

Development Consent

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

As delegate of the Minister for Planning under delegation executed on 14 September 2011, the Planning Assessment Commission approves the development application referred to in schedule 1, subject to the conditions in schedules 2 to 5.

These conditions are required to:

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

Sydney

SCHEDULE 1

Application Number:	SSD-4960
Applicant:	Bulga Coal Management Pty Ltd
Consent Authority:	Minister for Planning
Land:	See Appendix 1
Development:	Bulga Optimisation Project

[Blue type represents January 2017 modification](#)

TABLE OF CONTENTS

DEFINITIONS	3
ADMINISTRATIVE CONDITIONS	
Obligation to Minimise Harm to the Environment	5
Terms of Consent	5
Limits on Consent	5
Notification of Commencement	5
Surrender of Existing Development Consents	5
Structural Adequacy	6
Demolition	6
Protection of Public Infrastructure	6
Operation of Plant and Equipment	6
Staged Submission of Strategies, Plans or Programs	6
Voluntary Planning Agreement	6
ENVIRONMENTAL PERFORMANCE CONDITIONS	7
Acquisition Upon Request	7
Additional Mitigation Upon Request	7
Noise	7
Blasting	8
Air Quality	10
Meteorological Monitoring	13
Water	13
Biodiversity	15
Heritage	17
Transport	18
Visual	19
Bushfire Management	19
Waste	19
Rehabilitation	20
ADDITIONAL PROCEDURES	22
Notification of Landowners/Tenants	22
Independent Review	22
Land Acquisition	23
ENVIRONMENTAL MANAGEMENT, REPORTING & AUDITING	24
Environmental Management	24
Reporting	25
Independent Environmental Audit	26
Access to Information	26
APPENDIX 1: SCHEDULE OF LAND	27
APPENDIX 2: DEVELOPMENT LAYOUT	31
APPENDIX 3: BULGA MINE COMPLEX	32
APPENDIX 4: TERMS OF THE VOLUNTARY PLANNING AGREEMENT	33
APPENDIX 5: LAND OWNERSHIP	36
APPENDIX 6: ALTERNATE NOISE CRITERIA	38
APPENDIX 7: NOISE COMPLIANCE ASSESSMENT	39
APPENDIX 8: TODOROSKI AIR SCIENCES LETTER DATED 21 OCTOBER 2014	40
APPENDIX 9: BIODIVERSITY OFFSET STRATEGY	41
APPENDIX 10: HERITAGE	46
APPENDIX 11: REALIGNMENT OF BROKE ROAD	55
APPENDIX 12: CONCEPTUAL PROFILE OF THE NOISE AND VISUAL BUND	56
APPENDIX 13: REHABILITATION	57

DEFINITIONS

AHD	Australian Height Datum
Annual review	The review required by condition 4 of schedule 5
ARI	Average recurrence interval
Applicant	Bulga Coal Management Pty Limited, or anyone else who relies on this consent to carry out the development that is subject to this consent
BCA	Building Code of Australia
Biodiversity offset strategy	The conservation and enhancement strategy described in the EIS, and depicted conceptually in the figures in Appendix 9
Blast misfire	The failure of one or more holes in a blast pattern to initiate
Blast damage	Any permanent effect of blasting vibration that makes a building or site more unstable, causes the enlargement of existing cracks or the creation of new cracks, or accelerates the degradation of the building or site
Bulga mine complex	The Bulga Coal Surface Operations and the Bulga Coal Underground Operations in the area outlined in red on the figure in Appendix 3
CCC	Community Consultative Committee
Conditions of this consent	Conditions contained in schedules 1 to 5 inclusive
Council	Singleton Shire Council
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Development	The development as described in the documents listed in condition 2 of schedule 2
Development area	All land to which the development application applies, as listed in Appendix 1 and shown in Appendix 2
Department	Department of Planning and Environment
DPI Water	Division of Water within the Department of Primary Industries
DRE	Division of Resources and Energy within the NSW Department of Industry
EEAMF	Eastern Emplacement Area Management Framework
EEC	Endangered ecological community, as defined under the <i>Threatened Species Conservation Act 1995</i>
EIS	Environmental Impact Statement titled <i>Bulga Optimisation Project, Environmental Impact Statement</i> (8 volumes), dated April 2013 and prepared by Umwelt (Australia) Pty Ltd, as modified by the response to submissions document titled <i>Response to Submissions and Revised and Amended Project Application Assessment Report – Bulga Optimisation Project</i>, dated August 2013 and prepared by Umwelt (Australia) Pty Limited
EPA	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 issued under the POEO Act
Evening	The period from 6pm to 10pm
Feasible	Feasible relates to engineering considerations and what is practical to build or to implement
Ha	Hectare
Heritage item	An item as defined under the <i>Heritage Act 1977</i> and/or an Aboriginal object or Aboriginal place as defined under the <i>National Parks and Wildlife Act 1974</i>
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
Land	As defined in the EP&A Act, except for where the term is used in the noise and air quality conditions in schedule 3 of this consent where it is defined to mean 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
Listed heritage items	The heritage items shown in the figures in Appendix 10
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Mine water	Water that accumulates within, or drains from, active mining and infrastructure areas and any other areas where run-off may have come into contact with coal or carbonaceous material (synonymous with 'dirty water')

