and understorey species
Final Void	<ul style="list-style-type: none"> Minimise the size, depth and slope of the batters of the final void Minimise the drainage catchment of the final void

Progressive Rehabilitation

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

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

Rehabilitation Management Plan

31. The Applicant must prepare a Rehabilitation Management Plan for the project to the satisfaction of DRG. This plan must:
- be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;
 - be prepared in consultation with the Department, DPI Water, FCNSW, OEH, DPI, and Council;
 - be submitted to DRG for approval within three months of the determination of Modification 1, unless the Secretary agrees otherwise;
 - be prepared in accordance with any relevant DRG Guideline;
 - describe how the rehabilitation of the site would achieve the objectives identified in Table 6 and be integrated with the Biodiversity Offset Strategy described in condition 27;
 - include a detailed soil and growing medium balance for the development;
 - include a detailed plan for the reinstatement and review of the proposed rehabilitated woodland areas and fauna habitat, including a protocol for periodic trials to demonstrate that the target vegetation community is being achieved;
 - include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, and for triggering remedial action (if necessary);
 - describe the measures to be implemented to ensure compliance with the relevant conditions of this consent, and address all aspects of rehabilitation including mine closure, final landform (including final voids), final land uses;
 - include procedures for the use of interim stabilisation and temporary vegetation strategies, where reasonable to minimise the area exposed for dust generation;
 - include a program to monitor, independently audit and report on the effectiveness of the measures in paragraph (h) above, and progress against the detailed performance and completion criteria in paragraph (g) above; and
 - build on to the maximum extent practicable and integrate with the other Management Plans required under this consent.

VISUAL

32. The Applicant must implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development to the satisfaction of the Secretary.
33. Prior to utilising the WSEA, the Applicant must construct a visual bund between the north-western boundary of the WSEA and the Great Western Highway, as described in EA (Mod 1). The visual bund must be maintained to the satisfaction of the Secretary.
34. The Applicant must install bunds at strategic locations around the site and plant additional trees along the boundary of the development site to screen, so far as is reasonable and feasible, the development from external viewers, to the satisfaction of the Secretary.

WASTE

35. The Applicant must:
- manage on-site sewage treatment and disposal in accordance with the requirements of its EPL, and to the satisfaction of the EPA and Council;
 - minimise the waste generated by the development;
 - ensure that the waste generated by the development is appropriately stored, handled, and disposed of; and

(d) report on waste management and minimisation in the Annual Review, to the satisfaction of the Secretary.

36. Except as expressly permitted in an EPL, the Applicant must not receive waste at the site for storage, treatment, processing, reprocessing or disposal.

LIQUID STORAGE

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

DANGEROUS GOODS

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

BUSHFIRE

39. The Applicant must:
- (a) ensure that the development is suitably equipped to respond to any fires on site; and
 - (b) assist the Rural Fire Service and emergency services to the extent practicable if there is a fire in the vicinity of the site.
40. The Applicant must prepare a Bushfire Management Plan for the site, in consultation with FCNSW, to the satisfaction of the Rural Fire Service.

SCHEDULE 4
ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS

1. As soon as practicable, and no longer than 7 days, after obtaining monitoring results showing:
 - (a) an exceedance of any criteria in Schedule 3, the Applicant must notify the affected landowners in writing of the exceedance, and provide regular monitoring results, at least every 3 months, to each affected landowner until the development is again complying with the relevant criteria; and
 - (b) an exceedance of any air quality criteria in Schedule 3, the Applicant must send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and current tenants of the land (including the tenants of land which is not privately-owned).

INDEPENDENT REVIEW

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

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

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

VISUAL IMPACT MITIGATION

3. If an owner of privately-owned land located to the west or north-west of the site, considers that the visual impacts of the development at his/her land could be minimised, then he/she may ask the Secretary in writing for a review of the visual impacts of the development on his/her land.

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

- (a) commission a suitably qualified and experienced person, whose appointment has been approved by the Secretary, to:
 - consult with the landowner to determine his/her concerns;
 - investigate ways to minimise the visual impacts of the development on land; and
 - prepare a visual mitigation report detailing the outcomes of the investigation and the proposed mitigation measures.
- (b) give the Secretary and landowner a copy of the review; and
- (c) comply with any written requests made by the Secretary to implement any findings of the review.

SCHEDULE 5
ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. The Applicant must prepare an Environmental Management Strategy for the development to the satisfaction of the Secretary. This strategy must:
 - (a) be submitted to the Secretary for approval within 6 months of the Secretary requiring preparation of the strategy by notice to the Applicant;
 - (b) provide the strategic framework for environmental management of the development;
 - (c) identify the statutory approvals that apply to the development;
 - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;
 - (e) describe the procedures to be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - receive, record, handle and respond to complaints;
 - resolve any disputes that may arise during the course of the development;
 - respond to any non-compliance;
 - respond to emergencies; and
 - (f) include:
 - copies of any strategies, plans and programs approved under the conditions of this consent; and
 - a clear plan depicting all the monitoring to be carried out under the conditions of this consent.

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

Evidence of Consultation

2. Where consultation with any public authority is required by the conditions of this consent, the Applicant must:
 - (a) consult with the relevant public authority prior to submitting the required document to the Secretary for approval;
 - (b) submit evidence of this consultation as part of the relevant document;
 - (c) describe how matters raised by the authority have been addressed and any matters not resolved; and
 - (d) include details of any outstanding issues raised by the authority and an explanation of disagreement between any public authority and the Applicant.

Management Plan Requirements

3. The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:
 - (a) detailed baseline data;
 - (b) a description of:
 - the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - any relevant limits or performance measures/criteria; and
 - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
 - (c) a description of the measures that to be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:
 - impacts and environmental performance of the development; and
 - effectiveness of any management measures (see (c) above);
 - (e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;
 - (f) a program to investigate and implement ways to improve the environmental performance of the development over time;
 - (g) a protocol for managing and reporting any:
 - incidents;
 - complaints;
 - non-compliances with statutory requirements; and
 - exceedances of the impact assessment criteria and/or performance criteria; and

- (h) a protocol for periodic review of the plan.

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

Application of Existing Management Plans

4. The Applicant must continue to apply existing approved management plans, strategies or monitoring programs that have most recently been approved under this consent, until the approval of a similar plan, strategy or program under this consent.

Revision of Strategies, Plans & Programs

5. Within 3 months of the submission of an:
- (a) incident report under condition 9 below;
 - (b) Annual Review under condition 11 below;
 - (c) audit report under condition 12 below; and
 - (d) any modifications to this consent,
- the Applicant must review the strategies, plans and programs required under this consent, to the satisfaction of the Secretary. The applicant must notify the Department in writing of any such review being undertaken. Where this review leads to revisions in any such document, then within 6 weeks of the review the revised document must be submitted for the approval of the Secretary.

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

Updating and Staging of Strategies, Plans or Programs

6. To ensure that strategies, plans or programs required under this consent are updated on a regular basis, and that they incorporate any appropriate additional measures to improve the environmental performance of the development, the Applicant may at any time submit revised strategies, plans or programs for the approval of the Secretary. With the agreement of the Secretary, the Applicant may also submit any strategy, plan or program required by this consent on a staged basis.

The Secretary may approve a revised strategy, plan or program required under this consent, or the staged submission of any of these documents, at any time. With the agreement of the Secretary, the Applicant may prepare the revised or staged strategy, plan or program without undertaking consultation with all parties nominated under the applicable condition in this consent.

While any strategy, plan or program may be submitted on a staged basis, the applicant will need to ensure that the operations associated with the development are covered by suitable strategies, plans or programs at all times.

If the submission of any strategy, plan or program is to be staged; then the relevant strategy, plan or program must clearly describe the specific stage/s of the development to which the strategy, plan or program applies; the relationship of this stage/s to any future stages; and the trigger for updating the strategy, plan or program.

Adaptive Management

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

Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must as soon as becoming aware of any exceedance:

- (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not reoccur;
 - (b) consider all reasonable and feasible options for remediation (where relevant);
 - (c) within 14 days of the exceedance occurring, submit a report to the Secretary describing these remediation options and any preferred remediation measures or other course of action; and
 - (d) implement remediation measures as directed by the Secretary;
- to the satisfaction of the Secretary.

COMMUNITY CONSULTATIVE COMMITTEE

8. The Applicant must establish and operate a Community Consultative Committee (CCC) for the development to the satisfaction of the Secretary. The CCC must be operated in general accordance with the Department's *Community Consultative Committee Guidelines, November 2016* (or later version).

Notes:

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

REPORTING

Incident Reporting

9. The Applicant must immediately notify the Secretary (using the contact name, email address and phone number provided by the Department from time to time) and any other relevant agencies of any incident.
10. Within 7 days of the date of the incident, the Applicant must provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested. This report must include the time and date of the incident, details of the incident, measures implemented to prevent re-occurrence and must identify and non-compliance with this consent.

Regular Reporting

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

Annual Review

12. By the end of September each year, or other timing as may be agreed by the Secretary, the Applicant must submit a review to the Department reviewing the environmental performance of the development to the satisfaction of the Secretary. This review must:
- (a) describe the development (including any progressive rehabilitation) that was carried out in the previous financial year, and the development that is proposed to be carried out over the current financial year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous financial year, which includes a comparison of these results against the:
 - relevant statutory requirements, limits or performance measures/criteria;
 - requirements of any plan or program required under this consent;
 - monitoring results of previous years; and
 - relevant predictions in the documents listed in condition 2(a) of Schedule 2;
 - (c) identify any non-compliance over the past financial year, and describe what actions were (or are being) taken to ensure compliance;
 - (d) identify any trends in the monitoring data over the life of the development;
 - (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
 - (f) describe what measures will be implemented over the current [financial/calendar] year to improve the environmental performance of the development.

The Applicant must ensure that copies of the Annual Review are submitted to Council and are available to the Community Consultative Committee (see condition 7 of Schedule 5) and any interested person upon request.

INDEPENDENT ENVIRONMENTAL AUDIT

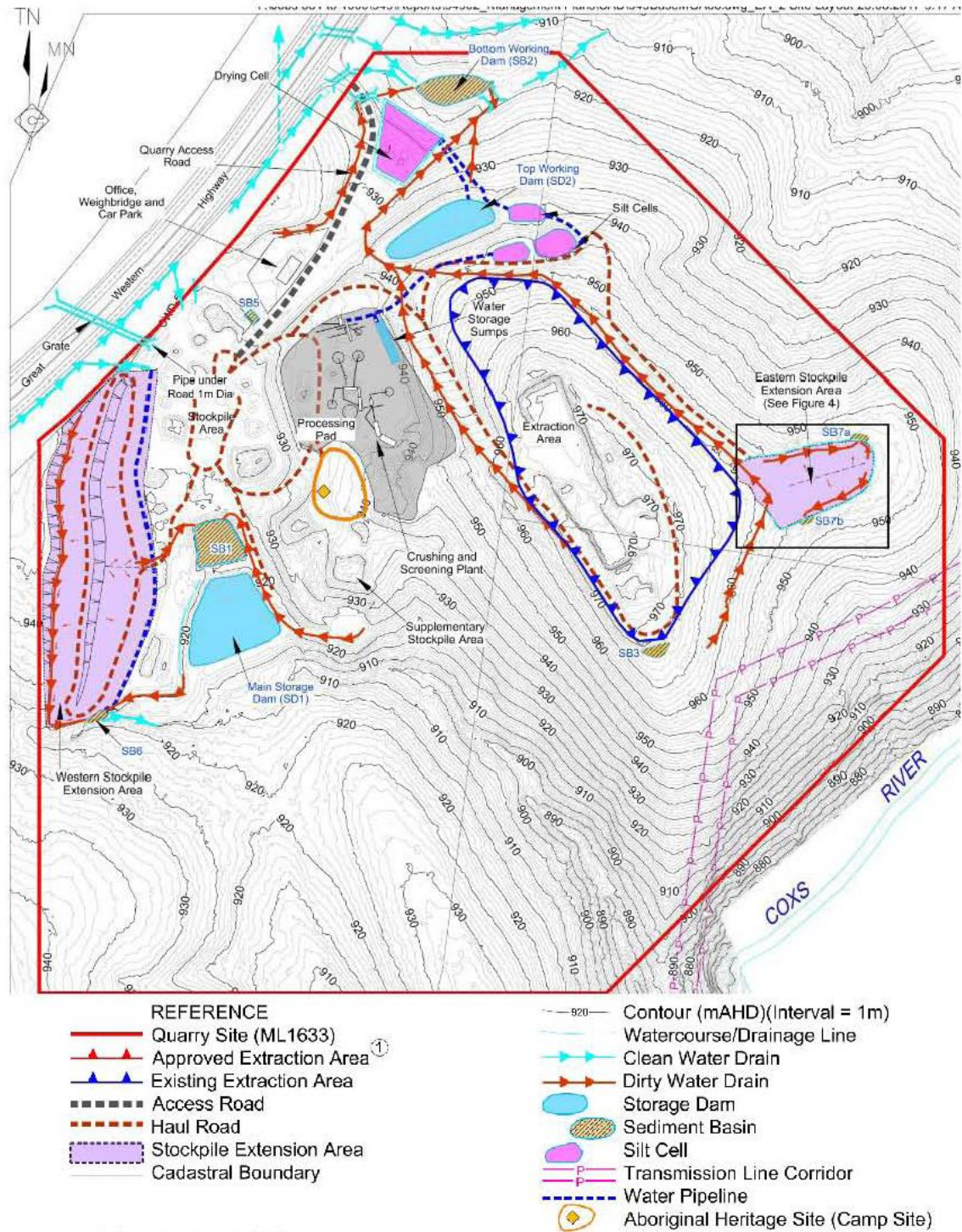
13. Within a year of the date of this consent, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission, commence and pay the full cost of an Independent Environmental Audit of the development. This audit must:
- (a) be led and conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
 - (b) include consultation with the relevant agencies and the CCC;
 - (c) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent and any relevant EPL or necessary water licences for the development (including any assessment, strategy, plan or program required under these approvals);
 - (d) review the adequacy of strategies, plans or programs required under the abovementioned approvals;

- (e) recommend appropriate measures or actions to improve the environmental performance of the development, and/or any assessment, strategy, plan or program required under the abovementioned approvals; and
 - (f) be conducted and reported to the satisfaction of the Secretary.
14. Within 12 weeks of commencing this audit, or as otherwise agreed by the Secretary, the Applicant must submit a copy of the audit report to the Secretary and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of these recommendations as required. The Applicant must implement these recommendations, to the satisfaction of the Secretary.

ACCESS TO INFORMATION

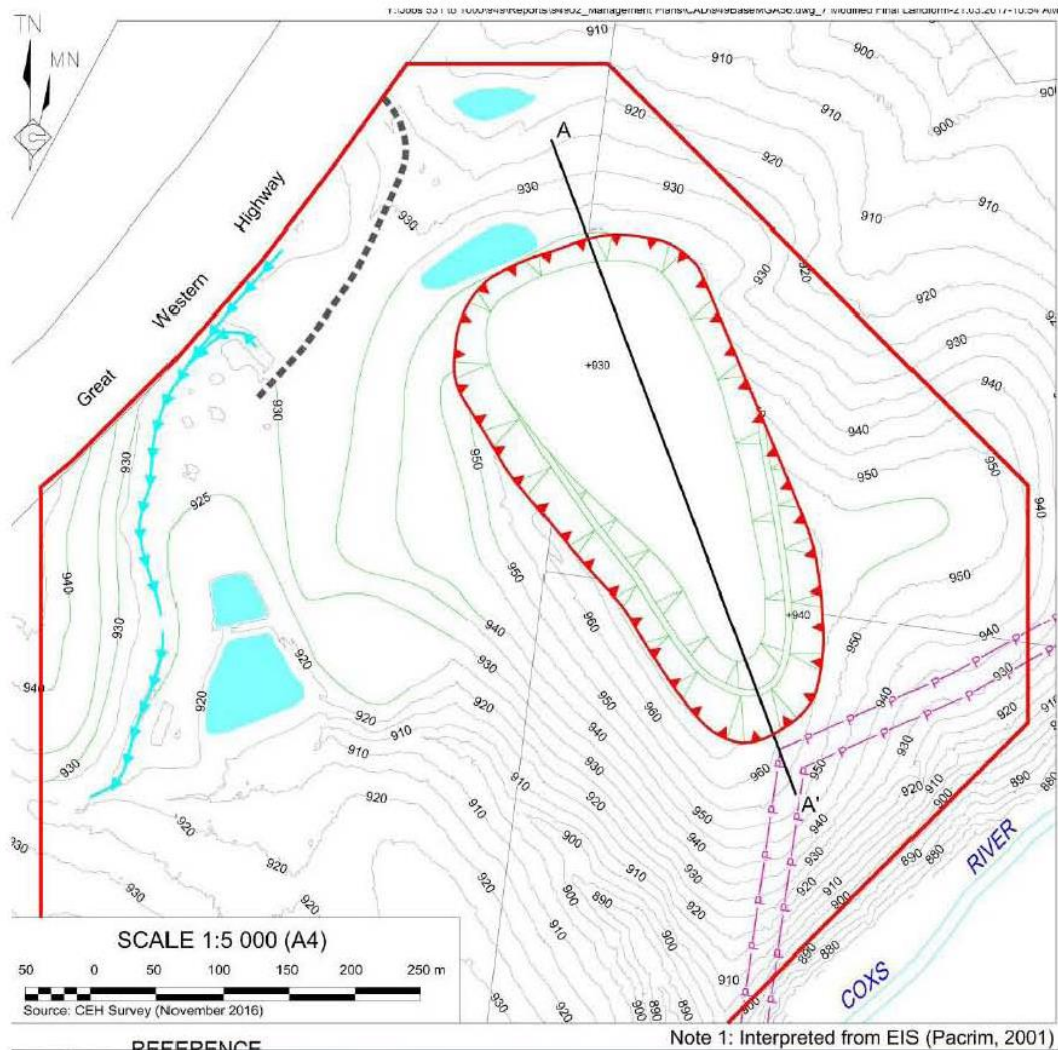
15. Within 6 months of the date of this consent, until the completion of all works, including rehabilitation and remediation the Applicant must:
- (a) make the following information publicly available on its website:¹
 - the documents listed in condition 2(a) of Schedule 2;
 - current statutory approvals for the development;
 - all approved strategies, plans and programs required under the conditions of this consent;
 - a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
 - a complaints register, updated monthly;
 - the annual reviews of the development;
 - any independent environmental audit as described in condition 12 above, and the Applicant's response to the recommendations in any audit; and
 - any other matter required by the Secretary; and
 - (b) keep this information up-to-date, to the satisfaction of the Secretary.