Mining operations	Includes the removal and emplacement of overburden and extraction, processing, handling, storage and transport of coal on site
Minister	Minister for Planning, or delegate
Minor	Not very large, important or serious
Mitigation	Activities associated with reducing the impacts of the development
Mushroom composting facility	The mushroom composting facility on Lot 81 DP1006883
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
NP&W Act	<i>National Parks and Wildlife Act 1974</i>
OEH	Office of Environment and Heritage
Open cut mining operations	Includes the removal and emplacement of overburden and extraction, processing, handling, storage and transport of coal in the development area
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Privately-owned land	Land that is not owned by a public agency or a mining company (or its subsidiary)
Public infrastructure	Infrastructure that provides services to the general public, such as roads, railways, water supply, drainage, sewerage, gas supply, electricity, telephone, telecommunications, etc
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 to ensure it is safe, stable and non-polluting
ROM	Run-of-mine
RMS	Roads and Maritime Services
SANSW	Subsidence Advisory NSW
Secretary	Secretary of the Department, or nominee
SEE (Mod 1)	Statement of Environmental Effects titled <i>Bulga Surface Operations Eastern Emplacement Area Modification Statement of Environmental Effects</i>, dated July 2016 and prepared by Umwelt (Australia) Pty Ltd, including the Response to Submissions titled <i>Bulga Surface Operations Eastern Emplacement Area Modification Response to Submissions</i>, dated December 2016 and prepared by Umwelt (Australia) Pty Ltd
Site	The land listed in Appendix 1, including any subdivided lot that may be created from the listed land lots
VPA	Voluntary Planning Agreement that is made under Division 6 of Part 4 of the EP&A Act

SCHEDULE 2 ADMINISTRATIVE CONDITIONS

OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. In addition to meeting the specific performance 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 generally in accordance with the:
 - (a) EIS;
 - (b) SEE (MOD 1); and
 - (c) the general layout of the development.

Note: The general layout of the development is shown in Appendix 2.

- 2A. The Applicant **must** carry out the development in accordance with the conditions of this consent.
3. If there is any inconsistency between the above documents, the more 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 reasonable 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;
 - (b) any reports, reviews or audits commissioned by the Department regarding compliance with this consent; or
 - (c) the implementation of any actions or measures contained in these documents.

LIMITS ON CONSENT

Mining Operations

5. The Applicant may carry out mining operations on the site until 31 December 2035.

Note: Under this consent, the Applicant is required to rehabilitate the site and perform additional undertakings to the satisfaction of either the Secretary or DRE. Consequently this consent will continue to apply in all other respects other than the right to conduct mining operations until the rehabilitation of the site and these additional undertakings have been carried out satisfactorily.

Coal Extraction

6. The Applicant **must** not extract more than 12.2 million tonnes of ROM coal from the open cut mining operations on site in any calendar year.

Coal Transport

7. The Applicant **must**:
 - (a) not transport more than 20 million tonnes of product coal from the Bulga mine complex in any calendar year; and
 - (b) only transport coal from the site by rail.

NOTIFICATION OF COMMENCEMENT

8. The Applicant **must** notify the Department prior to the commencement of mining operations under this consent.

SURRENDER OF EXISTING DEVELOPMENT CONSENT

9. By the end of December 2015, or as otherwise agreed by the Secretary, the Applicant **must** surrender the existing development consents for open cut mining operations on site in accordance with Section 104A of the EP&A Act.

Prior to the surrender of these consents, the conditions of this consent **must** prevail to the extent of any inconsistency with the conditions of these consents.

STRUCTURAL ADEQUACY

10. The Applicant **must** ensure that all new buildings and structures, and any alterations or additions to existing buildings and structure, are constructed in accordance with:
 - (a) the relevant requirements of the BCA;
 - (b) the relevant requirements of *AS 3959-2009 Construction of buildings in bush fire-prone areas*; and
 - (c) any additional requirements of the SANSW.

Notes:

- Under Part 4A of the EP&A Act, the Applicant is required to obtain construction and occupation certificates for the proposed building works.
- Part 8 of the EP&A Regulation sets out the requirements for the certification of the development.
- Under Section 15 of the Mine Subsidence Compensation Act 1961, the Applicant is required to obtain the SANSW's approval before constructing any improvements in a Mine Subsidence District.

DEMOLITION

11. 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

12. 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 any damage to public infrastructure subject to compensation payable under the Mine Subsidence Compensation Act 1961, or to any damage to roads caused as a result of general road usage.

OPERATION OF PLANT AND EQUIPMENT

13. The Applicant **must** ensure that all plant and equipment used on site or any equipment used off site for monitoring the performance of the development is:
 - (a) maintained in a proper and efficient condition; and
 - (b) operated in a proper and efficient manner.

14. *(Deleted)*

VOLUNTARY PLANNING AGREEMENT

15. By the end of June 2015, or as otherwise agreed by the Secretary, the Applicant **must** establish a VPA for the development with Council in accordance with:
 - (a) Division 6 of Part 4 of the EP&A Act; and
 - (b) the terms of the Applicant's offer in Appendix 4.
-

SCHEDULE 3 ENVIRONMENTAL PERFORMANCE CONDITIONS

ACQUISITION UPON REQUEST

- Upon receiving a written request for acquisition from the owner of the land listed in Table 1, the Applicant **must** acquire the land in accordance with the procedures in conditions 5 and 6 of schedule 4.

Table 1: Land subject to acquisition upon request

Acquisition Basis	Land
Noise	149, 150

Note: To interpret the land referred to in Table 1, see the applicable figure in Appendix 5.

ADDITIONAL MITIGATION UPON REQUEST

- Upon receiving a written request from the owner of any residence on the land listed in Table 1 (unless the landowner of that land has requested acquisition) or Table 2, the Applicant **must** implement additional:
 - noise mitigation measures (such as double-glazing, insulation and/or air conditioning); and/or
 - air quality mitigation measures (such as air filters, a first flush roof water drainage system and/or air conditioning),
 at the residence in consultation with the landowner.

These measures must be reasonable and feasible, and directed towards reducing the noise and/or air quality impacts of the development on the residence.

If within 3 months of receiving this request from the owner, the Applicant and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.

Table 2: Land subject to additional noise and/or air quality mitigation upon request

Mitigation Basis	Residence
Noise & Air Quality	8
Noise	1A, 97, 157, 179, 195, 232, 234, 235, 237, 239, 240, 261, 262
Air Quality	3, 323, 324, 325

Note: To interpret the land referred to in Table 2, see the applicable figure in Appendix 5.

NOISE

Noise Criteria

- Except for the noise affected land in Table 1, the Applicant **must** ensure that the noise generated by the Bulga mine complex does not exceed the criteria in Table 3 at any residence on privately-owned land.

Table 3: Noise Criteria dB(A)

Location	Day <i>L_{Aeq}</i> (15 min)	Evening <i>L_{Aeq}</i> (15 min)	Night <i>L_{Aeq}</i> (15 min)	Night <i>L_{A1}</i> (1 min)
1A, 8	38	38	38	45
97	38	38	36	45
217n, 230, 232, 234, 323, 324, 325	37	37	37	45
1B, 94, 95, 103, 105A, 105C, 142A, 143B, 145, 164, 165, 179, 195, 217s, 217m, 222, 226, 227, 228, 229, 231, 233, 235, 237, 239, 240, 241, 261, 262, 263, 264, 265, 266, 272	36	36	36	45
All other privately-owned residences	35	35	35	45

Note: To interpret the land referred to in Table 3, see the applicable figure in Appendix 5.

However, these criteria do not apply if the Applicant has a written 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.

Noise generated by the Bulga mine complex is to be measured in accordance with the relevant requirements of the *NSW Industrial Noise Policy*. Appendix 7 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.

4. At the direction of the Secretary, Table 3 above **must** be replaced with the Table in Appendix 6.

Note: This direction will be given following the construction of the proposed noise and visual bund (see the figure in Appendix 2) to a height of 150 m AHD or the start of year 7 of the development under this consent, whichever occurs sooner.

Construction Noise – Broke Road Realignment

5. Notwithstanding the requirements in condition 3 above, during the daytime construction of the Broke Road realignment, the Applicant **must** ensure that the noise generated by the Bulga mine complex and the construction of the realignment does not exceed 40dB $L_{Aeq} (15 min)$ at any residence on privately-owned land in the vicinity of the road realignment works.