APPENDIX 1
DEVELOPMENT LAYOUT PLAN

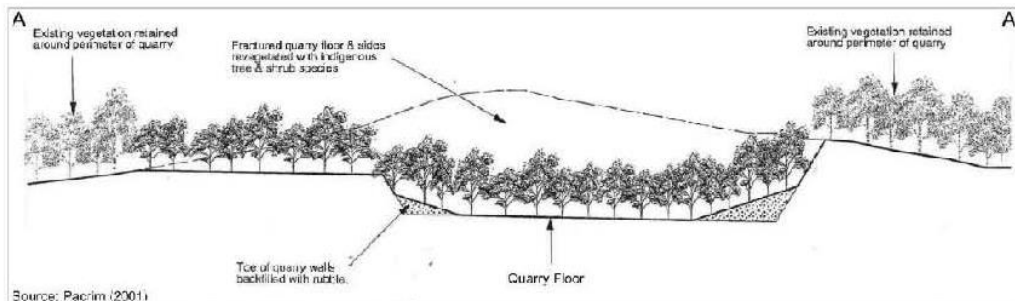


QUARRY SITE LAYOUT

APPENDIX 2 CONCEPTUAL REHABILITATION PLAN



- Quarry Site (ML1833)
- ▲ Approved Extraction Area ①
- Access Road
- Cadastral Boundary
- Transmission Line Corridor
- Existing Contour (mAHD)(Interval = 5m)
- Proposed Final Contour (mAHD)(Interval = 5m)
- Watercourse/Drainage Line
- Clean Water Drain
- Dam



Typical Section
Not to Scale

Figure 7
MODIFIED FINAL LANDFORM

APPENDIX 3
NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

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

Compliance Monitoring

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

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Appendix 3

Rehabilitation Cost Estimate – 27 March 2018

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Form ESF2

Rehabilitation Completion and/or Review of Rehabilitation Cost Estimate

Mining Act 1992 and Petroleum (Onshore) Act 1991

March 2017 | v1.2

More information

For help with lodging this form, or for more information, contact:

Division of Resources and Energy

Environmental Sustainability Unit

Phone +61 2 4931 6590

minres.environment@industry.nsw.gov.au

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The information contained in this publication is based on knowledge and understanding at the time of writing. However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the NSW Department of Industry, Skills and Regional Development or the user's independent advisor.

Privacy statement

This information is collected by the Department of Industry, Skills & Regional Development (NSW Industry, Skills & Regional Development) for the purposes of assessing an application for an authorisation or associated with an authority/title as required by the *Mining Act 1992*, *Mining Regulation 2016*, *Petroleum (Onshore) Act 1991* and *Petroleum (Onshore) Regulation 2016*.

This information may also be used by the department to confirm applicant details in the event that subsequent applications are made, and may also be used to establish and maintain databases to assist the department with its work generally.

Except for purposes required by law, the information will not be accessed by any third parties in a way that would identify the person without the consent of that person.

You may apply to the department to access and correct any information the department holds if that information is inaccurate, incomplete, not relevant or out of date.

www.resourcesandenergy.nsw.gov.au



NSW Department of Industry, Division of Resources and Energy
ESF2 Rehabilitation Completion and/or Review of Rehabilitation Cost Estimate

When to use this form

This form is to be used by holders of authorisations issued under the *Mining Act 1992* or titles issued under the *Petroleum (Onshore) Act 1991*. In this form, an authorisation or title is referred to collectively as an authority.

This form is to be used by authority holders to:

- **Seek formal confirmation from the department that rehabilitation has been successful** (i.e. complies with the authority conditions; has met the rehabilitation objectives and completion criteria; and that the landholder is satisfied with the standard of rehabilitation). This can include partial/progressive rehabilitation or the completion of all rehabilitation activities (regardless of whether or not a change to the associated security deposit is also sought).
- **Seek a review of the security deposit which is required to be provided and maintained to secure funding for the fulfilment of obligations under the authority, including obligations under the authority that may arise in the future.** This can include any increase or decrease in security (e.g. where rehabilitation has been partially or fully completed and a partial or full return of the security deposit is sought). *(Note: A security deposit is required to be provided and maintained to secure funding for the fulfilment of obligations under the authority, including obligations under the authority that may arise in the future. For further information refer to the department's [Rehabilitation Cost Estimate Guidelines](#)).*

This form has been prepared and approved in accordance with the *Mining Act 1992*, *Mining Regulation 2016*, *Petroleum (Onshore) Act 1991* and *Petroleum (Onshore) Regulation 2016*. The information requested in this form may not be specifically referenced in the *Mining Act 1992*, *Mining Regulation 2016*, *Petroleum (Onshore) Act 1991* and *Petroleum (Onshore) Regulation 2016*, however its inclusion in the approved form validates the authority of the NSW Department of Industry, Division of Resources and Energy (the department) to request it.

If there is insufficient room in the fields please provide the information as an attachment.

When not to use this form

This form **must not be** used by authority holders to:

- **Seek a review of security that is associated with an application for the renewal/part renewal of an authority.** In such case the review of security will be sought in the Rehabilitation Cost Estimate section of the relevant application form. However, this form (**Question 5**) can be used where rehabilitation associated with an authority has been partially/fully completed and/or a partial/full return of the security deposit is sought.
- **Seek a review of security that is associated with a new Exploration Activity.** In such cases the review of security will be sought in the Rehabilitation Cost Estimate section of [ESF4: Exploration Activities Application](#). However, this form (**Question 5**) can be used where rehabilitation associated with an exploration activity has been partially/fully completed and/or a partial/full return of the security deposit is sought.

Further information regarding rehabilitation objectives and completion criteria

Further information regarding rehabilitation objectives and completion criteria for **exploration** is available in the [Exploration Code of Practice: Rehabilitation](#).

Further information regarding rehabilitation objectives and completion criteria for **mining** is available in [ESG3: Mining Operations Plan \(MOP\) Guidelines](#).

Important notes

Any information or template that is required to accompany this application should be lodged within **10 business days of the lodgement date**.

If this application is lodged by any party other than the authority holder (ie. an agent), the department may seek confirmation of that authority and any limits of that authority given to that other party by the authority holder (*Mining Act 1992* section 163F and section 97F of the *Petroleum (Onshore) Act 1991*). The agent will need to complete the declaration at the end of this form and supply evidence of their appointment, if not already supplied to the department.

NSW Department of Industry, Division of Resources and Energy
ESF2 Rehabilitation Completion and/or Review of Rehabilitation Cost Estimate

How to submit this form

- **By email:** Send an electronic copy of the form including any attachments to minres.environment@industry.nsw.gov.au
- **By mail:** Mail your form and any attachments to: Division of Resources and Energy, Environmental Sustainability Unit, PO Box 344, Hunter Region Mail Centre NSW 2310.
- **In person:** Submit your application in person at the Division of Resources and Energy's, Environmental Sustainability Unit office, 516 High Street, Maitland, New South Wales. Office hours are 9.30am to 4.30pm.

How this application will be processed

Once your application has been registered and checked, it will be assessed by the department.

The department will utilise the information provided in this form to determine whether rehabilitation is to the satisfaction of the department, and that it complies with your authority conditions. The department will also utilise the information provided to determine whether the associated security deposit is adequate, including whether the security deposit (or part thereof) can be returned (where relevant). This process may occur following the completion of progressive rehabilitation or at the completion of rehabilitation activities.



NSW Department of Industry, Division of Resources and Energy
ESF2 Rehabilitation Completion and/or Review of Rehabilitation Cost Estimate

1 Authority details

Authority holders may wish to attach a separate table where there are multiple authorities.

Authority type and number (e.g. ML123, EL123)	<input type="text" value="ML1633"/>	Act authority granted under	<input type="text" value="Mining Act 1992"/>
Expiry date	<input type="text" value="15 July 2019"/>		

Additional authority details

Provide the authority type and number; Act authority was granted under and expiry date of any additional authorities.

--

2 Authority holder details

Provide the full name of authority holder/s and if applicable, the ACN or ARBN (for foreign companies). Authority holders may wish to attach a separate table where there are multiple authorities.

Name	<input type="text" value="Walker Quarries Pty Ltd"/>
ACN / ABN / ARBN	<input type="text" value="82 003 061 890"/>
Registered street address	<input type="text" value="Lot 6, Great Western Highway
WALLERAWANG NSW 28459"/>
Postal address	<input type="checkbox"/> Same as above <input checked="" type="checkbox"/> PO Box 307 LITHGOW NSW 2790

Name	<input type="text"/>
ACN / ABN / ARBN	<input type="text"/>
Registered street address	<input type="text"/>
Postal address	<input type="checkbox"/> Same as above <input type="checkbox"/> Enter here if different

Additional authority holders

Provide the full name, ACN/ABN or ARBN (for foreign companies), registered street address and postal address details of additional authority holders.

--

NSW Department of Industry, Division of Resources and Energy
ESF2 Rehabilitation Completion and/or Review of Rehabilitation Cost Estimate

3 Contact for this application

Any correspondence in relation to this application will be sent to this person. Correspondence may also be issued to the authority holder as well as the authorised agent.

Contact name	Alex Irwin
Position held	Senior Environmental Consultant
Company	RW Corkery & Co Pty Limited
Postal address	62 Hill Street, ORANGE NSW 2800
Landline phone (inc. area code)	02 6362 5411
Mobile	0429 635 975
Email	alex@rwcorkery.com

Your preferred contact method

- ☒ **Email** (For companies – consider the suitability of providing a generic company email address which is regularly monitored rather than an individual employee's email address.)
- ☐ **Mail**

Do not use this form to:

- **Seek a review of security that is associated with an application for the renewal/part renewal of an authority.** In such case the review of security will be sought in the Rehabilitation Cost Estimate section of the relevant application form. However, this form (**Question 5**) can be used where rehabilitation associated with an authority has been partially/fully completed and/or a partial/full return of the security deposit is sought.
- **Seek a review of security that is associated with a new Exploration Activity.** In such cases the review of security will be sought in the Rehabilitation Cost Estimate section of [Form ESF4: Application to conduct exploration activities](#). However, this form can be used where rehabilitation associated with an exploration activity has been partially/fully completed and/or a partial/full return of the security deposit is sought. However, this form (**Question 5**) can be used where rehabilitation associated with an exploration activity has been partially/fully completed and/or a partial/full return of the security deposit is sought.

4 Identify the trigger for submission

Tick all relevant boxes

- ☒ Application for an increase in the security deposit held by the department (complete **Questions 6, 7 and 8**)
- ☐ Application for a decrease or full return of the security deposit where surface disturbance activities have been undertaken (complete **Questions 5, 6, 7 and 8**)
- ☐ Application for a decrease or full return of the security deposit where no surface disturbance activities have been undertaken (complete **Questions 6.2, 6.3, 7 and 8**)



NSW Department of Industry, Division of Resources and Energy
ESF2 Rehabilitation Completion and/or Review of Rehabilitation Cost Estimate

- ☐ Application for confirmation that rehabilitation (including partial/progressive rehabilitation or the completion of all rehabilitation) has been successfully completed to the satisfaction of the department / Secretary / Minister (complete **Questions 5, 7 and 8**)



NSW Department of Industry, Division of Resources and Energy
ESF2 Rehabilitation Completion and/or Review of Rehabilitation Cost Estimate

5 Completion of rehabilitation

Only complete this question to seek formal confirmation from the department that rehabilitation has been successfully completed to the satisfaction of the department (i.e. complied with authority conditions; has met the rehabilitation objectives and completion criteria; and that the landholder is satisfied with the standard of rehabilitation). This can include partial/progressive rehabilitation or the completion of all rehabilitation activities on the authority (regardless of whether or not a change to the associated security deposit is also sought).

5.1 What approvals/plans is the completed rehabilitation associated with?

☐

Exploration Activity Approval

Exploration Activity Approval details (include dates/reference numbers/project name)

Indicate the type of rehabilitation

☐ Partial/Progressive Rehabilitation

☐ Completion of Rehabilitation

Age of Rehabilitation Completed

Total Area of Disturbance of Activity Approval

Total Area of Completed Rehabilitation

☐

Mining Operations Plan/Petroleum Operations Plan/Rehabilitation Management Plan

Planning Approval/ Development Consent details (include dates/reference numbers/project name)

Mining/Petroleum Operations/Rehabilitation Management Plan Details (include dates/reference numbers/project name)

Indicate the type of rehabilitation

☐ Partial/Progressive Rehabilitation

☐ Completion of Rehabilitation

Age of Rehabilitation Completed

Total Area of Disturbance of Plan

Total Area of Completed Rehabilitation

NSW Department of Industry, Division of Resources and Energy
ESF2 Rehabilitation Completion and/or Review of Rehabilitation Cost Estimate

5.2 Provide plans

Plans/maps must be provided showing location of rehabilitation activities and areas rehabilitated. As a minimum plans/maps should include authority boundaries; landholder boundaries; land use and location of each rehabilitation area.

Reference No.	Name/Title of plan	Date

5.3 Provide photographs

Photographs of all rehabilitation sites must be provided, including a plan illustrating where the photograph was taken from and its aspect. Photographs should show evidence of: condition of the receiving environment prior to disturbance; rehabilitation activities performed; and progress/completion of rehabilitation.

Plan Reference No.	Name of Plan illustrating where photos were taken	Date

Photo Reference No.	Name/Title of photo and aspect	Date

5.4 What rehabilitation has been undertaken?

5.4.1 Rehabilitation of surface disturbance activity

Provide below or attach a written statement outlining the rehabilitation activities undertaken for each surface disturbing activity (for example, revegetation; sealing of boreholes; management of access tracks; water and waste management and disposal; reshaping works and soil management; weed control; erosion management; ongoing maintenance and monitoring).

--

NSW Department of Industry, Division of Resources and Energy
ESF2 Rehabilitation Completion and/or Review of Rehabilitation Cost Estimate

5.4.2 Evidence of meeting rehabilitation objectives and completion criteria

Provide evidence describing how the rehabilitation has met each of the rehabilitation objectives and completion criteria[#] of the relevant exploration/mining/petroleum approvals and the rehabilitation conditions of the authority (Rehabilitation Objectives and Completion Criteria and associated verification^{*} should be attached).

[#]Further information regarding rehabilitation objectives and completion criteria for exploration is available in the [Exploration Code of Practice: Rehabilitation](#). Further information regarding rehabilitation objectives and completion criteria for mining is available in [ESG3: Mining Operations Plan \(MOP\) Guidelines](#).

^{*} Verification may require the attachment of specialist reports/advice confirming that specific aspects of the completion criteria have been met. Examples may include ecological, geotechnical and site remediation reports.

5.5 Has borehole/petroleum well sealing and/or backfilling been undertaken?

- ☐ Not applicable. Proceed to **Question 5.6**.
- ☐ No. Provide justification/further details below (append separate documents/reports as required).

- ☐ Yes. Complete details below and attach reports as relevant.

Provide details of contractors engaged to seal/backfill boreholes/petroleum wells.

Contractor Name	
Address	
Telephone	

Provide details of sealing and/or backfilling works undertaken (append separate documents/reports as required).