Noise generated under this condition is to be measured in accordance with the relevant requirements of the *NSW Industrial Noise Policy*. Appendix 7 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.

Operating Conditions

6. The Applicant **must**:
 - (a) implement all reasonable and feasible measures to minimise the construction, operational, road and rail noise of the development;
 - (b) only undertake works on the outer face of the bund along Charlton Road between 7am and 7pm;
 - (c) operate a comprehensive noise management system on site that uses a combination of predictive meteorological forecasting and real-time noise monitoring data to guide the day-to-day planning of mining operations and the implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this consent;
 - (d) minimise the noise impacts of the development during meteorological conditions when the noise criteria in this consent do not apply (see Appendix 7); and
 - (e) monitor and report on compliance with the relevant noise conditions of this consent, to the satisfaction of the Secretary.

Noise Management Plan

7. 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, and submitted to the Secretary for approval within 12 months of the date of this consent or prior to commencing vegetation clearing or topsoil stripping for the Eastern Overburden Emplacement, whichever occurs sooner;
 - (b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this consent;
 - (c) describe the proposed noise management system in detail; and
 - (d) include a noise monitoring program that:
 - evaluates and reports on:
 - the effectiveness of the noise management system;
 - compliance against the noise criteria in this consent; and
 - compliance against the noise operating conditions;
 - includes a program to calibrate and validate the real-time noise monitoring results with the attended monitoring results over time (so the real-time noise monitoring program can be used as a trigger for further attended monitoring where there is a risk of non-compliance with the noise criteria in this consent); and
 - defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.

The Applicant must implement the approved plan as approved from time to time by the Secretary.

BLASTING

Blasting Criteria

8. The Applicant **must** ensure that blasting on the site does not cause exceedances of the criteria in Table 4.

Table 4: Blasting criteria

Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance
Residence on privately owned land	120	10	0%
	115	5	5% of the total number of blasts over a period of 12 months
330kV Suspension Towers, PID Pipeline, and public roads	-	100	0%
All other public infrastructure	-	50 <i>(Unless the Secretary has agreed to an alternative a specific limit determined in accordance with the structural design methodology in AS 2187.2-2006, or its latest version)</i>	0%

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

Blasting Hours

9. The Applicant **must** only carry out blasting on site between 9 am and 5 pm Monday to Saturday inclusive. No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of the Secretary.

Blasting Frequency

10. The Applicant **must** carry out a maximum of:
 - (a) 3 blasts a day; and
 - (b) 5 blasts a week, averaged over a calendar year, on the site.

This condition does not apply to blasts that generate ground vibration of 0.5 mm/s or less at any residence on privately-owned land, blast misfires or blasts required to ensure the safety of the mine, **its workers or the general public**.

Note: For the purposes of this condition, a blast refers to a single blast event, which may involve a number of individual blasts fired in quick succession in a discrete area of the mine. For the avoidance of doubt, should an additional blast be required after a blast misfire, this additional blast and the blast misfire are counted as a single blast for the purpose of calculating the maximum number of daily and weekly blasts under this condition.

Property Inspections

11. If the Applicant receives a written request from the owner of any privately-owned land within 2 kilometres of the approved open cut mining pit/s on site for a property inspection to establish the baseline condition of any buildings and/or structures on his/her 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/or 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

12. If the owner of any privately-owned land claims that buildings and/or structures on his/her land have been damaged as a result of blasting on the site, then within 2 months of receiving this 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

13. During mining operations on site, the Applicant **must**:
- (a) implement best management practice to:
 - protect the safety of people and livestock in the surrounding area;
 - protect public or private infrastructure/property in the surrounding area from any damage; and
 - minimise the dust and fume emissions of any blasting;
 - (b) ensure that blasting on site does not damage the 'Mount Leonard' Homestead, Mt Leonards Public School (Scout Hall), Charlton (BH14), Bulga Bridge, St Andrews Anglican Church, or the Loders Creek grinding groove site (prior to relocation);
 - (c) minimise the frequency and duration of any road closures, and avoid road closures for blasting during peak traffic periods;
 - (d) operate a suitable system to enable the public to get up-to-date information on the proposed blasting schedule on site and associated road closures;
 - (e) co-ordinate the timing of blasting on site with the timing of blasting at the Mt Thorley and Warkworth mines to minimise any cumulative blasting impacts;
 - (f) monitor and report on compliance with the relevant blasting conditions in this consent, to the satisfaction of the Secretary.
14. The Applicant **must** not undertake blasting on site within 500 metres of:
- (a) any public road; or
 - (b) any land outside the site that is not owned by the Applicant,

unless:

- the Applicant has a written agreement with the applicable roads authority or landowner to allow blasting to be carried out closer to the public road or land, and the Applicant has advised the Department in writing of the terms of this agreement; or
- the Applicant has:
 - demonstrated to the satisfaction of the Secretary that the blasting can be carried out closer to the road or land without compromising the safety of people or livestock, or damaging buildings and/or structures; and
 - updated the Blast Management Plan to include the specific measures that would be implemented while blasting is being carried out within 500 metres of the road or land.

Blast Management Plan

15. The Applicant **must** prepare a Blast Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the EPA, and submitted to the Secretary for approval within 12 months of the date of this consent;
 - (b) describe the measures that would be implemented to ensure compliance with the blasting criteria and operating conditions of this consent;
 - (c) propose and justify any alternative ground vibration limits for any public infrastructure in the vicinity of the site (if relevant); and
 - (d) include a monitoring program for evaluating and reporting on compliance with the blasting criteria and operating conditions.

The Applicant **must** implement the approved plan as approved from time to time by the Secretary.

AIR QUALITY

Air Quality Criteria

16. The Applicant **must** ensure that all reasonable and feasible avoidance and mitigation measures are employed so that the particulate emissions generated by the Bulga mine complex do not exceed the criteria listed in Tables 5, 6 and 7 at any residence on privately-owned land.

Table 5: Long term criteria for particulate matter

Pollutant	Averaging period	^d Criterion
Total suspended particulate (TSP) matter	Annual	^a 90 µg/m ³
Particulate matter < 10 µm (PM ₁₀)	Annual	^a 30 µg/m ³

Table 6: Short term criterion for particulate matter

Pollutant	Averaging period	^d Criterion
Particulate matter < 10 µm (PM ₁₀)	24 hour	^a 50 µg/m ³

Table 7: Long term criteria for deposited dust

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

Notes for Tables 5 to 7:

- ^a Total impact (i.e. incremental increase in concentrations due to the development plus background concentrations due to other sources);
- ^b Incremental impact (i.e. incremental increase in concentrations due to the development on its own);
- ^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; and
- ^d Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed to by the Secretary.

Mine-owned Land

17. The Applicant **must** ensure that all reasonable and feasible avoidance and mitigation measures are employed so that particulate matter emissions generated by the Bulga mine complex do not cause exceedances of the criteria in Tables 5, 6 and 7 at any occupied residence on mine-owned land (including land owned by another mining company) unless:
- the tenant or landowner (if the residence is owned by another mining company) has been notified of any health risks associated with such exceedances in accordance with the notification requirements in schedule 4 of this consent;
 - the tenant of any land owned by the Applicant can terminate their tenancy agreement without penalty at any time, subject to giving reasonable notice;
 - air quality monitoring is regularly undertaken to inform the tenant or landowner (if the residence is owned by another mining company) of the actual particulate emissions at the residence; and
 - data from this monitoring is presented to the tenant or landowner (if the residence is owned by another mining company) in an appropriate format for a medical practitioner to assist the tenant or landowner in making informed decisions on the health risks associated with occupying the residence, to the satisfaction of the Secretary.

Operating Conditions

18. The Applicant **must**:
- implement all reasonable and feasible measures to minimise the:
 - odour, fume and dust emissions of the development; and
 - release of greenhouse gas emissions from the site;
 - minimise any visible off-site air pollution generated by the development;
 - minimise the surface disturbance of the site;
 - operate a comprehensive air quality management system that uses a combination of predictive meteorological forecasting, predictive air dispersion modelling and real-time air quality monitoring data to guide the day-to-day planning of mining operations and implementation of both proactive and

- reactive air quality mitigation measures to ensure compliance with the relevant conditions of this consent;
- (e) minimise the air quality impacts of the development during adverse meteorological conditions and extraordinary events (see note d to Tables 5-7 above);
 - (f) manage activities at the Eastern Overburden Emplacement Area to minimise potential air quality impacts on the mushroom composting facility during its operating hours, to the greatest extent practicable;
 - (g) co-ordinate the air quality management at the Bulga mine complex with the air quality management at the Mt Thorley and Warkworth mines to minimise any cumulative air quality impacts; and
 - (h) monitor and report on compliance with the relevant air quality conditions in this consent, to the satisfaction of the Secretary.