5.6 Is the landholder/s satisfied with the rehabilitation?

While not mandatory, landholder satisfaction with completed rehabilitation may assist the department's assessment. The Landholder Rehabilitation Statement provided in **Appendix A** can be used for this purpose. Notwithstanding, rehabilitation obligations, completion and performance must also be to the satisfaction of the department and in accordance with the conditions of the authority.

- ☐ Yes
- ☐ No

Provide any further details below.

NSW Department of Industry, Division of Resources and Energy
ESF2 Rehabilitation Completion and/or Review of Rehabilitation Cost Estimate

Indicate if a Landholder Rehabilitation Statement (refer to Appendix A) is attached:

Property Details	Landholder / Contact	Telephone	Attached?
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>

6 Rehabilitation cost estimate

Only complete this question to seek a review of the security deposit.

Do **not** complete Question 6 of this form in the following circumstances:

- If you are seeking formal confirmation from the department that rehabilitation has been successful and no change to the security deposit is being sought.*
- If you are seeking a review of security that is associated with a Renewal/Part Renewal of an authority. In such cases the review of security will be sought in the Rehabilitation Cost Estimate section of the relevant Renewal/Part Renewal Application Form.*
- If you are seeking a review of security that is associated with a new Exploration Activity. In such cases the review of security will be sought in the Rehabilitation Cost Estimate section of [Form ESF4: Exploration Activities Application](#).*

All authority holders must provide an estimate of rehabilitation costs. This estimate will be considered by the department when determining the [security deposit](#) amount.

Before answering this question, read the [Rehabilitation cost estimate guidelines](#) and note the following:

6.1 What is the total rehabilitation cost estimate?

The estimate should cover the rehabilitation for all exploration/mining/petroleum production operations.

The department is responsible for ensuring that the people of NSW do not incur a financial liability as a result of coal, mineral and petroleum exploration and production activities. Under 12A of the Mining Act 1992, and Part 10A of the Petroleum (Onshore) Act 1991, all authority holders engaged in these activities are, therefore, required to lodge a security deposit.

The security deposit must cover the Government's full costs for rehabilitation in the event of default by the authority holder.

Total rehabilitation cost estimate

\$ 465,897

6.1.1 What method have you used to calculate the rehabilitation cost estimate? Attach your cost calculation to this application.

☒ Department's [rehabilitation cost calculation tool](#).

☐ Other – use the field below to describe the tool or cost guide you have used.

6.1.2 What approvals/plans have you based the rehabilitation cost estimate on?

(Provide date of Approval Letter(s) and Reference where possible)

NSW Department of Industry, Division of Resources and Energy
ESF2 Rehabilitation Completion and/or Review of Rehabilitation Cost Estimate

Note that multiple boxes may be ticked

☐ Exploration Activity Approvals

☒ Mining Project Approval/Development Consent

DA 344-11-2001

☒ Mining/Petroleum Operations Plan/Rehabilitation Management Plan

Third Mining Operations Plan (15 May 2018 - 15 December 2019): Plan 3

6.1.3 What period is covered by the estimate?

Current disturbance at date of application; or

Period covered by the Estimation

15 May 2018 - 15 December 2019

6.2 What security is currently held by the department?

Current security held by the department

\$ 411,762

6.3 Does this rehabilitation cost estimate propose a reduced rehabilitation liability for the authority?

If the rehabilitation liability has been reduced, you may claim for a reduction in the security deposit amount.

☐ Yes. Rehabilitation liability has been reduced due to completion of rehabilitation. Ensure you have completed **Question 5**.

☐ Yes. Rehabilitation liability has been reduced due to other reasons (e.g. expiry of authority where no surface disturbance activities have occurred). Provide further details below.

☒ No

NSW Department of Industry, Division of Resources and Energy
ESF2 Rehabilitation Completion and/or Review of Rehabilitation Cost Estimate

7 Checklist of items to be included with this application

List any supporting documentation attached to this application in the table below:

Item	Reference	
Evidence of Rehabilitation Completion as per list below:		Question 5
Plans/maps showing location of rehabilitation activities and areas rehabilitated. Plans/maps to include: <ul style="list-style-type: none"> authority boundaries landholder boundaries land use location of each rehabilitation area 	<input type="checkbox"/>	Question 5
Photographs of all rehabilitation sites to evidence: <ul style="list-style-type: none"> condition of the receiving environment prior to disturbance rehabilitation activities performed progress/completion of rehabilitation 	<input type="checkbox"/>	Question 5
A written statement outlining the rehabilitation activities undertaken for each surface disturbance (for example, sealing of boreholes; management of access tracks; water and waste management and disposal; reshaping works and soil management; weed control; erosion management; ongoing maintenance and monitoring).	<input type="checkbox"/>	Question 5
Written evidence as to how the rehabilitation has met each of the rehabilitation objectives and completion criteria of the relevant exploration/mining/production approvals and the rehabilitation conditions of authority (This may require the attachment of specialist reports/advice confirming that specific aspects of the completion criteria have been met. Examples may include ecological, geotechnical and site remediation reports).	<input type="checkbox"/>	Question 5
Landholder Rehabilitation Statement (where applicable)	<input type="checkbox"/>	Question 5 and Appendix A
Rehabilitation Cost Estimate documentation (Calculations to evidence how the rehabilitation cost estimate is derived)	<input checked="" type="checkbox"/>	Question 6
For agents only – evidence of appointment as agent by the authority holder/s	<input type="checkbox"/>	Question 8
Additional information such as specialist verification reports (provide list below)	<input type="checkbox"/>	
	<input type="checkbox"/>	
	<input type="checkbox"/>	
	<input type="checkbox"/>	
	<input type="checkbox"/>	
	<input type="checkbox"/>	
	<input type="checkbox"/>	
	<input type="checkbox"/>	

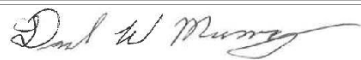
NSW Department of Industry, Division of Resources and Energy
ESF2 Rehabilitation Completion and/or Review of Rehabilitation Cost Estimate

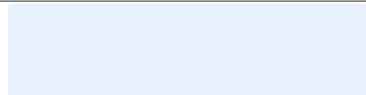
8 Declaration

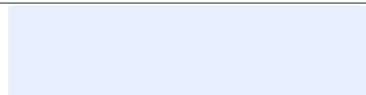
This form should be signed by the authority holder/s or an authorised representative.

I/We certify that the information provided in this application is true and correct. I/We understand that under Part 5A of the *Crimes Act 1900*, that knowingly giving false or misleading information is a serious offence; and under Section 378C of the *Mining Act 1992* or Section 135 of the *Petroleum (Onshore) Act 1991*, any person who provides information that the person knows to be false or misleading is guilty of an offence, for which they may be subject to prosecution.

Declaration by authority holder/s

Authority Holder Name	David Murray
Position/title	Managing Director
Date	29 March 2018
Signature	

Authority Holder Name	
Position/title	
Date	
Signature	

Authority Holder Name	
Position/title	
Date	
Signature	

OR

Declaration by agent authorised to act for this authority holder

Provide evidence of appointment by the authority holder.

Name	
Position/title	
Date	
Signature	

NSW Department of Industry, Division of Resources and Energy
ESF2 Rehabilitation Completion and/or Review of Rehabilitation Cost Estimate

Document control

Authorised by: Group Director, Operations and Programs

RM8 Reference: PUB17/123

Amendment schedule		
Date	Version #	Amendment
1 December 2016	1.0	This new form merges two previous forms know as <i>Form ESF2: Rehabilitation Cost Estimate Submission</i> and <i>Form EDG13: Exploration Rehabilitation and Relinquishment Report</i> . Deletion of separate Statutory Declaration from Form EDG13.
February 2017	1.1	Changes to Questions 4 and 6.3 to enable applicants to select an option for the return of security deposit where no surface disturbance activities have been undertaken (e.g. upon expiry of an authority).
March 2017	1.2	Changes to the Introduction and Question 6 to confirm that Form ESF2 may be used to provide Rehabilitation Completion information, and/or, a RCE (as required) to accompany an Application for Cancellation or Part-Cancellation.

NSW Department of Industry, Division of Resources and Energy
ESF2 Rehabilitation Completion and/or Review of Rehabilitation Cost Estimate

Appendix A: Landholder Rehabilitation Statement

When signed, this statement confirms that land disturbed during the course of exploration/mining/petroleum production activities has been rehabilitated to the satisfaction of the affected landholder/occupier.

Provided that the authority holder has rehabilitated the exploration/mining/petroleum production disturbance on your property to your satisfaction, sign and return this form to the authority holder. The authority holder will attach it to the submission form required by the Department. The information will be used by the department, along with other relevant information, to determine the authority holder's compliance with the obligations of the exploration/mining/petroleum production authority.

If rehabilitation is **not** to your satisfaction, **do not** sign this form, and discuss outstanding issues with the authority holder. If you cannot reach agreement or you have any queries, contact the department.

1 For Authority Holder to complete

Authority Details	
Authority number (e.g. EL01, ML02, PEL03)	
Name of authority holder	List all holders of the authority in full - organisation name and ACN/ABN. List all holders of the authority in full - individual details: Title, Given Name/s and Family Name
ACN/ARBN	
Contact Name	
Registered Street Address	
Postal Address	
Site Name	Insert Site Name of the exploration / mining / production area
Affected Property Name:	Insert affected property name(s)
Affected Property Address/Description:	Insert property address/Lot and DP Numbers

2 For landholder to complete

☐

I am satisfied with the state in which the authority holder has left my property and the standard of rehabilitation which has been achieved.

Additional Comments:			
Landholder/Occupier Name:			
Property Name:	Insert affected property name(s)		
Property Address/Description	Insert property address/Lot and DP Numbers		
Telephone:		Email:	
Signed:			
Date:			



Planning &
Environment

Rehabilitation Cost Estimation Tool

The *Mining Act 1992* and the *Petroleum (Onshore) Act 1991* allow the Minister for Resources (or delegate) to impose and vary a security deposit condition on authorisations or titles granted under these Acts. The **security deposit** is required for the fulfilment of obligations under the authorisation or title (hereon in referred to as an authority), including those related to rehabilitation, and obligations that may arise in the future. Authority holders are required to submit a Rehabilitation Cost Estimate (RCE) whenever a potential change in rehabilitation liability occurs and at other key points throughout the tenure of an authority. The RCE is used by the NSW Department of Planning and Environment, Division of Resources and Geoscience (DRG) to assist in determining the amount of the security deposit required for an authority.

The objective of the Rehabilitation Cost Estimation Tool (the RCE Tool) is to provide exploration, mining and petroleum operators with guidance on calculating an appropriate RCE for their operations by assisting in the assessment and quantification of rehabilitation risks and liabilities pursuant to the *Mining Act 1992* and *Petroleum (Onshore) Act 1991*.

Please Note: The RCE Tool does not apply to the sealing of petroleum wells associated with exploration and production activities under the *Petroleum (Onshore) Act 1991*. Petroleum title holders can use the RCE Tool for guidance on calculating an appropriate RCE for disturbance associated with their activities. However, it is the expectation that a separate estimate is submitted for the sealing of petroleum wells, with the RCE prepared by a suitably qualified expert in consideration of the scale, nature, risks and age associated with petroleum wells specific to the petroleum title. For petroleum production use the Open Cut Button. For petroleum exploration use the Exploration Button.

Prior to calculating a RCE, authority holders using the RCE Tool should refer to the *Rehabilitation Cost Estimate Tool Handbook* which provides guidance information about, and step by step instructions on how to use, the RCE Tool. The Handbook is available at the following location on the Department's website: <http://www.resourcesandenergy.nsw.gov.au/miners-and-explorers/rules-and-forms/pgf>

Calculating a RCE

The framework of the RCE Tool has been developed in accordance with a tiered risk-based approach to calculating rehabilitation costs whereby the outcome of the estimation will be based on the nature, size, scale and complexity of the operation. While the authority holder has the opportunity to nominate unit rates* which are not the same as those in the RCE Tool, any other unit rate proposed by the authority holder must be based on a **third party** cost as it is assumed that if the authority holder defaults on their responsibility to rehabilitate the mine or exploration operation(s), a contractor will be engaged by the Government to carry out the required rehabilitation works.

Select Type of Mining/Exploration Operations from Buttons Below

By selecting the relevant type of mining/petroleum/exploration operation (below), followed by the **ENTER** button, the worksheet relevant to the operation type will be activated. Each worksheet shows the domains likely to be present for the operation type. A worksheet must be completed, with **ALL** relevant domains, in order to estimate the total rehabilitation costs for the exploration, petroleum operations and/or mining operation.

*Note: DRG may regularly make changes and updates to the spreadsheet as necessary. All authorisation holders are encouraged to use the most recent version of the spreadsheet, available on the DRG website.



Site Registration		Date
		March 2018
Complete the following fields prior to calculating the Security Deposit.		
Mine Name:	Wallerawang Quarry	
Lease(s):	ML 1633	
Title Holder:	Walker Quarries Pty Ltd	
Mine Operator:	Walker Quarries Pty Ltd	
Expiry of MOP:	15/5/2018	
Current Security:	\$411,762	Date of last Security Deposit review 11/07/2016
Mine Contact:	Trevor Hoffman	
Position:	Quarry Operations Manager	
Address:	Lot 6, Great Western Highway WALLERAWANG NSW 2845	
Phone:	02 6324 4066	Email: trevorh@walkerquarries.com.au



Site Description

The following site specific information is requested to provide background information in the context of calculating the Security Deposit.

Summary of Mine Activities

Total annual production (tonnes):

Mine lease area (ha):

Area of extraction (ha):

Area of disturbance (ha):

Rehabilitation in progress (ha):

Rehabilitation complete (ha):
Achieved ecosystem sustainability

MOP Utilised:
Reference MOP no. version and date

MOP Plan(s) utilised: 1
Reference Plan no. version and date

2

3

☐ Plan(s) attached

Environmental Sensitivities

Surrounding land use (tick all that apply):

- ☐ Cropping
- ☐ Pasture
- ☒ Forest
- ☒ Undisturbed habitat
- ☐ Urban

Environmental Issues affecting site (tick all that apply)

- ☐ Threatened flora
- ☒ Threatened fauna
- ☒ Cultural heritage items
- ☐ Natural heritage features
- ☐ Mine subsidence
- ☒ Surface water pollution
- ☐ Ground water pollution
- ☒ Hydrocarbon contamination
- ☐ Methane drainage/venting
- ☐ Spontaneous combustion
- ☐ Acid Mine Drainage
- ☒ Within drinking water catchment
- ☐ Other (describe below)

NOTE:

Ensure rehabilitation cost estimation reflects all environmental issues affecting the lease. Contingencies should be allocated where costs have not been incorporated elsewhere in the estimation.



Planning &
Environment

Open Cut Summary Rehabilitation Cost Estimation

Note: Sections of this page are automatically filled in from the registration page

Mine Name:	Wallerawang Quarry		
Lease(s):	ML 1633		
Authorisation Owner:	Walker Quarries Pty Ltd		
Mine Operator:	Walker Quarries Pty Ltd		
Expiry of MOP:	15/5/2018		
Current Security:	\$411,762	Date of Last Security Deposit Review:	26/07/2016
Mine Contact:	Trevor Hoffman		
Position:	Quarry Operations Manager		
Address:	Lot 6, Great Western Highway WALLERAWANG NSW 2845		
Phone:	02 6324 4066	Email:	trevorh@walkerquarries.com.au

Domain		Security Deposit
Domain 1: Infrastructure		\$284,281
Domain 2: Tailings & Rejects		
Domain 3: Overburden & Waste		
Domain 4: Active Mine & Voids		\$48,775
Domain 5: Management Activities		\$25,327
Subtotal (Domains and Sundry Items)		\$358,382
Contingency	10%	\$35,838
Post Closure Environmental Monitoring	10%	\$35,838
Project Management and Surveying	10%	\$35,838
Total Security Deposit for the Mining Project (excl. of GST)		\$465,897

Note: GST is not included in the above calculation or as part of rehabilitation security deposits required by the Department.

- ☐ Alterations have been made to unit prices within this spreadsheet. (Attach a separate sheet providing details of changes).
- ☒ The proposed rehabilitation design is generally consistent with the development consent for the project.

This Registration Form, Summary Report and calculation pages are to be printed and attached as an appendix the AEMR or MOP.

This mine security calculation has been estimated using the best available information at the time.
It is a true and accurate reflection of the total rehabilitation liability held by this mine.

David Murray
Company Representative's Name

29 March 2018
Date

Managing Director
Company Representative's Role / Responsibility

David W Murray
Signature



Open Cut Operations

Domain 1a: Infrastructure

Total Cost for Infrastructure Domain

\$284,281

Additional Assumptions: Record any relevant assumptions to this domain below:

Includes the MOP Domains 1 (Infrastructure), 3 (Water Management Areas) and 5 (Stockpile Areas) (11.1ha)

Key Rehabilitation Area Data for Domain

Enter data below manually

Total Landform Establishment:	11.10
Total Growth Media Development:	11.10
Total Ecosystem Establishment:	11.10

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Termination of Services and Demolition Works	Disconnect and terminate all services (Water, electricity, gas etc at point of attachment to site)	Y	1	allow	\$35,000		\$35,000		For disconnection of all services, at building boundaries, physical cut at the point of attachment or distribution location. If infrastructure is not consolidated (i.e., administration, camp and workshops are in separate places), consider multiple disconnection fees.
	Disconnect and terminate services at remote areas (i.e. pump stations, remote workshops, sewage treatment plant etc.)	Y	1	allow	\$5,500		\$5,500		Used for infrastructure remote from primary connection. Can also be used for small mines / quarries that do not have dedicated supplies from supply authorities such as steel lattice power lines.
	Removal of low/medium voltage powerlines including disconnection, rolling up the wires and removing the poles - does not include the removal of substations	N		km	\$15,000				Applies to power lines on stobie, concrete or similar poles.
	Removal of power lines on tower or lattice structures (this includes disconnection, rolling up the wires and removing the structures) - does not include the removal of substations	N		km	\$100,000				Applies to power lines on steel tower and steel lattice structures assuming 3 towers / km.
	Remove significant rail, road, water course overpass - manage potential interruptions and demolish and remove bridge supports/pylons/bridge structure etc. and dispose of waste material on-site/locally	N		Item	\$350,000				Major structures constructed for the purposes of mining related works - does not include transport to regional disposal facility or equivalent.
	Demolish and/or remove substations (assumes they are in a closed building). Dispose of waste material on-site/locally	N		m2	\$600.00				Simple structure to demolish. Assumes single story building and segregation of contents for scrap as applicable.
	Demolish and remove switchyard. Dispose of waste material on-site/locally	N		m2	\$55.00				Includes demolition and removal of all switchgear and transformers etc. and segregation of contents for scrap as applicable.
	Demolish and remove demountable structures on concrete stumps. Assumes not being re-used	Y	470	m2	\$40.00		\$18,800		Includes main office and new demountable structures approved by Lithgow City Council
	Demolish and remove small buildings/tanks (admin buildings, single story accommodation etc) and disposal on-site/locally	Y	220	m2	\$65.00		\$14,300		Weightbridge
	Demolish and remove light industrial buildings and disposal on-site/locally	N		m2/floor	\$115.00				Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m). Does not include transport to regional disposal facility or equivalent.
	Demolish and remove industrial buildings (workshops tyre change and servicing area etc not CHPP/process plant) and disposal on-site/locally	N		m2/floor	\$180.00				Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m). Does not include transport to regional disposal facility or equivalent.
	Demolish and remove CHPP/process plant (include the area of each floor of the structure) and disposal on-site/locally	N		m2/floor	\$265.00				Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m). Does not include transport to regional disposal facility or equivalent.
	Collapse, demolish and remove washery, crushers, hoppers, mills, furnaces, agglomeration, electrowinning, flotation, sizing stations, rotary breakers, etc (include the area of each floor of the structure) and disposal on-site/locally	N		m2/floor	\$265.00				Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m). Does not include transport to regional disposal facility or equivalent.
	Collapse, demolish and remove stacker OR reclaimer (radial or luffing etc. with maneuverability for stockpile control) and disposal on-site/locally	N		allow	\$1,000,000				Cost for removal of stacker or reclaim unit only. Does not include terminate services, remove rails and ballast etc. Does not include transport to regional disposal facility or equivalent.
	Collapse, demolish and remove bucket wheel stacker/reclaimer and disposal on-site/locally	N		allow	\$2,500,000				Cost for just removal of the bucket wheel stacker/reclaim units. Does not include terminate services, remove rails and ballast etc. Does not include transport to regional disposal facility or equivalent.
	Remove stacker/reclaimer rails and ballast and demolish and remove concrete footings etc and disposal on-site/locally	N		m	\$75.00				Includes both rails, does not include the conveyor system. Does not include transport to regional disposal facility or equivalent.
	Collapse, Cut and Remove 5000T coal silo and disposal on-site/locally	N		allow	\$100,000				Collapse structure and remove. Does not include transport to regional disposal facility or equivalent.
	Collapse, Cut and Remove 3000 T coal silo and disposal on-site/locally	N		allow	\$85,000				Collapse structure and remove. Does not include transport to regional disposal facility or equivalent.
	Collapse, Cut and Remove 1250 T coal silo and disposal on-site/locally	N		allow	\$65,000				Collapse structure and remove. Does not include transport to regional disposal facility or equivalent.
	Collapse, Cut and Remove rail loading bins and disposal on-site/locally	N		allow	\$65,000				Collapse structure and remove. Does not include transport to regional disposal facility or equivalent.
	Demolish and remove onground conveyors, transfer stations & gantries (scrap only - does not include dismantling for reuse at another site) and disposal on-site/locally	N		m	\$210.00				Estimate for on-ground conveyor including anything up to 10 m off the ground. Does not include transport to regional disposal facility or equivalent.
	Demolish and remove elevated conveyors, transfer stations & gantries (scrap only, does not include dismantling for reuse at another site) and disposal on-site/locally	N		m	\$370.00				Estimate for elevated conveyor up to ~10 m off the ground. Does not include transport to regional disposal facility or equivalent.



Demolish and remove overhead conveyors, transfer stations & gantries (scrap only, does not include dismantling for reuse at another site) and disposal on-site/locally.	n		m	\$1,200				Estimate for overhead conveyor including conveyors that are >10 m off the ground that require a crane to remove. Does not include transport to regional disposal facility or equivalent.
This may include small scale fixed material stacking infrastructure								
Demolish reclaim tunnel, cut reo and expose reclaim conveyor, then collapse into the reclaim tunnel void (Does not include excavation to expose reclaim tunnel, removal of conveyor or backfilling void)	n		m2	\$80.00				Does not include conveyor removal or backfill.
Remove and demolish conveyor from reclaim tunnel (Does not include excavation and demolition of reclaim tunnel roof)	n		m	\$150.00				Due to no canopy or infrastructure attached.
Demolition of reclaim tunnel concrete (Assumes complete removal and dumping in mine pit void)	n		m	\$950.00				Assumes this area will be used for another land-use that requires the structure to be dug up and re-buried somewhere else.
Demolish and remove small tank clean (Thickener etc 3 - 9 m diameter) and disposal on-site/locally	n		allow	\$10,000				Assume tank is clean - contents removed. If tank is full allow extra 30% for excavator and 2 men to dig out and dispose. Does not include transport to regional disposal facility or equivalent.
Demolish and remove medium tank clean (Thickener etc 10 - 15 m diameter) and disposal on-site/locally	n		allow	\$30,000				Assume tank is clean - contents removed. If tank is full allow extra 30% for excavator and 2 men to dig out and dispose. Does not include transport to regional disposal facility or equivalent.
Demolish and remove large tank clean (Thickener etc 15 - 30 m diameter) and disposal on-site/locally	n		allow	\$45,000				Assume tank is clean - contents removed. If tank is full allow extra 30% for excavator and 2 men to dig out and dispose. Does not include transport to regional disposal facility or equivalent.
Demolish and remove extra large tank clean (Thickener etc >30 m diameter) and disposal on-site/locally	n		allow	\$85,000				Assume tank is clean - contents removed. If tank is full allow extra 30% for excavator and 2 men to dig out and dispose. Does not include transport to regional disposal facility or equivalent.
Demolish and remove tank clean (Thickener etc) >50 m diameter and disposal on-site/locally	n		allow	\$100,000				Estimate only - may require a detailed assessment from demolition expert due to specialised equipment required for removal. Does not include transport to regional disposal facility or equivalent.
Removal of UG tank <5000 L - including pipes, bunds etc. and disposal on-site/locally	n		allow	\$21,000				Assume tank is clean (contents removed), does not include transport to regional disposal facility or equivalent.
Removal of UG tank 5000 L - 15000 L - including pipes, bunds etc. and disposal on-site/locally	n		allow	\$30,000				Assume tank is clean (contents removed), does not include transport to regional disposal facility or equivalent.
Remove small underground pipe and disposal on-site/locally	n		m	\$25.00				For example: 300 mm pipes - 0.5 m deep, does not include transport to regional disposal facility or equivalent.
Remove medium underground pipe and disposal on-site/locally	n		m	\$60.00				For example: 500 mm pipes - 1 m deep, does not include transport to regional disposal facility or equivalent.
Remove large underground pipe and disposal on-site/locally	n		m	\$165.00				For example: 1 m pipes - 2 m deep.
Remove above ground pipe (supported) and disposal on-site/locally	n		m	\$12.00				<300 mm pipes and assumes pipes are in close proximity to infrastructure areas. Does not include transport to regional disposal facility or equivalent.
Remove surface pipelines (unsupported) and disposal on-site/locally	y	140	m	\$15.00		\$2,100	Clean Water Pipeline	<300 mm pipes and assumes pipes are used for water transfer between pits (or similar) and remotely located. Does not include transport to regional disposal facility or equivalent.
Remove pump and pontoon from a lake or dam including pipes and electrical supply or diesel tank/s and disposal on-site/locally	n		allow	\$150,000				Assumes infrastructure is moored and requires barge mobilisation to sever the mooring and / or is a significant fixed structure for controlled release of water. Does not include transport to regional disposal facility or equivalent.
Remove bitumen (car park and access roads) and dispose on-site/locally	y	700	m2	\$10.00		\$7,000	Sealed Access Road to be retained	Scalp bitumen and stabilised material. Generally haulage rates will be \$0.60 - \$1.20 / km, depending on truck fleet, loaders etc. For off-site disposal use alternate rate option and add \$0.90 / km for transport.
Remove bitumen (airstrip) and dispose on-site/locally	n		m2	\$20.00				Scalp bitumen and stabilised material. Generally haulage rates will be \$0.60 - \$1.20 / km, depending on truck fleet, loaders etc. For off-site disposal use alternate rate option and add \$0.90 / km for transport.
Remove concrete pads & footings (<300 mm thickness) and disposal on-site/locally	y	40	m2	\$37.00		\$1,480		Breaking up slab and disposal or for conversion to aggregate. Generally haulage rates will be \$0.60 - \$1.20 / km, depending on truck fleet, loaders etc. For off-site disposal use alternate rate option and add \$0.90 / km for transport.
Remove concrete pads & footings (>300 mm thickness) and disposal on-site/locally	y	40	m2	\$75.00		\$3,000	Includes aprons and pipes between silt cells	Breaking up slab and disposal or for conversion to aggregate. Generally haulage rates will be \$0.60 - \$1.20 / km, depending on truck fleet, loaders etc. For off-site disposal use alternate rate option and add \$0.90 / km for transport.
Crush concrete to make road aggregate - 75 mm	n		tonne	\$17.00				Does not include haulage of materials - assumes crushing plant is readily available.
Crush concrete to make road aggregate - 50 mm	n		tonne	\$20.00				Does not include haulage of materials - assumes crushing plant is readily available.
Crush concrete to make road aggregate - 30 mm	n		tonne	\$22.00				Does not include haulage of materials - assumes crushing plant is readily available.



	Remove fence (cyclone/wire fence) and disposal on-site/locally	y	460	m	\$20.00		\$9,200	Western ML 1633 fenceline within Lidsdale SF	Roll up fence and remove posts.
Termination of Services and Demolition Works Subtotal							\$96,380		
Rail Infrastructure	Remove rail loop and spur, ballast etc. and disposal on-site/locally	n		m	\$60.00				Remove all materials to allow area to be reshaped and rehabilitated - does not include transport to regional disposal facility or equivalent.
	Remove train loading facilities and disposal on-site/locally	n		m2	\$265.00				Remove rail load point infrastructure including gantries and control structures. Does not include transport to regional disposal facility or equivalent.
	Reshape rail spur and load out areas. Does not include growth media and revegetation	n		ha	\$2,500				D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation).
Contaminated Materials							\$0		
Contaminated Materials	Undertake a preliminary site investigation (Phase 1). This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple studies may be required.	n		Cluster	\$15,000				The preliminary investigation would include at minimum a desktop assessment of the area and site history, incidents, etc. as per the National Environmental Protection (Site Contamination) Measure (NEM) Phase 1 assessment (EP Act Section 389 (2) (vi)) or similar approved and recognised assessment method. A cluster may include: - Mine infrastructure (i.e., fuel / chemical store, workshop, vehicle wash-down, sewage treatment etc.) - Processing plants (i.e., ore and product storage, mine waste storage and disposal, rail load-out etc.) - Remote pit-top facilities (i.e., vehicle refuel, sewage treatment, secondary workshop, chemical storage etc.)
	Undertake an intrusive site investigation. This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple intrusive investigations should be included.	n		Cluster	\$100,000				The intrusive investigation would include at minimum a site walkover and field sampling as per the National Environmental Protection (Site Contamination) Measure (NEM) Phase 2 intrusive investigation (EP Act Section 389 (2) (vi)) or similar approved and recognised assessment method. Note: An intrusive investigation is not required for all contaminated areas and should be applied considering the rehabilitation program, site history, location, etc. A cluster area where it is highly anticipated that contamination has occurred (i.e. underground tanks / pipes that are known to have leaked, chemical stores with earthen bunds, around ineffective oil/water separators etc.) and further field work is required involving intrusive investigation.
	Removal and disposal of contaminated water from tanks, bunded areas and sumps	n		L	\$0.35				Cost for recent sump clean-up from resource activity - requires specialists to treat.
	Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (Select Haul Distance from list)	n		m3	Select from List			Select Haul Distance Here	This item includes scraping and removal of the volume of carbonaceous material using dozer, grader etc. to make safe an area and enable the establishment of rehabilitation.
	Load, cart and dispose of High Level contaminated material off site to a licensed landfill. Assumes cartage to a licensed landfill	n		m3	\$700.00				Includes load, haul and dump fees to a licensed facility.
	Load, cart and disposal of Low Level contaminated material off site to a licensed landfill. Add \$50/m3 for cartage to regional landfill	n		m3	\$200.00				Includes load, haul and dump fees to a licensed facility.
	Onsite remediation of hydrocarbon contaminated soils (<50 m3) - manual land farming	y	50	m3	\$55.00		\$2,750	< 50m3 Assumption provided for some minor on-site remediation	Current rates still adequate and recommend continue to allow for economies of scale.
	Mobilisation of cement stabilisation plant and equipment for hydrocarbon (i.e., PAH, long chain hydrocarbons, etc.) contaminated soil treatment	n		Item	\$150,000				Required if treatment of hydrocarbon contamination is required to be fast tracked.
	On-site remediation of hydrocarbon contaminated soils - using a mobile treatment unit	n		m3	\$165.00				Additional cost as the treatment process is fast tracked.
	Remove and dispose of asbestos (<750 m2)	n		m2	\$50.00				Where an assessment/estimation has been made to confirm the volume of asbestos to be removed.
	Remove and dispose of asbestos (>750 m2)	n		m2	\$40				Where an assessment/estimation has been made to confirm the volume of asbestos to be removed.
	Remove and dispose of asbestos	n		tonne	\$2,400				6 mm asbestos sheet approx. 15 kg / m2 = ~70 m2 per ton. Allowing \$20 / m2 for removal, 4 hours trucking @ \$125 and \$100 / t disposal plus 20% OHP = \$2,400 / t.
	Treatment of known Acid Sulfate Soils	n		ha	\$2,580				Assumes ASS is treatable via neutralisation and does not require capping and isolation.
	Removal and disposal of plastic liner (i.e. dam, leach pad, sump etc.)	n		m2	\$1.00				Provisional sum for cutting using ripping tyres and on-site disposal of the liner.
Contaminated Materials Subtotal							\$2,750		