Eastern Emplacement Area

19. The Applicant **must** prepare an EEAMF for the development to the satisfaction of the Secretary. The EEAMF must:
- (a) be prepared in consultation with the owners of the mushroom composting facility and the Technical Review Committee established in accordance with condition 20 of schedule 3;
 - (b) incorporate the recommendations of the letter from Todoroski Air Sciences dated 21 October 2014 (see Appendix 8);
 - (c) establish air quality assessment criteria for the development with regard to impacts on the mushroom composting facility during its approved operating hours;
 - (d) establish air quality trigger levels to initiate a management response for activities at the Eastern Emplacement Area, including for 1-hour, 2-hour, 3-hour and 4-hour periods;
 - (e) include modelling to predict the effects of the Eastern Emplacement Area on local meteorological conditions and design the emplacement operations accordingly;
 - (f) include modelling to predict the generation of dust from various sources within the Eastern Emplacement Area;
 - (g) outline a monitoring program to measure background air quality levels, meteorological conditions and air quality during operations at the Eastern Emplacement Area;
 - (h) describe predictive meteorological forecasting to ensure operations at the Eastern Emplacement Area are planned to minimise air quality impacts on the mushroom composting facility;
 - (i) describe management responses to exceedances of air quality criteria and trigger levels; and
 - (j) *(deleted)*
 - (k) describe the function of the Technical Review Committee required by condition 20 of schedule 3.
- The Applicant **must** implement the approved EEAMF as approved from time to time by the Secretary.

The Applicant **must** not commence vegetation clearing or topsoil stripping for the Eastern Overburden Emplacement before the Secretary has approved the EEAMF.

20. The Applicant **must**:
- (a) establish and fund a Technical Review Committee to oversee the management of air quality impacts on the mushroom composting facility. This committee must:
 - comprise representatives of the mushroom composting facility, the Applicant and an independent air quality expert whose appointment has been approved by the Secretary in consultation with the EPA;
 - be chaired by the appointed independent air quality expert;
 - meet:
 - at least monthly during the preparation of the Air Quality Management Plan and during the first 3 months of operations at the Eastern Emplacement Area;
 - at least twice yearly during overburden emplacement operations at the Eastern Emplacement Area; and
 - more frequently if mining operations exceed the relevant air quality assessment criteria;
 - review the implementation of the EEAMF and Air Quality Management Plan as it relates to the mushroom composting facility; and
 - recommend any necessary improvements to the management of air quality impacts on the mushroom composting facility, including:
 - modifying, restricting or ceasing emplacement operations during the operational hours of the mushroom composting facility;
 - the application of air quality trigger levels used to initiate mitigation measures;
 - meteorological and air quality monitoring; and
 - additional mitigation at the mushroom composting facility, where appropriate;
 - have clear procedures for handling any disputes within the Technical Review Committee; and
 - (b) implement any reasonable and feasible recommendations of the Technical Review Committee within the recommended timeframes, to the satisfaction of the Secretary.

If there is any dispute about either the recommended measures to be implemented or the implementation of any recommendations of the Technical Review Committee, then the dispute must be referred to the Secretary for resolution. The Secretary's decision on any dispute **must** be final.

Notes:

- If the owners of the mushroom composting facility do not agree to be represented on the Technical Review Committee then the Applicant **must** appoint a second independent air quality expert to the committee.
- The appointment of this expert must be approved by the Secretary.

21. (deleted)

Air Quality Management Plan

22. The Applicant **must** prepare a detailed Air Quality Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the EPA and the Technical Review Committee established in accordance with condition 20, and submitted to the Secretary for approval within 12 months of the date of this consent or prior to commencing vegetation clearing or topsoil stripping for the Eastern Overburden Emplacement, whichever occurs sooner;
 - (b) describe the measures that would be implemented to ensure compliance with air quality criteria and operating conditions of this consent;
 - (c) describe the proposed air quality management system; and
 - (d) include an air quality monitoring program that:
 - uses a combination of real-time monitors and supplementary monitors to evaluate the performance of the development against the air quality criteria in this consent;
 - adequately supports the proactive and reactive air quality management system;
 - evaluates and reports on:
 - the effectiveness of the air quality management system; and
 - compliance with the air quality operating conditions; and
 - defines what constitutes an air quality incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any air quality incidents; and
 - (e) include detailed measures to manage air quality impacts on the mushroom composting facility, as described in the EEAMF.

The Applicant **must** implement the approved plan as approved from time to time by the Secretary.

METEOROLOGICAL MONITORING

23. During the life of the development, the Applicant **must** ensure that there is a suitable meteorological station operating in the vicinity of the site that:
- (a) complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline; and
 - (b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the *NSW Industrial Noise Policy*, unless a suitable alternative is approved by the Secretary following consultation with the EPA.

WATER

Water Supply

24. The Applicant **must** ensure that it has sufficient water for all stages of the development, and if necessary, adjust the scale of mining operations to match its available water supply.