Vents, Shafts and Boreholes	Exploration boreholes – rehabilitate boreholes and drill pads as required	n		depth (m)	\$40.00			Where multiple boreholes exist, this is the rate for the total cumulative depth of all boreholes (e.g. two boreholes at 100m depth each = 200m). Assumes a per metre drilling rate of ~\$150 / m of which ~25 - 30% is for rehabilitation which may include a variety of works (i.e., cut casing and install cap, install poly pipe to facilitate back-filling, grout preparation, grouting and capping, reshaping / ripping the drill pad, amelioration / seeding etc.)
	Exploration boreholes – backfill open bore holes with cuttings	n		allow	\$300			May include cutting of casing, installation of a casing cap, and/or manually backfilling the hole with drill cuttings. Does not include reshaping / ripping the drill pad, amelioration / seeding etc.
	Exploration boreholes – grout and cap open bore holes	n		allow	\$7,950			Includes grouting and capping 100 - 200 m exploration boreholes to meet the requirements of EDG01
	Boreholes – cap and seal open bore holes with steel casing (i.e., goaf drainage etc.)	n		allow	\$6,960			Holes deeper than 100 m - includes cutting steel collar 6 m below surface, grouting and capping
	Boreholes – cap and seal open bore holes - surface-to-in-seam gas drainage	n		allow	\$15,000			Surface-to-in-seam gas drainage boreholes
	Boreholes – cap and seal open bore holes - vertical gas drainage	n		allow	\$16,000			Vertical gas drainage boreholes
	Boreholes – grout (with concrete) cap and seal bore holes (i.e. where sealing aquifers)	n		allow	\$35,000			Includes multi skin sleeves to prevent aquifer mixing
	Boreholes – cap and seal service boreholes for UG operations	n		allow	\$45,000			Includes large diameter boreholes used for supplying electricity (66kV), compressed air, water, solenoid etc.
Vents, Shafts and Boreholes Subtotal						\$0		
Roads and Tracks	Unsealed roads / vehicle park-up areas – minor works including deep rip and trim	n		ha	\$960.00			Assumes ~6 m road width - 16H Grader @ \$212 per hour
	Unsealed roads / access tracks / vehicle park-up areas with windrows and/or small earthen bunds – minor earthworks and deep rip and trim	n		ha	\$1,500			Assumes ~20 m road width - D10 Dozer @ \$332 per hour
	Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip and seed (pasture grass)	n		ha	\$3,698			D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation) - pasture grass seed
	Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	Y	1.6	ha	\$4,485		\$7,176	D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation) - tree/shrub seed
	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (pasture grass)	n		ha	\$3,820			D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation) - pasture grass seed
	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	n		ha	\$4,595			D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation) - tree/shrub seed
	Remove stabilised material (blue metal, aggregate etc.) from roadways and disposal on-site/locally (Select Haul Distance from list)	n		m3	Select from List			Select Haul Distance Here This item includes the scraping and removal of the volume of stabilised material from the road, laydown or other surface using an excavator, dozer and grader to enable the establishment of rehabilitation.
Roads and Tracks Subtotal						\$7,176		
Earthworks / Structural Works (Landform Establishment)	Major bulk pushing to achieve grades nominated in the approval/permit – 50 m push length	Y	8900	m3	\$0.80		\$7,103	< 50m push Calculated from survey completed by RME - 20/3 D11 push at \$360 and 400 bcm/hr
	Minor reshaping and pushing	Y	9.4	ha	\$3,900		\$36,660	Includes all Stockpile Areas, Roads and water storages not to be retained in final landform D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation)
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures	Y	0.5	ha	\$1,600		\$800	Reinstate central clean water drain and minor contour bank construction on the WSEA landform Combination of dozer and excavator work. Small dozer (D6 or similar) @ ~\$200 per hour plus grader @ \$212 per hour for ~4 hours each per ha
	Fill dams, voids etc. - Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (haul distance <1 km)	Y	2000	m3	\$3.90		\$7,795	< ~1km Silt Cells and small sediment basins D10 push over soft material at \$270/hr. 657 Scrapers cut to spoil at \$430/hr, 150BCM/hr machine, Ancillary watercart and grader at \$0.75c/m3
	Shotcrete application on cuttings and steep slopes	n		m2	\$185.00			This rate is used to rehabilitate steep slopes of weathered rock, roadway cuttings, etc that cannot be cut back and stabilised.
	Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction)	n		ha	\$960.00			16H Grader @ \$212 per hour - ripping in 1 direction only
	Deep rip hard stand / lay down areas	Y	4	ha	\$960.00		\$3,840	Main Stockpile Areas (not WSEA or ESEA) D10 dozer @ \$332 per hour - deep rip in 2 directions @ 5 m spacing ~3 hr per hectare
	Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments	n		m2	\$35.00			Installation of on-site rock material (rip-rap) where managing water run-off from disturbed land and/or upon entry to water courses - prevents erosion of gully head (assumes competent material is locally available)
Earthworks / Structural Works (Landform Establishment) Subtotal						\$56,198		
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media - haul distance <1 km	Y	24300	m3	\$3.26		\$79,126	< ~1km Excludes the Hoskins Quarry Area and Dams 610 m3/hr with 4 x 657 scrapers at \$430/hr, D10 trimming at \$270/hr 3ha/day at 150mm depth
	Planting mature trees (>15 cm)	n		allow	\$20.00			4 m centres
	Planting tube stock (<15 cm)	n		allow	\$10.00			4 m centres
	Direct seeding / fertiliser (pasture grass species)	n		ha	\$1,240			Rate can fluctuate however this is a suitable standard rate
	Direct seeding / fertiliser (tree or native grass species)	Y	9.4	ha	\$2,095		\$19,693	Rate can fluctuate however this is a suitable standard rate
	Hydro-seeding with straw mulching and bitumen tack	n		m2	\$1.80			Rate can fluctuate however this is a suitable standard rate
	Single application of fertiliser (pasture)	Y		ha	\$420.00		\$0	Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc.) this is a suitable standard rate.



	Single application of fertiliser (trees)	Y	9.4	ha	\$140.00		\$1,316		These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Spoil amelioration (adding lime / gypsum etc.)	n		ha	\$860.00				Assumes 2.5 t / ha as an average application rate.
	growth media amelioration with biosolids	Y	9.4	ha	\$1,015		\$9,541		Recent experience with agronomy projects.
	Construct no-climb stock fence around rehabilitated areas	n		m	\$9.50				Standard rate for no-climb stock fencing.
	Construct standard stock fence around rehabilitated areas	n		m	\$4.00				Standard rate for standard stock fencing.
	Purchase and erect warning signs	n		allow	\$250.00				Compliance with AS 1319-1994 - Safety signs for the occupational environment - installed every 25 m.
	Supply from external sources virgin excavated natural material (VENM) for growth media.	n		m3	\$80.80				D7 to spread material at \$205/hr, Excavator (\$220/hr) load Artic Trucks (30c/km) from imported stockpile - allow nominal rate of \$70/m3 for imported fill material.
	Supply from external sources a combination of virgin excavated natural material (VENM) and spoil from large excavation for filling voids and/or capping etc.	n		m3	\$72.50				D10 push into void at \$270/hr, Excavator (\$220/hr) load Artic Trucks (30c/km) from imported stockpile - allow nominal rate of \$60/m3 for imported fill material.
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment) Subtotal							\$109,676		
Water Management	Clean water dams to be retained after decommissioning - make safe and minor earthworks	y	2	allow	\$2,500		\$5,000		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) @ ~\$200 per hour and pasture grass.
	Remove sediments from the floor of the dam to enable it to be converted into clean water structure (haul distance <1km)	y	2000	m3	\$3.55		\$7,100	< ~1km Assumes 5% of two main sediment dams	D8 excavator and 90c/m3 haul with artic trucks, 220m3/hr, two trucks required for short distance + 75c ancillary - excludes any stockpile treatment - no dozer (add 90c/m3 if)
	Removal of evaporation fans and/or other water transfer and management infrastructure	n		allow	\$25,000				Provisional sum for removal of water management infrastructure.
Water Management Subtotal							\$12,100		
Maintenance of Rehabilitated Areas	Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	n		ha	\$900				Rehabilitation maintenance might include re-seeding, watering, fertilising, minor re-shaping, erosion control, inspections/audits - does not include major repair works.
	Existing rehabilitation repair - minor	n		ha	\$1,200				Areas requiring minor repair - rills, minor growth media replacement.
	Existing rehabilitation repair - moderate	n		ha	\$1,700				Areas requiring moderate repair - rills, significant growth media replacement.
	Existing rehabilitation repair - major	n		ha	\$2,500				Areas requiring major repair - rills, gullies, growth media replacement, some level of additional surface water management.
	Existing rehabilitation repair - total failure of landform	n		ha	\$40,000				Areas that require extensive rehabilitation repair - re-design and re-construction of landform.
Maintenance of Rehabilitated Areas Subtotal							\$0		
Additional Items	Other 1 <insert>	N			This is				This item includes <<to be added by the operator>>
	Other 2 <insert>	N			deliberately				This item includes <<to be added by the operator>>
	Other 3 <insert>	N			left blank				This item includes <<to be added by the operator>>
Additional Items Subtotal							\$0		
Total Cost for Infrastructure Domain							\$284,281		

Open Cut Operations

Domain 2a: Tailings & Rejects

Total Cost for Tailings & Rejects Domain

\$0

Additional Assumptions: Record any relevant assumptions to this domain below:

No tailings or rejects domain	Key Rehabilitation Area Data for Domain	Enter data below manually
	Total Landform Establishment:	
	Total Growth Media Development:	
	Total Ecosystem Establishment:	

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Contaminated Materials	Undertake a preliminary site investigation (Phase 1). This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple studies may be required.	n		Cluster	\$15,000				The preliminary investigation would include at minimum a desktop assessment of the area and site history, incidents, etc. as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase 1 assessment (EP Act Section 389 (2) (v)) or similar approved and recognised assessment method. A cluster may include: - Mine infrastructure (i.e. fuel / chemical store, workshop, vehicle wash-down, sewage treatment etc.) - Processing plants (i.e. ore and product storage, mine waste storage and disposal, rail load-out etc.) - Remote pit-top facilities (i.e. vehicle refuel, sewage treatment, secondary workshop, chemical storage etc.)
	Undertake an intrusive site investigation. This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple intrusive investigations should be included.	n		Cluster	\$100,000				The intrusive investigation would include at minimum a site walkover and field sampling as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase 2 intrusive investigation (EP Act Section 389 (2) (v)) or similar approved and recognised assessment method. Note: An intrusive investigation is not required for all contaminated areas and should be applied considering the rehabilitation program, site history, location, etc. A cluster area where it is highly anticipated that contamination has occurred (i.e. underground tanks / pipes that are known to have leaked, chemical stores with earthen bunds, around ineffective oil/water separators etc.) and further field work is required involving intrusive investigation.
	Removal and disposal of contaminated water from tanks, bunded areas and sumps	n		L	\$0.35				Cost for recent sump clean-up from resource activity - requires specialists to treat.
	Remove material (carbonaceous / metaliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (Select Haul Distance from list)	n		m3	Select from List			Select Haul Distance Here	This item includes scraping and removal of the volume of carbonaceous material using dozer, grader etc. to make safe an area and enable the establishment of rehabilitation.
	Load, cart and dispose of High Level contaminated material off site to a licensed landfill. Assumes cartage to a licensed landfill	n		m3	\$700.00				Includes load, haul and dump fees to a licensed facility.
	Load, cart and disposal of Low Level contaminated material off site to a licensed landfill. Add \$50/m3 for cartage to regional landfill	n		m3	\$200.00				Includes load, haul and dump fees to a licensed facility.
	Onsite remediation of hydrocarbon contaminated soils manual land farming (Select Volume from List)	n		m3	Select from List			Select Volume Here	Spreading of contaminated soils on a prepared surface and stimulation of aerobic microbial activity within the soils through aeration and/or the addition of minerals, nutrients and moisture to promote the aerobic degradation of organic chemicals - time frame of up to 24 months.
	Mobilisation of cement stabilisation plant and equipment for hydrocarbon (i.e., PAH, long chain hydrocarbons, etc.) contaminated soil treatment	n		Item	\$150,000				Required if treatment of hydrocarbon contamination is required to be fast tracked.
	On-site remediation of hydrocarbon contaminated soils - using a mobile treatment unit	n		m3	\$165.00				Additional cost as the treatment process is fast tracked.
	Remove and dispose of asbestos (<750 m2)	n		m2	\$50.00				Where an assessment/estimation has been made to confirm the volume of asbestos to be removed.
	Remove and dispose of asbestos (>750 m2)	n		m2	\$40.00				Where an assessment/estimation has been made to confirm the volume of asbestos to be removed.
	Remove and dispose of asbestos	n		tonne	\$2,400				6 mm asbestos sheet approx. 15 kg / m2 = ~70 m2 per ton. Allowing \$20 / m2 for removal, 4 hours trucking @ \$125 and \$100 / t disposal plus 20% OHP = \$2,400 / t
	Treatment of known Acid Sulfate Soils	n		ha	\$2,580				Assumes ASS is treatable via neutralisation and does not require capping and isolation.
	Removal and disposal of plastic liner (i.e. dam, leach pad, sump etc.)	n		m2	\$1.00				Provisional sum for cutting using ripping tyres and on-site disposal of the liner.
Contaminated Materials Subtotal							\$0		
Roads and Tracks	Unsealed roads / vehicle park-up areas - minor works including deep rip and trim	n		ha	\$960.00				Assumes ~6 m road width - 16H Grader @ \$212 per hour.
	Unsealed roads / access tracks / vehicle park-up areas with windrows and/or small earthen bunds - minor earthworks and deep rip and trim	n		ha	\$1,500				Assumes ~20 m road width - D10 Dozer @ \$332 per hour.
	Unsealed roads / vehicle park-up areas - Minor earthworks, final trim and deep rip and seed (pasture grass)	n		ha	\$3,698				D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation) - pasture grass seed.



	Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	n		ha	\$4,485			D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation) - tree/shrub seed
	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (pasture grass)	n		ha	\$3,820			D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation) - pasture grass seed
	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	n		ha	\$4,595			D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation) - tree/shrub seed
	Remove stabilised material (blue metal, aggregate etc.) from roadways and disposal on-site/locally (Select Haul Distance from list)	n		m3	Select from List		Select Haul Distance Here	This item includes the scraping and removal of the volume of stabilised material from the road, laydown or other surface using an excavator, dozer and grader to enable the establishment of rehabilitation.
Earthworks / Structural Works (Landform Establishment) Subtotal								\$0
Earthworks / Structural Works (Landform Establishment)	Major bulk pushing to achieve grades nominated in the approval/permit – Select Push Length	n		m3	Select from List		Select Push Length Here	Major bulk pushing to achieve grades nominated in the approval/permit
	Minor reshaping and pushing	n		ha	\$3,900			D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation)
	Fill dams, voids etc. - Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List)	n		m3	Select from List		Select Haul Distance Here	This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation.
	Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction)	n		ha	\$960.00			16H Grader @ \$212 per hour - ripping in 1 direction only
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures	n		ha	\$1,600			Combination of dozer and excavator work. Small dozer (D6 or similar) @ ~\$200 per hour plus grader @ \$212 per hour for ~4 hours each per ha
	Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments	n		m2	\$35.00			Installation of on-site rock material (rip-rap) where managing water run-off from disturbed land and/or upon entry to water courses - prevents erosion of gully head (assumes competent material is locally available)
Earthworks / Structural Works (Landform Establishment) Subtotal								\$0
Mine Waste	Reshaping, capping / sealing of a structure unlikely to present difficulties due to chemistry – reactive materials (ARD / AMD / PAF / NMD / carbonaceous / saline), and physical properties (i.e., shear strength, etc.) - where the mine waste stream is geochemically benign and / or the strength condition within the upper 4 - 6 m meets the target shear strength profile.	n		ha	\$81,000			This includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume material with the appropriate chemical and physical properties. This rate assumes suitable capping material is available on site within 10 km, and an average cap thickness of approximately 1 m including growth media. Water quality from runoff, seepage etc. meets site-specific environment water quality values.
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	n		allow	Use alternate rate cell			Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	n		allow	Use alternate rate cell			Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Reshaping, capping / sealing of structure likely to present moderate difficulties due to chemistry – reactive materials (ARD / AMD / PAF / NMD / carbonaceous / saline), or physical properties – shear strength, etc. limiting equipment choice.	n		ha	\$108,000			This item includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap / cover facilities where the tailings or rejects base is at a strength that enables economically efficient construction methods with small plant. This rate assumes suitable capping material is available on site within 10 km, and an average cap thickness of approximately 2 m including growth media. This may require additional materials (such as capillary breaks, geofabric, etc.), specific material types (e.g. acid neutralising / consuming materials, competent rock etc.), and associated activities (i.e., load / haul / place / crush / screen / borrow etc.). Costs for haulage of specialised materials must be added separately if required.
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	n		allow	Use alternate rate cell			Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	n		allow	Use alternate rate cell			Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).