Note: Under the Water Act 1912 and/or the Water Management Act 2000, the Applicant is required to obtain necessary water licences for the development.

Water Transfers

25. The Applicant may receive water from, and transfer water to, the Mt Thorley mine.

Water Discharges

26. Unless an EPL or the EPA authorises otherwise, The Applicant **must** ensure that all surface water discharges from the site comply with the:
- (a) discharge limits (both volume and quality) set for the development in any EPL; and
 - (b) relevant provisions of the POEO Act or *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002*.

Note: For the avoidance of doubt, it is noted that the EPA will determine the cumulative allowable salinity discharges to the Hunter River catchment, according to rules of the Hunter River Salinity Trading Scheme and the respective quantities of tradeable salinity credits held by participants in the scheme (including the Mount Thorley Mine and other nearby mining operations).

Water Management Performance Measures

27. The Applicant **must** comply with the performance measures in Table 8 to the satisfaction of the Secretary.

Table 8: Water management performance measures

Feature	Performance Measure
Water management – General	<p>Minimise the use of clean water on site</p> <p>Minimise the need for make-up water from external supplies</p> <p>Minimise cumulative water impacts with the other mines in the region</p>
Construction and operation of infrastructure	<p>Design, install and maintain erosion and sediment controls generally in accordance with the series <i>Managing Urban Stormwater: Soils and Construction</i> including <i>Volume 1</i>, <i>Volume 2A – Installation of Services</i> and <i>Volume 2C – Unsealed Roads</i></p> <p>Design, install and maintain the infrastructure within 40 m of watercourses generally in accordance with DPI Water Controlled Activities Guidelines (2012), or its latest version</p> <p>Design, install and maintain any creek crossings generally in accordance with the <i>Policy and Guidelines for Fish Friendly Waterway Crossings</i> (NSW Fisheries, 2003) and <i>Why Do Fish Need To Cross The Road? Fish Passage Requirements for Waterway Crossings</i> (NSW Fisheries 2003), or their latest versions</p>
Clean water diversion & storage infrastructure	<p>Design, install and maintain the clean water system to capture and convey the 100 year ARI flood</p> <p>Maximise as far as reasonable and feasible the diversion of clean water around disturbed areas on site</p>
Sediment dams	<p>Design, install and maintain the dams generally in accordance with the series <i>Managing Urban Stormwater: Soils and Construction – Volume 1 and Volume 2E Mines and Quarries</i></p>
Mine water storages	<p>Design, install and maintain mine water storage infrastructure to ensure no unlicensed or uncontrolled discharge of mine water off-site</p> <p>Design, install and maintain on-site storages (including tailings dams, mine infrastructure dams, groundwater storage and treatment dams) to minimise permeability</p> <p>Ensure adequate freeboard within the pit void at all times to minimise the risk of discharge to surface waters</p>
Tailings storage	<p>Design and maintain tailings storage areas to maximise recovery of tailings decant water</p> <p>Design and maintain tailings storage areas to encapsulate and prevent the movement of tailings seepage/leachate offsite, where reasonable and feasible</p>
Overburden emplacements	<p>Design, install and maintain emplacements to encapsulate and prevent migration of tailings, acid forming and potentially acid forming materials, and saline and sodic material</p> <p>Design, install and maintain emplacements to prevent and/or manage long term saline groundwater seepage</p>
Chemical and hydrocarbon storage	<p>Chemical and hydrocarbon products to be stored in bunded areas in accordance with the relevant Australian Standards</p>
Aquatic and riparian ecosystem	<p>Maintain or improve baseline channel stability</p> <p>Develop site-specific in-stream water quality objectives in accordance with ANZECC 2000 and <i>Using the ANZECC Guidelines and Water Quality Objectives in NSW</i> procedures (DECC 2006), or its latest version</p>