	Reshaping, capping / sealing of structure likely to present considerable difficulties due to reactive materials (ARD / AMD / PAF / NMD / carbonaceous / saline), and / or physical properties (low shear strength greatly limiting equipment selection for material placement etc.)	n	ha	\$170,000			This item includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap / cover facilities of high geochemical risk, and / or low shear strength that prohibits economically efficient construction methods. This rate assumes suitable capping materials are available on site within 10 km, and an average cap thickness of approximately 2.5 m including growth media. This may require additional materials (i.e., capillary breaks, geofabric, etc.), specific material types (e.g. acid neutralising / consuming materials, competent rock etc.), and associated activities (i.e., load / haul / place / crush / screen / borrow etc.). Costs for haulage of specialised materials must be added separately if required.
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	n	allow	Use alternate rate cell			Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	n	allow	Use alternate rate cell			Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
				Mine Waste Subtotal	\$0		
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media (Select Haul Distance from List)	n	m3	Select from List		Select Haul Distance Here	If topsoil is not available on-site, then Virgin Excavated Natural Material (VENM) may need to be externally sourced.
	Direct seeding / fertiliser (pasture grass species)	n	ha	\$1,240			Rate can fluctuate however this is a suitable standard rate.
	Direct seeding / fertiliser (tree or native grass species)	n	ha	\$2,095			Rate can fluctuate however this is a suitable standard rate.
	Hydro-seeding with straw mulching and bitumen tack	n	m2	\$1.80			Rate can fluctuate however this is a suitable standard rate.
	Single application of fertiliser (pasture)	n	ha	\$420.00			Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Single application of fertiliser (trees)	n	ha	\$140.00			These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Spoil amelioration (adding lime / gypsum etc.)	n	ha	\$660.00			Assumes 2.5 t / ha as an average application rate.
	growth media amelioration with biosolids	n	ha	\$1,015			Recent experience with agronomy projects.
	Construct no-climb stock fence around rehabilitated areas	n	m	\$9.50			Standard rate for no-climb stock fencing.
	Construct standard stock fence around rehabilitated areas	n	m	\$4.00			Standard rate for standard stock fencing.
	Purchase and erect warning signs	n	allow	\$250.00			Compliance with AS 1319-1994 - Safety signs for the occupational environment - installed every 25 m.
	Supply from external sources virgin excavated natural material (VENM) for growth media.	n	m3	\$80.80			D7 to spread material at \$205/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$70/m3 for imported fill material.
	Supply from external sources a combination of virgin excavated natural material (VENM) and spoil from large excavation for filling voids and/or capping etc.	n	m3	\$72.50			D10 push into void at \$270/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$60/m3 for imported fill material.
				Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment) Subtotal	\$0		
Water Management	Clean water dams to be retained after decommissioning - make safe and minor earthworks	n	allow	\$2,500			Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - DS Dozer (or similar) @ ~\$200 per hour and pasture grass.
	Remove sediments from the floor of the dam to enable it to be converted into clean water structure (Select Haul Distance from list)	n	m3	Select from List		Select Haul Distance Here	This item includes the volume of contaminated sediment removal using an excavator, truck and dozer to clean out the dam.
				Water Management Subtotal	\$0		
Maintenance of Rehabilitated Areas	Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	n	ha	\$900			Rehabilitation maintenance might include re-seeding, watering, fertilising, minor re-shaping, erosion control, inspections/audits - does not include major repair works.
	Existing rehabilitation repair - minor	n	ha	\$1,200			Areas requiring minor repair - rills, minor growth media replacement.
	Existing rehabilitation repair - moderate	n	ha	\$1,700			Areas requiring moderate repair - rills, significant growth media replacement.
	Existing rehabilitation repair - major	n	ha	\$2,500			Areas requiring major repair - rills, gullies, growth media replacement, some level of additional surface water management.
	Existing rehabilitation repair - total failure of landform	n	ha	\$40,000			Areas that require extensive rehabilitation repair - re-design and re-construction of landform.
				Maintenance of Rehabilitated Areas Subtotal	\$0		
Additional Items	Other 1 <insert>	n		This is			This item includes <<to be added by the operator>>
	Other 2 <insert>	N		deliberately			This item includes <<to be added by the operator>>
	Other 3 <insert>	N		left blank			This item includes <<to be added by the operator>>
				Additional Items Subtotal	\$0		
Total Cost for Tailings & Rejects Domain					\$0		



Open Cut Operations

Domain 3a: Overburden & Waste

Total Cost for Overburden & Waste Domain

\$0

Additional Assumptions: Record any relevant assumptions to this domain below:

No overburden domain	Key Rehabilitation Area Data for Domain	Enter data below manually
	Total Landform Establishment:	
	Total Growth Media Development:	
	Total Ecosystem Establishment:	

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Contaminated Materials	Treatment of known Acid Sulfate Soils	n		ha	\$2,580				Assumes ASS is treatable via neutralisation and does not require capping and isolation.
	Removal and disposal of plastic liner (i.e. dam, leach pad, sump etc.)	n		m2	\$1.00				Provisional sum for cutting using ripping tyres and on-site disposal of the liner.
Contaminated Materials Subtotal							\$0		
Roads and Tracks	Unsealed roads / vehicle park-up areas – minor works including deep rip and trim	n		ha	\$960.00				Assumes ~6 m road width - 16H Grader @ \$212 per hour
	Unsealed roads / access tracks / vehicle park-up areas with windrows and/or small earthen bunds – minor earthworks and deep rip and trim	n		ha	\$1,500				Assumes ~20 m road width - D10 Dozer @ \$332 per hour
	Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip and seed (pasture grass)	n		ha	\$3,698				D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation) - pasture grass seed
	Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	n		ha	\$4,485				D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation) - tree/shrub seed
	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (pasture grass)	n		ha	\$3,820				D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation) - pasture grass seed
	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	n		ha	\$4,595				D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation) - tree/shrub seed
	Remove stabilised material (blue metal, aggregate etc.) from roadways and disposal on-site/locally (Select Haul Distance from list)	n		m3	Select from List			Select Haul Distance Here	This item includes the scraping and removal of the volume of stabilised material from the road, laydown or other surface using an excavator, dozer and grader to enable the establishment of rehabilitation.
Roads and Tracks Subtotal							\$0		
Earthworks / Structural Works (Landform Establishment)	Major bulk pushing to achieve grades nominated in the approval/permit – Select Push Length	n		m3	Select from List			Select Push Length Here	Major bulk pushing to achieve grades nominated in the approval/permit
	Minor reshaping and pushing	n		ha	\$3,900				D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation)
	Fill dams, voids etc. - Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List)	n		m3	Select from List			Select Haul Distance Here	This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation.
	Shotcrete application on cuttings and steep slopes	n		m2	\$185.00				This rate is used to rehabilitate steep slopes of weathered rock, roadway cuttings, etc that cannot be cut back and stabilised.
	Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction)	n		ha	\$960.00				16H Grader @ \$212 per hour - ripping in 1 direction only
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures	n		ha	\$1,600				Combination of dozer and excavator work. Small dozer (D6 or similar) @ ~\$200 per hour plus grader @ \$212 per hour for ~4 hours each per ha.
	Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments	n		m2	\$35.00				Installation of on-site rock material (rip-rap) where managing water run-off from disturbed land and/or upon entry to water courses - prevents erosion of gully head (assumes competent material is locally available).
Earthworks / Structural Works (Landform Establishment) Subtotal							\$0		
Mine Waste	Reshaping, capping / sealing of a structure unlikely to present difficulties due to chemistry – reactive materials (ARD / AMD / PAF / NMD / carbonaceous / saline), and physical properties (i.e., shear strength, etc.) - where the mine waste stream is geochemically benign and / or the strength condition within the upper 4 - 6 m meets the target shear strength profile.	n		ha	\$81,000				This includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume material with the appropriate chemical and physical properties. This rate assumes suitable capping material is available on site within 10 km, and an average cap thickness of approximately 1 m including growth media. Water quality from runoff, seepage etc. meets site-specific environment water quality values.
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	n		allow	Use alternate rate cell				Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.)
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	n		allow	Use alternate rate cell				Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.)

	Reshaping, capping / sealing of structure likely to present moderate difficulties due to chemistry – reactive materials (ARD / AMD / PAF / NMD / carbonaceous / saline), or physical properties – shear strength, etc. limiting equipment choice.	n	ha	\$108,000			This item includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap / cover facilities where the tailings or rejects base is at a strength that enables economically efficient construction methods with small plant. This rate assumes suitable capping material is available on site within 10 km, and an average cap thickness of approximately 2 m including growth media. This may require additional materials (such as capillary breaks, geofabric, etc.), specific material types (e.g. acid neutralising / consuming materials, competent rock etc.), and associated activities (i.e. load / haul / place / crush / screen / borrow etc.). Costs for haulage of specialised materials must be added separately if required.
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	n	allow	Use alternate rate cell			Include additional cost to import materials (i.e. shale / clay, competent drainage materials etc.) and / or additional requirements (i.e. geofabric / composite lining etc.).
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	n	allow	Use alternate rate cell			Include additional cost to import materials (i.e. shale / clay, competent drainage materials etc.) and / or additional requirements (i.e. geofabric / composite lining etc.).
	Reshaping, capping / sealing of structure likely to present considerable difficulties due to reactive materials (ARD / AMD / PAF / NMD / carbonaceous / saline), and / or physical properties (low shear strength greatly limiting equipment selection for material placement etc.)	n	ha	\$170,000			This item includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap / cover facilities of high geochemical risk, and / or low shear strength that prohibits economically efficient construction methods. This rate assumes suitable capping material/s are available on site within 10 km, and an average cap thickness of approximately 2.5 m including growth media. This may require additional materials (i.e. capillary breaks, geofabric, etc.), specific material types (e.g. acid neutralising / consuming materials, competent rock etc.), and associated activities (i.e. load / haul / place / crush / screen / borrow etc.). Costs for haulage of specialised materials must be added separately if required.
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	n	allow	Use alternate rate cell			Include additional cost to import materials (i.e. shale / clay, competent drainage materials etc.) and / or additional requirements (i.e. geofabric / composite lining etc.).
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	n	allow	Use alternate rate cell			Include additional cost to import materials (i.e. shale / clay, competent drainage materials etc.) and / or additional requirements (i.e. geofabric / composite lining etc.).
				Mine Waste Subtotal	\$0		
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media (Select Haul Distance from List)	n	m3	Select from List		Select Haul Distance Here	If topsoil is not available on-site, then Virgin Excavated Natural Material (VENM) may need to be externally sourced.
	Planting mature trees (>15 cm)	n	allow	\$20.00			4 m centres.
	Planting tube stock (<15 cm)	n	allow	\$10.00			4 m centres.
	Direct seeding / fertiliser (pasture grass species)	n	ha	\$1,240			Rate can fluctuate however this is a suitable standard rate.
	Direct seeding / fertiliser (tree or native grass species)	n	ha	\$2,095			Rate can fluctuate however this is a suitable standard rate.
	Hydro-seeding with straw mulching and bitumen tack.	n	m2	\$1.80			Rate can fluctuate however this is a suitable standard rate.
	Single application of fertiliser (pasture)	n	ha	\$420.00			Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Single application of fertiliser (trees)	n	ha	\$140.00			These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Spoil amelioration (adding lime / gypsum etc.)	n	ha	\$860			Assumes 2.5 t / ha as an average application rate.
	growth media amelioration with biosolids	n	ha	\$10,115			Recent experience with agronomy projects.
	Construct no-climb stock fence around rehabilitated areas	n	m	\$9.50			Standard rate for no-climb stock fencing.
	Construct standard stock fence around rehabilitated areas	n	m	\$4.00			Standard rate for standard stock fencing.
	Purchase and erect warning signs	n	allow	\$250.00			Compliance with AS 1319-1994 - Safety signs for the occupational environment - installed every 25 m.
				Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment) Subtotal	\$0		
	Supply from external sources virgin excavated natural material (VENM) for growth media.	n	m3	\$80.80			D7 to spread material at \$205/hr, Excavator (\$220/hr) load Artic Trucks (80ckm) from imported stockpile - allow nominal rate of \$70/m3 for imported fill material.
	Supply from external sources a combination of virgin excavated natural material (VENM) and spoil from large excavation for filling voids and/or capping etc.	n	m3	\$72.50			D10 push into void at \$270/hr, Excavator (\$220/hr) load Artic Trucks (90ckm) from imported stockpile - allow nominal rate of \$60/m3 for imported fill material.



Water Management	Clean water dams to be retained after decommissioning – make safe and minor earthworks	n		allow	\$2,500				Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) @ ~\$200 per hour and pasture grass.
	Remove sediments from the floor of the dam to enable it to be converted into clean water structure (Select Haul Distance from list)	n		m3	Select from List			Select Haul Distance Here	This item includes the volume of contaminated sediment requiring removal using an excavator, truck and dozer to clean out the dam.
Water Management Subtotal							\$0		
Maintenance of Rehabilitated Areas	Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	n		ha	\$900				Rehabilitation maintenance might include re-seeding, watering, fertilising, minor re-shaping, erosion control, inspections/audits - does not include major repair works.
	Existing rehabilitation repair - minor	n		ha	\$1,200				Areas requiring minor repair - rills, minor growth media replacement.
	Existing rehabilitation repair - moderate	n		ha	\$1,700				Areas requiring moderate repair - rills, significant growth media replacement.
	Existing rehabilitation repair - major	n		ha	\$2,500				Areas requiring major repair - rills, gullies, growth media replacement, some level of additional surface water management.
	Existing rehabilitation repair - total failure of landform	n		ha	\$40,000				Areas that require extensive rehabilitation repair - re-design and re-construction of landform.
Maintenance of Rehabilitated Areas Subtotal							\$0		
Additional Items	Other 1 <insert>	N			This is				This item includes <<to be added by the operator>>
	Other 2 <insert>	N			deliberately				This item includes <<to be added by the operator>>
	Other 3 <insert>	N			left blank				This item includes <<to be added by the operator>>
Additional Items Subtotal							\$0		
Total Cost for Overburden & Waste Domain							\$0		

Open Cut Operations

Domain 4a: Active Mine & Voids

Total Cost for Active Mine & Voids Domain

\$48,775

Additional Assumptions: Record any relevant assumptions to this domain below:

Key Rehabilitation Area Data for Domain	Enter data below manually
Total Landform Establishment:	4.35
Total Growth Media Development:	4.35
Total Ecosystem Establishment:	4.35

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Open Cut	Active pit area – benches blasted and doze to acceptable grade	n		Lm	\$1.70				Blasting at 90cm ³ , D11 push at \$350 and 375 bcm/hr (80cm ³)
	Drill & blast faces to make safe	n		m ³	\$0.90				Bulk Drilling say 8"9 pattern, assuming a stem height of 6 m, charge length of 19 m, explosive density of 0.9, diameter of 229 mm, explosives at 665.3 kg/hole with a powder factor of 0.37 with an approximate bench height of 25 m will allow drilling and blasting at \$0.90/bcm.
	High wall treatment – (trench and safety berm)	n		m	\$90.00				Safety berm and trench currently in place and required to be constructed prior to extension of the void during the MOP term. D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour including revegetation with pasture grass.
Open Cut Subtotal							\$0		
Earthworks / Structural Works (Landform Establishment)	Major bulk pushing to achieve grades nominated in the approval permit – 50 m push length	Y	2400	m ³	\$0.80		\$1,916	< 50m push Assumes eastern and western faces 800m pushed down to 55 - 60 degree slope	D11 push at \$350 and 400 bcm/hr
	Minor reshaping and pushing	Y	3.2	ha	\$3,900		\$12,480	Assumes the entirety of the open cut minus the retained southern face	D10 Dozer @ \$332 per hour and 16H Grader @ \$212 per hour (50% utilisation).
	Fill dams, voids etc. - Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List)	n		m ³	Select from List		FALSE	Select Haul Distance Here	This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation.
	Shotcrete application on cuttings and steep slopes	n		m ²	\$185.00				This rate is used to rehabilitate steep slopes of weathered rock, roadway cuttings, etc that cannot be cut back and stabilised.
	Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction)	n		ha	\$960.00				16H Grader @ \$212 per hour - ripping in 1 direction only.
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures	n		ha	\$1,600				Combination of dozer and excavator work. Small dozer (D6 or similar) @ \$200 per hour plus grader @ \$212 per hour for ~4 hours each per ha.
	Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments	n		m ²	\$35.00				Installation of on-site rock material (rip-rap) where managing water run-off from disturbed land and/or upon entry to water courses - prevents erosion of gully head (assumes competent material is locally available).
Earthworks / Structural Works (Landform Establishment) Subtotal							\$14,396		
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media - haul distance <1 km	Y	6400	m ³	\$3.26		\$20,840	< =1km	610 m ³ /hr with 4 x 657 scrapers at \$430/hr, D10 trimming at \$270/hr 3ha/day at 150mm depth
	Planting mature trees (>15 cm)	n		allow	\$20.00				4 m centres
	Planting tube stock (<15 cm)	n		allow	\$10.00				4 m centres
	Direct seeding / fertiliser (pasture grass species)	n		ha	\$1,240				Rate can fluctuate however this is a suitable standard rate.
	Direct seeding / fertiliser (tree or native grass species)	Y	4	ha	\$2,095		\$8,380		Rate can fluctuate however this is a suitable standard rate.
	Hydro-seeding with straw mulching and bitumen tack	n		m ²	\$1.80				Rate can fluctuate however this is a suitable standard rate.
	Single application of fertiliser (pasture)	n		ha	\$420.00				Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Single application of fertiliser (trees)	Y	4	ha	\$140.00		\$560		These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Spoil amelioration (adding lime / gypsum etc.)	n		ha	\$860.00				Assumes 2.5 t / ha as an average application rate.
	growth media amelioration with biosolids	n		ha	\$1,015				Recent experience with agronomy projects.
	Security fence around steep section of high wall	n		m	\$55.00				Class 1 cyclone wire (or similar) security fence @ 2.1 m with 3-4 m post spacing - complying with AS1725-2010 Chain-link fabric security fences and gates.
	Purchase and erect warning signs	Y	4	allow	\$250.00		\$1,000	To warn of void at southern end of open cut	Compliance with AS 1319-1994 - Safety signs for the occupational environment - installed every 25 m.
	Supply from external sources virgin excavated natural material (VENM) for growth media.	n		m ³	\$80.80				D7 to spread material at \$205/hr, Excavator (\$220/hr) load Artic Trucks (90ckm) from imported stockpile - allow nominal rate of \$70/m ³ for imported fill material.
	Supply from external sources a combination of virgin excavated natural material (VENM) and spoil from large excavation for filling voids and/or capping etc.	n		m ³	\$72.50				D10 push into void at \$270/hr, Excavator (\$220/hr) load Artic Trucks (90ckm) from imported stockpile - allow nominal rate of \$60/m ³ for imported fill material.
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment) Subtotal							\$30,780		



Water Management	Clean water dams to be retained after decommissioning – make safe and minor earthworks	n		allow	\$2,500				Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) @ ~\$200 per hour and pasture grass
	Remove sediments from the floor of the dam to enable it to be converted into clean water structure (Select Haul Distance from list)	n		m3	Select from List			Select Haul Distance Here	This item includes the volume of contaminated sediment requiring removal using an excavator, truck and dozer to clean out the dam.
Water Management Subtotal							\$0		
Maintenance of Rehabilitated Areas	Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	Y	4	ha	\$900		\$3,600		Rehabilitation maintenance might include re-seeding, watering, fertilising, minor re-shaping, erosion control, inspections/audits - does not include major repair works
	Existing rehabilitation repair - minor	n		ha	\$1,200				Areas requiring minor repair - rills, minor growth media replacement.
	Existing rehabilitation repair - moderate	n		ha	\$1,700				Areas requiring moderate repair - rills, significant growth media replacement.
	Existing rehabilitation repair - major	n		ha	\$2,500				Areas requiring major repair - rills, gullies, growth media replacement, some level of additional surface water management
	Existing rehabilitation repair - total failure of landform	n		ha	\$40,000				Areas that require extensive rehabilitation repair - re-design and re-construction of landform
Maintenance of Rehabilitated Areas Subtotal							\$3,600		
Additional Items	Other 1 <insert>	N			This is				This item includes <<to be added by the operator>>
	Other 2 <insert>	N			deliberately				This item includes <<to be added by the operator>>
	Other 3 <insert>	N			left blank				This item includes <<to be added by the operator>>
Additional Items Subtotal							\$0		
Total Cost for Active Mine & Voids Domain								\$48,775	

Open Cut Operations									
Domain 5a: Management Activities							Total Cost for Management Activities		
							\$25,327		
Additional Assumptions: Record any relevant assumptions to this domain below:									
							Key Rehabilitation Area Data for Domain		
							Enter data below manually		
							Total Landform Establishment:		
							Total Growth Media Development:		
							Total Ecosystem Establishment:		
Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Water Management	On-site treatment of contaminated water due to high salt (includes removal of metals etc, brine disposal and cost of mobile water treatment unit)	n		ML	\$3,600				Rate can fluctuate depending on treatment type however this is a suitable standard rate for current programs at mining operations.
	On-site treatment of contaminated water due to low pH (includes removal of metals etc, neutralisation treatments and cost of mobile water treatment unit)	n		ML	\$1,500				Rate can fluctuate depending on treatment type however this is a suitable standard rate for current programs at mining operations.
Water Management Subtotal							\$0		
Creek Diversions	Repairs and/or stabilisation of new or compromised water course diversion	n		m	\$2,500				Assumes material is suitable for revegetating and has a reasonable chance of stabilising.
	Long term maintenance of water course diversion – Channel constructed through backfilled material	n		m	\$1,500				Assumes maintenance has been kept up and significant works are not required.
	Long term maintenance of water course diversion – Channel constructed through competent material	n		m	\$750.00				Assumes maintenance has been kept up and significant works are not required.
	Installation of rock armouring	Y	1560	m2	\$6.00			\$9,360	Assumes length of clean water drain x 6m
Creek Diversions Subtotal							\$9,360		
Maintenance of Rehabilitated Areas	Pest management on buffer lands, non-disturbed, and rehabilitated areas	Y	29.03	ha	\$150.00		\$4,355	Assumes all remaining lands of ML	Feral animal baiting programs if required and waste materials required to be removed.
	Land management of undisturbed areas (rehabilitation, weeds, ferals, erosion and sediment control works)	Y	29.03	ha	\$400.00		\$11,612	Assumes all remaining lands of ML	Undisturbed areas within the lease boundary that require land management activities.
Maintenance of Rehabilitated Areas Subtotal							\$15,967		
Heritage Items	The restoration and care and maintenance of items that have heritage significance	n		allow	Use alternate rate cell				Item for the redistribution of Aboriginal artefacts, preservation of European heritage items or a combination of activities.
Heritage Items Subtotal							\$0		
Sundry Items	Development of an 'Unplanned' Project Closure Plan - State Significant Development	n		allow	\$100,000			\$SD	Provisional sum to be used to refine the conceptual closure plan into a detailed closure plan with execution strategies for rehabilitation activities.
	DRG tender preparation and assessment, stakeholder consultation, risk assessment facilitation and management, statutory reporting and instruments, permitting and compliance requirements, document and data management	n		allow	Use alternate rate cell				Provisional sum for the NSW Government to prepare tender documentation (i.e. demolition, waste disposal, earthworks, environmental management etc.) manage stakeholders and establish permitting and compliance requirements for closure.
	Site security during closure	n		yr.	\$75,000				Provisional sum for site security measures required during closure. This includes nightly patrols and first response in the event of an out of hours incident.
	HAZMAT Clean-up - cleaning and decontaminating plant and equipment, chemical storage locations, oil and grease traps, tanks, vessels, and pipe work etc	n		allow	\$100,000				Provisional sum to perform the site clean-up and ensuring the demolition program is not interrupted due to potential contamination of waste streams.
	Removal and disposal of radiation devices	n		each	\$25,000				Provisional sum for removal and disposal of monitoring devices on conveyors using a radiation source (i.e., Americium – 241, Plutonium – 238, Caesium - 137 etc)
	Additional fees for accessing State, Crown or other public lands for rehabilitation/mediation activities	n		allow	Use alternate rate cell				Provisional sum.
Sundry Items Subtotal							\$0		
Mobilisation and Demobilisation	Mobilisation & Demobilisation for small mine or quarry	n		Item	\$40,000				May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
	Mobilisation & Demobilisation (Distance to site <150 km)	n		item	\$100,000				May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
	Mobilisation & Demobilisation (Distance to site >150 km but <500 km)	n		item	\$150,000				May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
	Mobilisation & Demobilisation (Distance to site >500 km but <1000 km)	n		item	\$300,000				May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
	Mobilisation & Demobilisation (Distance to site >1000 km)	n		item	\$500,000				May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
Mobilisation and Demobilisation Subtotal							\$0		
Additional Items	Other 1 <insert>	N			This is				This item includes <<to be added by the operator>>
	Other 2 <insert>	N			deliberately				This item includes <<to be added by the operator>>
	Other 3 <insert>	N			left blank				This item includes <<to be added by the operator>>
Additional Items Subtotal							\$0		
Total Cost for Management Activities							\$25,327		



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Appendix 4

DPE Endorsement of Author

(Total No. of pages including blank pages = 4)




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Planning Services
Resource Assessments
Contact: Genevieve Seed
Phone: (02) 9274 6489
Email: genevieve.seed@planning.nsw.gov.au

Mr Alex Irwin
RW Corkery & Co Pty Limited
PO BOX 239
Brooklyn NSW 2083


Dear Mr Irwin

**Wallerawang Quarry (DA 344-11-2001)
Rehabilitation Management Plan**

I refer to your email dated 14 December 2017 nominating yourself and Anne Eastwood of Rangott Mineral Exploration Pty Ltd to prepare the rehabilitation management plan for the Wallerawang Quarry, in accordance with condition 31 of Schedule 3 of DA 344-11-2001.

The Secretary has approved these appointments.

If you have any enquiries about this matter, please contact Genevieve Seed.

Yours sincerely



Howard Reed 18.12.17
Director
Resource Assessments
as nominee of the Secretary

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Appendix 5

Outcomes of Consultation with Government Agencies

(Total No. of pages including blank pages = 22)



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From: Alex Irwin
Sent: 20 October 2017 3:06 PM
To: 'Gen Seed'
Subject: 949 - Wallerawang Quarry - Requirement to Consult with DPE
Attachments: Notice of Modification_25 August 2017.pdf

Good afternoon Gen,

As you are aware, Walker Quarries Pty Ltd received approval for a modification to the project approval for the Wallerawang Quarry (DA 344-11-2001) on 25 August 2017 (attached).

Condition 3(31) of DA 344-11-2001 requires the Rehabilitation Management Plan (RMP) to be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary. At this stage Walker Quarries has asked that RW Corkery & Co Pty Limited (RWC) and Rangott Mineral Exploration Pty Limited (RME) (author of the existing Mining Operations Plan) collaborate to prepare the RMP. The endorsement of the Secretary of RWC and RME is requested.

Condition 3(31) of DA 344-11-2001 requires Walker Quarries to consult with the Department of Planning & Environment (DPE) in the preparation of the RMP. With respect to the nominated condition, and noting that Walker Quarries is currently operating under a Mining Operations Plan (MOP) which addresses many of the requirements of the RMP, can you provide any requirements additional to those nominated in *Condition 3(31)* of DPE for the preparation of this plan.

It is noted that *Condition 3(31)* requires the RMP to be prepared to the satisfaction of the Division of Resources & Geoscience (DRG). *Condition 3(31)(d)* requires the RMP to be prepared in accordance with any relevant DRG Guideline. The DRG does not currently have a guideline specific to the preparation of a Rehabilitation Management Plan. Can I confirm that *ESG3 Mining Operations Plan MOP Guidelines September 2013* is the relevant DRG Guideline in this instance.

If ESG3 is the relevant guideline, and noting that there are places on the DRG website where it is noted a MOP may be referred to as an RMP, clarification is sought as to whether the RMP nominated as *Condition 3(31)* should be prepared to replace the current Mining Operations Plan, as a component of an amended Mining Operations Plan, or additional to the Mining Operations Plan?

I note we are asking seeking similar clarification from personnel within the DRG.

In consulting with DPE, I note that while *Condition 3(31)(e)* requires the RMP to describe how the rehabilitation of the site would ... be integrated with the Biodiversity Offset Strategy described in *Condition 3(27)* (*assumedly this should read Condition 24*). This may prove difficult as the Biodiversity Offset Strategy does not require finalisation until 28 February 2018. Can the DPE please clarify whether this demonstration of integration is required for the RMP (given the conflicting dates), or further instruction as to application of this condition.

I note DA 344-11-2001 requires these plans to be submitted to the Secretary for approval by 25 November 2017 and so we would appreciate any advice as soon as possible.

Regards,

Alex Irwin
Senior Environmental Consultant
(Mobile 0429 635 975)

From: Gen Seed <genevieve.seed@planning.nsw.gov.au>
Sent: 23 October 2017 9:36 AM
To: Alex Irwin
Subject: RE: 949 - Wallerawang Quarry - Requirement to Consult with DPE

Good Morning Alex

Thanks for your email.

To start with, can you please nominate the people from R.W. Corkery and Rangott that will be involved in the plan's preparation, and provide a copy of their CVs.

The Department has no additional requirements for the Rehabilitation Management Plan to those outlined in Condition 31 of Schedule 3. However, please can you provide us with a copy of the plan when it has been prepared, for review. DRG would be best to confirm which guideline they are reliant on, but I would imagine that the most recent Mining Operations Plan guideline would be the one.

The RMP and the MOP are requirements under different approvals, so the RMP would not technically 'replace' the existing MOP. However, it is not uncommon for a Rehabilitation Management Plan (required under the Development Consent) to be built into the Mining Operations Plan (required under the ML). If this combined approach is undertaken it is important to specify where each requirement (under the Development Consent and ML) has been addressed. I would imagine that this approach would be suitable for DRG. However, please let me know if this is not the case.

Due to the conflicting dates with the RMP and BOMP, I will prepare a letter to extend the date to submit the RMP to align with the BOMP. However, please note that this extension would only apply to the RMP and would not extend any timing requirements for the MOP.

Please let me know if you have any further questions.

Kind regards,

Gen

Genevieve Seed
Senior Planning Officer
Resource Assessments
320 Pitt Street | GPO Box 39 | Sydney NSW 2001
T 02 9274 6489



**Planning &
Environment**



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You can find us at our new office
Level 22, 320 Pitt St, Sydney, 2000

From: Alex Irwin [mailto:alex@rwcorkery.com]
Sent: Friday, 20 October 2017 3:06 PM

From: Gen Seed <genevieve.seed@planning.nsw.gov.au>
Sent: 18 December 2017 1:13 PM
To: Alex Irwin
Subject: RE: 949 - Wallerawang Quarry - Requirement to Consult with DPE
Attachments: Approval Experts_RMPDec17.pdf

Hi Alex

Please find the attached approval letter in response to your request below.

Kind regards,

Gen

From: Alex Irwin [mailto:alex@rwcorkery.com]
Sent: Thursday, 14 December 2017 12:45 PM
To: Gen Seed <genevieve.seed@planning.nsw.gov.au>
Subject: RE: 949 - Wallerawang Quarry - Requirement to Consult with DPE

Gen,

Please find attached documentation supporting Anne Eastwood and myself as suitably qualified and experienced persons to prepare the Rehabilitation Management Plan for the Wallerawang Quarry (DA 344-11-2001)

Regards,

Alex Irwin
Senior Environmental Consultant
(Mobile 0429 635 975)



*The team at R.W. Corkery & Co. would like to wish everyone a Merry Christmas and a Happy New Year.
Our offices will be closed from midday 22 December 2017 and will reopen at 8:15am 8 January 2018.*

RW Corkery & Co Pty Limited

Geological and Environmental Consultants



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
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Planning Services
Resource Assessments
Contact: Genevieve Seed
Phone: (02) 9274 6489
Email: genevieve.seed@planning.nsw.gov.au

Mr Alex Irwin
RW Corkery & Co Pty Limited
PO BOX 239
Brooklyn NSW 2083


Dear Mr Irwin

**Wallerawang Quarry (DA 344-11-2001)
Rehabilitation Management Plan**

I refer to your email dated 14 December 2017 nominating yourself and Anne Eastwood of Rangott Mineral Exploration Pty Ltd to prepare the rehabilitation management plan for the Wallerawang Quarry, in accordance with condition 31 of Schedule 3 of DA 344-11-2001.

The Secretary has approved these appointments.

If you have any enquiries about this matter, please contact Genevieve Seed.

Yours sincerely



Howard Reed *18.12.17*
Director
Resource Assessments
as nominee of the Secretary



From: Alex Irwin
Sent: 20 October 2017 2:25 PM
To: 'council@lithgow.nsw.gov.au'
Subject: 949 - Wallerawang Quarry - Requirement to Consult with Lithgow City Council
Attachments: Notice of Modification_25 August 2017.pdf

Attn: Lauren Stevens / Andrew Muir,

Walker Quarries Pty Ltd received approval for a modification to the project approval for the Wallerawang Quarry (DA 344-11-2001) on 25 August 2017 (attached).

Condition 3(31) of DA 344-11-2001 requires Walker Quarries to consult with Lithgow City Council in the preparation of a Rehabilitation Management Plan.

With respect to the nominated condition, and noting that Walker Quarries is currently operating under a Mining Operations Plan which addresses some of the requirements of the Rehabilitation Management Plan, can you provide any specific requirements of Lithgow City Council for the preparation of this plan.

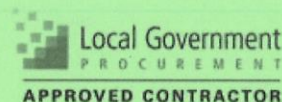
I note DA 344-11-2001 requires these plans to be submitted to the Secretary for approval by 25 November 2017 and so we would appreciate any advice as soon as possible.

Regards,

Alex Irwin
Senior Environmental Consultant
(Mobile 0429 635 975)

RW Corkery & Co Pty Limited

Geological and Environmental Consultants



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Level 1, 12 Dangar Road
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Email: brooklyn@rwcorkery.com
Website: www.rwcorkery.com

Phone: (02) 6362 5411
Fax: (02) 6361 3622
Email: orange@rwcorkery.com

Phone: (07) 3205 5400
Fax: (02) 6361 3622
Email: brisbane@rwcorkery.com

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From: Lithgow City Council <Lithgow.Council@lithgow.nsw.gov.au>
Sent: 15 November 2017 1:18 PM
To: Alex Irwin
Subject: Wallerawang Quarry DA344-11-2001 1-Stockpiles and Washing Plant
Attachments: 15112017114421-0001.pdf

Hi Alex

Please find attached letter from Miss Lauren Stevens.

Yours sincerely

Cassandra Ford | Administration Assistant Economic Development & Environment | Lithgow City Council
Phone: (02) 6354 9999 | Fax: (02) 6351 4259

-----Original Message-----

From: cef [mailto:cassandra.ford@lithgow.nsw.gov.au]
Sent: Wednesday, 15 November 2017 12:44 PM
To: Cassandra Ford
Subject: Scan Data from FX-10DE8B

Sent by: [cassandra.ford@lithgow.nsw.gov.au]
Number of Images: 1
Attachment File Type: PDF

Device Name: Development
Device Location: Development

This email has been scanned by the Symantec Email Security.cloud service.
For more information please visit <http://www.symanteccloud.com>

1542333: LGS
Economic Development & Environment



15 November 2017

Alex Irwin
alex@rwcorkery.com

Dear Alex,

Wallerawang Quarry, DA 344-11-2001 Modification 1-Stockpiles and Washing Plant, Great Western Highway, Wallerawang

I refer to the abovementioned project and your email received 20 October 2017 in regard to the preparation of a Rehabilitation Management Plan.

It is advised that Council has no specific requirements for the preparation of the plan provided that the plan complies with Condition 3(31) of DA 344-11-2001.

Please do not hesitate to contact me who is available between 8:15am and 10:30am Monday to Friday on (02) 63549999, in Council's Environment & Development Department should you have any queries in relation to this matter.

Yours sincerely



Lauren Stevens
DEVELOPMENT PLANNER

From: Alex Irwin
Sent: 20 October 2017 3:53 PM
To: 'landuse.enquiries@dpi.nsw.gov.au'
Subject: 949 - Wallerawang Quarry - Requirement to Consult with DPI
Attachments: Notice of Modification_25 August 2017.pdf

Good afternoon,

Walker Quarries Pty Ltd received approval for a modification to the project approval for the Wallerawang Quarry (DA 344-11-2001) on 25 August 2017 (attached).

Condition 3(31) of DA 344-11-2001 requires Walker Quarries to consult with DPI in the preparation of a Rehabilitation Management Plan.

With respect to the nominated condition, and noting that Walker Quarries is currently operating under a Mining Operations Plan which addresses some of the requirements of the Rehabilitation Management Plan, can you provide any specific requirements of DPI for the preparation and/or update of this plan.

I note DA 344-11-2001 requires these plans to be submitted to the Secretary for approval by 25 November 2017 and so we would appreciate any advice as soon as possible.

Regards,

Alex Irwin
Senior Environmental Consultant
(Mobile 0429 635 975)

RW Corkery & Co Pty Limited

Geological and Environmental Consultants



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Phone: (07) 3205 5400
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From: kirstyn.goulding@crowland.nsw.gov.au on behalf of Lands Ministerials
<lands.ministerials@industry.nsw.gov.au>
Sent: 11 December 2017 2:13 PM
To: Alex Irwin
Subject: 949 - Wallerawang Quarry - Requirement to Consult with DPI
Attachments: Walkers Quarries Pty Ltd Rehabilitation Management Plan Assessment Advice.DOCX

Hi Alex

Apologies for the delay in responding.

Please find attached comments from the Department of Industry - Crown Lands regarding this proposal.

If you have any questions please contact me on (02) 4920 5058.

Thank you
Kirstyn

Lands Ministerial Unit
NSW Department of Industry - Crown Lands
Level 4, 437 Hunter Street, NEWCASTLE NSW 2300
E: lands.ministerials@industry.nsw.gov.au W: www.industry.nsw.gov.au

Kirstyn Goulding - (02) 4920 5058

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Department
of Industry

Assessment Advice

Coordinated Branch Responses

Analysis

Crown Lands

Condition 3(31) of Development Application DA344-11-2001 requires Walker Quarries Pty Ltd to consult with the Department of Industry in the preparation of a Rehabilitation Management Plan. Crown Land Lot 7322 DP1149335 is impacted by the quarry activities and it is required for the applicant to address final land use requirements that the Department of Industry (DoI) - Crown Lands would accept before the relinquishment of the mining lease.

Suggested Response

- 1 It is noted that a final quarry void will impact on Crown Land Lot 7322 DP1149335. It is required that the final land form void is rehabilitated to a standard that will ensure there is no ongoing maintenance requirement greater than the surrounding bushland.

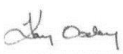

Key reasons

- DoI Crown Lands is responsible for the sustainable and commercial management of Crown land in accordance with the *Crown Lands Act 1989*
- Condition 3(31) of Development Application DA344-11-2001 issued by the Minister for Planning and Environment requires the applicant to consult with relevant stakeholders in the development / modification of a Rehabilitation Management Plan.
- DoI Crown Lands requires that the rehabilitation of the final landform should be no greater than the surrounding bushland to ensure that land management does not impact on future resources of the Crown.
- A Modification to DA344-11-2001 was required by Walker Quarries Pty Ltd as the Department of Planning Environment issued a Penalty Infringement Notice for unapproved extension stockpile areas and size of processed gravel. The Modification sought to rectify the non-compliance which has also triggered the requirement of a new Rehabilitation Management Plan (see Attachment A).



Branch approvals

Comments:

Position	Signature	Date
Contact officer: Kay Oxley, Senior Natural Resource Management Officer (02) 63914334		13/11/2017
Approving officer: Daryl Lawrence, Group Leader Orange		14/11/2017

Comments:

Background

Development Approval (DA) 344-11-2001 for the Wallerawang Quarry which was approved to Sitegoal Pty Ltd on 19 October 2004 by the then Minister for Planning & Infrastructure is situated approximately 8km northwest of Lithgow.

In October 2016, the Department of Planning and Environment issued a Penalty Infringement Notice in relation to the clearing for unapproved stockpile extension areas. A Modification in mid-2017 sought to rectify the non-compliances. There was no additional impact on Crown land above that already approved in October 2004.

Attachments

Attachment	Title
A	DOC17/110826 Assessment Advice Walkers Quarry Modification

From: Alex Irwin
Sent: 20 October 2017 2:21 PM
To: 'dan.kirby@fcnsw.com.au'
Subject: 949 - Wallerawang Quarry - Requirement to Consult with FC NSW
Attachments: Notice of Modification_25 August 2017.pdf

Good afternoon Dan,

Walker Quarries Pty Ltd received approval for a modification to the project approval for the Wallerawang Quarry (DA 344-11-2001) on 25 August 2017 (attached).

Condition 3(31) of DA 344-11-2001 requires Walker Quarries to consult with FC NSW in the preparation of a Rehabilitation Management Plan.

With respect to the nominated condition, and noting that Walker Quarries is currently operating under a Mining Operations Plan which addresses some of the requirements of the Rehabilitation Management Plan, can you provide any specific requirements of FC NSW for the preparation and/or update of this plan.

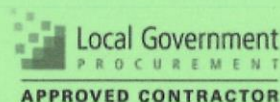
I note DA 344-11-2001 requires these plans to be submitted to the Secretary for approval by 25 November 2017 and so we would appreciate any advice as soon as possible.

Regards,

Alex Irwin
Senior Environmental Consultant
(Mobile 0429 635 975)

RW Corkery & Co Pty Limited

Geological and Environmental Consultants



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From: Melanie Klootwijk <Melanie.Klootwijk@fcnsw.com.au>
Sent: 15 November 2017 11:58 AM
To: Alex Irwin
Subject: RE: 949 - Wallerawang Quarry - Requirement to Consult with FC NSW - Rehabilitation Management Plan

Hi Alex,
Do you have a copy of the Rehab Plan that I can directly comment on?

The below are the comments submitted to the Department from FCNSW in relation to rehabilitation as mentioned in the modification:

- FCNSW opposes the Quarry site entrance and access road, within the State forest boundary, to be retained
- FCNSW opposes an open cut void being retained
- FCNSW opposes the former Hoskins Quarry being left in the form it was prior to commencement of operations,
- FCNSW opposes the main (or any) water storages of the Quarry Site to be retained

All the above areas should be rehabilitated and revegetated to re-establish the native open forest community which previously occurred across the area disturbed.

I understand that through the current MOP a final void is approved, however after lodging the above comments with the Department, they applied a condition that the Rehabilitation Management Plan must be prepared in consultation with us. I understand further negotiation may be required in relation to this plan.

Regards,

Melanie Klootwijk | Stewardship Supervisor (NOTE: I work Tues - Thurs)
Forestry Corporation of NSW | Northern Softwoods Region

Cnr Panorama Ave and Browning Street | Bathurst NSW 2795
PO Box 143 | Bathurst NSW 2795
M: 0427 259 503 | F: 02 6331 5528
E: melanie.klootwijk@fcnsw.com.au | W: www.forestrycorporation.com.au

From: Alex Irwin [<mailto:alex@rwcorkery.com>]
Sent: Friday, 20 October 2017 2:21 PM
To: Dan Kirby <Dan.Kirby@fcnsw.com.au>
Subject: 949 - Wallerawang Quarry - Requirement to Consult with FC NSW

Good afternoon Dan,

Walker Quarries Pty Ltd received approval for a modification to the project approval for the Wallerawang Quarry (DA 344-11-2001) on 25 August 2017 (attached).

Condition 3(31) of DA 344-11-2001 requires Walker Quarries to consult with FC NSW in the preparation of a Rehabilitation Management Plan.

With respect to the nominated condition, and noting that Walker Quarries is currently operating under a Mining Operations Plan which addresses some of the requirements of the Rehabilitation Management Plan, can you provide any specific requirements of FC NSW for the preparation and/or update of this plan.



From: Alex Irwin
Sent: 20 October 2017 2:04 PM
To: John Galea
Subject: 949 - Wallerawang Quarry
Attachments: Notice of Modification_25 August 2017.pdf; 94902f_WMP 2016 - September 2016.pdf

Good afternoon John,

Walker Quarries Pty Ltd received approval for a modification to the project approval for the Wallerawang Quarry (DA 344-11-2001) on 25 August 2017 (attached).

Conditions 3(5) and 3(18) of DA 344-11-2001 require Walker Quarries to consult with DPI-Water in the preparation of a Soil and Water Management Plan and Rehabilitation Management Plan respectively.

With respect to the nominated conditions, and noting that Walker Quarries is currently operating under a Water Management Plan (also attached), can you provide any specific requirements of DPI-Water for the preparation and/or update of these.

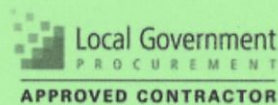
I note DA 344-11-2001 requires these plans to be submitted to the Secretary for approval by 25 November 2017 and so we would appreciate any advice as soon as possible.

Regards,

Alex Irwin
Senior Environmental Consultant
(Mobile 0429 635 975)

RW Corkery & Co Pty Limited

Geological and Environmental Consultants



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From: John Galea <john.galea@dpi.nsw.gov.au>
Sent: 20 October 2017 3:19 PM
To: Alex Irwin
Subject: Re: 949 - Wallerawang Quarry

That's correct Alex.

I've passed everything on

John

J.G.

John Galea
Water Regulation Officer
Metro Region - Water Regulation Operations
Water Regulation Group

Crown Lands & Water Division
Department of Industry
Level 11 Macquarie Tower, 10 Valentine Avenue
PARRAMATTA NSW 2150
Locked Bag 5123 | PARRAMATTA NSW 2124
T: 02 8838

7520
M: 0447132

860
E: john.galea@dpi.nsw.gov.au
W: www.water.nsw.gov.au

On 20 October 2017 at 15:11, Alex Irwin <alex@rwcorkery.com> wrote:

Thanks for the advice John,

I take it I do not have to resend the email to Water Referrals?

Regards,

Alex Irwin

Senior Environmental Consultant



(Mobile 0429 635 975)

RW Corkery & Co Pty Limited

Geological and Environmental Consultants



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From: John Galea [<mailto:john.galea@dpi.nsw.gov.au>]

Sent: 20 October 2017 3:09 PM

To: Alex Irwin <alex@rwcorkery.com>

Cc: Water Referrals <water.referrals@dpi.nsw.gov.au>

Subject: Re: 949 - Wallerawang Quarry

Hello Alex,

thank you for the heads up, however to ensure that your correspondence is answered in a timely manner for these kinds of projects, please send all requests to the Division to Water.Referrals@dpi.nsw.gov.au This way if an officer is on leave it can be assigned to another officer to complete.

Regards

John

J.G.

John Galea
Water Regulation Officer

Metro Region - Water Regulation Operations

Water Regulation Group

Crown Lands & Water Division

Department of Industry

Level 11 Macquarie Tower, 10 Valentine Avenue
PARRAMATTA NSW 2150
Locked Bag 5123 | PARRAMATTA NSW 2124

T: 02 8838

7520

M: 0447132

860

E: john.galea@dpi.nsw.gov.au

W: www.water.nsw.gov.au

On 20 October 2017 at 14:03, Alex Irwin <alex@rwcorkery.com> wrote:

Good afternoon John,

Walker Quarries Pty Ltd received approval for a modification to the project approval for the Wallerawang Quarry (DA 344-11-2001) on 25 August 2017 (attached).



Conditions 3(5) and 3(18) of DA 344-11-2001 require Walker Quarries to consult with DPI-Water in the preparation of a Soil and Water Management Plan and Rehabilitation Management Plan respectively.

With respect to the nominated conditions, and noting that Walker Quarries is currently operating under a Water Management Plan (also attached), can you provide any specific requirements of DPI-Water for the preparation and/or update of these.

I note DA 344-11-2001 requires these plans to be submitted to the Secretary for approval by 25 November 2017 and so we would appreciate any advice as soon as possible.

Regards,

Alex Irwin

Senior Environmental Consultant

(Mobile 0429 635 975)

RW Corkery & Co Pty Limited

Geological and Environmental Consultants



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Phone: (07) 3205 5400

Fax: (02) 6361 3622

Email: brisbane@rwcorkery.com

From: Alex Irwin
Sent: 20 October 2017 3:50 PM
To: Renee Shepherd
Subject: 949 - Wallerawang Quarry - Requirement to Consult with OEH
Attachments: Notice of Modification_25 August 2017.pdf; 94902e_Flora and Fauna MP - September 2016.pdf

Good afternoon Renee,

Walker Quarries Pty Ltd received approval for a modification to the project approval for the Wallerawang Quarry (DA 344-11-2001) on 25 August 2017 (attached).

Conditions 3(5) and 3(18) of DA 344-11-2001 require Walker Quarries to consult with OEH in the preparation of a Biodiversity Management Plan and Rehabilitation Management Plan respectively.

With respect to the nominated conditions, and noting that Walker Quarries is currently operating under a Floral and Fauna Management Plan (also attached), can you provide any specific requirements of OEH for the preparation and/or update of these.

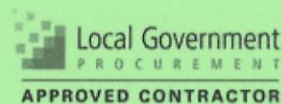
I note DA 344-11-2001 requires the RMP to be submitted to the Secretary for approval by 25 November 2017 (the Biodiversity MP is not required until 31 March 2018) and so we would appreciate any advice as soon as possible.

Regards,

Alex Irwin
Senior Environmental Consultant
(Mobile 0429 635 975)

RW Corkery & Co Pty Limited

Geological and Environmental Consultants



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From: Renee Shepherd <Renee.Shepherd@environment.nsw.gov.au>
Sent: 2 November 2017 12:16 PM
To: Alex Irwin
Cc: Gen Seed; Samantha Wynn
Subject: RE: 949 - Wallerawang Quarry - Requirement to Consult with OEH
Attachments: OEH NW Draft BMP Guidelines_August 2014.doc.PDF

Hi Alex,

As discussed on Tuesday please find attached some draft guidelines for the preparation of Biodiversity Management Plans. Please note that these guidelines are now 3 years old and the new legislation has superseded some of the advice, but in general it provides an understanding of the information that we look for in a BMP.

Of particular importance is the description of the site, delineation of the site into appropriate management zones, development of an appropriate monitoring program, creation of KPIs that link into that monitoring plan, and development of a TARP to ensure that the KPIs are met.

Where a management zone requires "active" management (eg. revegetation) ensure that KPIs are developed for relevant timeframes (eg. 2, 5, 10, 15 years etc) so that the expected ecological trajectory can be monitored and relevant response actions can be implemented where the KPIs aren't met.

Ensure that all of the components in Schedule 3 Condition 26 of the project approval are addressed in the BMP.

Relevant information from the existing Flora and Fauna Management Plan can be inserted into the BMP if/where it is appropriate.

If you have any other questions please do not hesitate to contact me.

Regards,
Renee.

Renee Shepherd
Senior Conservation Planning Officer
North West Branch
Regional Operations Division
Office of Environment and Heritage
48-52 Wingewarra Street (PO Box 2111) Dubbo NSW 2830
Ph: 02 6883 5355
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Please note that I work Tuesday, Thursday, Friday

From: Alex Irwin [mailto:alex@rwcorkery.com]
Sent: Friday, 20 October 2017 3:50 PM
To: Renee Shepherd <Renee.Shepherd@environment.nsw.gov.au>
Subject: 949 - Wallerawang Quarry - Requirement to Consult with OEH

Good afternoon Renee,

Walker Quarries Pty Ltd received approval for a modification to the project approval for the Wallerawang Quarry (DA 344-11-2001) on 25 August 2017 (attached).

Appendix 6

Endeavour Energy – Connection of Load Lot 7071 DP1201227

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