Water Management Plan

28. The Applicant **must** prepare a Water Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with the EPA, [DPI Water](#) and OEHL, by suitably qualified and experienced person/s whose appointment has been approved by the Secretary;
 - (b) be submitted to the Secretary for approval within 12 months of the date of this consent; and
 - (c) in addition to the standard requirements for management plans (see condition 3 of schedule 5), include a:
 - (i) Site Water Balance that:
 - includes details of:
 - sources and security of water supply, including contingency planning for future reporting periods;
 - water use and management on site, including details of water sharing between neighbouring mining operations;
 - [Water Access Licences held for the development](#);
 - any off-site water transfers and discharges;
 - reporting procedures, including the preparation of a site water balance for each calendar year; and
 - investigates and implements all reasonable and feasible measures to minimise water use on site;
 - (ii) Surface Water Management Plan, that includes:
 - detailed baseline data on surface water flows and quality in the watercourses that could potentially be affected by the development;
 - a detailed description of the water management system on site, including the:
 - clean water diversion systems;
 - erosion and sediment controls [and works](#) (mine water system); and
 - mine water management systems including irrigation areas;
 - detailed plans, including design objectives and performance criteria, for:
 - design and management of final voids;
 - design and management for the emplacement of coal reject materials;
 - reinstatement of drainage lines on the rehabilitated areas of the site; and
 - control of any potential water pollution from the rehabilitated areas of the site;
 - performance criteria for the following, including trigger levels for investigating any potentially adverse impacts associated with the development:
 - mine water management system;
 - surface water quality of Loders Creek and Wollombi Brook; and
 - channel stability, stream and riparian vegetation health of Loders Creek and Wollombi Brook;
 - a program to monitor and report on:
 - the effectiveness of the mine water management system; and
 - surface water flows and quality, stream and riparian vegetation health in Loders Creek and Wollombi Brook potentially affected by the development;
 - a plan to respond to any exceedances of the performance criteria, and mitigate and/or offset any adverse surface water impacts of the development; and
 - (iii) Groundwater Management Plan, which includes:
 - detailed baseline data on groundwater levels, yield and quality in the region, and privately-owned groundwater bores, that could be affected by the development;
 - groundwater assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts;
 - a program to monitor and report on:
 - groundwater inflows to the open cut pits;
 - the seepage/leachate from water storages, [tailings storage areas](#), emplacements, backfilled voids, and final voids;
 - the impacts of the development on:
 - regional and local (including alluvial) aquifers;
 - groundwater supply of potentially affected landowners; and
 - groundwater dependent ecosystems and riparian vegetation; and
 - base flows to Wollombi Brook;
 - a program to validate the groundwater model for the development, including an independent review of the model with every independent environmental audit, and compare the monitoring results with modelled predictions; and
 - a plan to respond to any exceedances of the groundwater assessment criteria.

[The Applicant must implement the approved plan as approved from time to time by the Secretary.](#)

BIODIVERSITY

Biodiversity Offset Strategy

29. The Applicant **must** implement the biodiversity offset strategy described in the EIS, summarised in Table 9 and shown conceptually in Appendix 9.

Table 9: Summary of the Biodiversity Offset Strategy

Area	Offset Type	Minimum Size (hectares)
Reedy Valley Offset Area	Existing vegetation to be enhanced and additional vegetation to be established, with the restoration of at least 42 ha of White Box – Yellow Box – Blakely's Red Gum Woodland and Derived Native Grassland CEEC and 44 ha of the Central Hunter Grey Box-Ironbark Woodland EEC	1,486
Broke Road Offset Area	Existing vegetation to be enhanced and additional vegetation to be established, with the restoration of at least 189 ha of the Central Hunter Grey Box-Ironbark Woodland EEC	241
Wollombi Brook Conservation Area	Existing vegetation to be enhanced and additional vegetation to be established, with the restoration of at least 10 ha of the Warkworth Sands Woodland EEC and 16 ha of the Central Hunter Grey Box-Ironbark Woodland EEC	65
Condran Property Biodiversity Offset Area	Existing vegetation to be enhanced and additional vegetation to be established, with the restoration of at least 6.9 ha of Central Hunter Ironbark-Spotted Gum-Grey Box Forest EEC	50
Rehabilitation Area	Vegetation to be established, with the restoration of at least 2,200 ha of Central Hunter Grey Box-Ironbark Woodland EEC, 250 ha of Central Hunter Ironbark-Spotted Gum-Grey Box Forest EEC and 50 ha of Central Hunter Swamp Oak Forest	2,500
TOTAL		4,342

Note: To identify the areas referred to in Table 9 refer to the applicable figures in Appendix 9.

Habitat for Threatened Fauna Species

30. The Proponent **must** ensure that the biodiversity strategy provides potentially suitable habitat for the following threatened fauna species, to the satisfaction of the Secretary: Little Eagle, Little Lorikeet, Brown Treecreeper, Diamond Firetail, Speckled Warbler, Swift Parrot, Regent Honeyeater, Grey-crowned Babbler, Varied Sitella, Scarlet Robin, Hooded Robin, Grey-headed Flying-fox, Yellow-bellied Sheath-tail-bat, Eastern Freetail-bat, Large-eared Pied Bat, Eastern False Pipistrelle, Little Bentwing-bat, Eastern Bentwing-bat, Large-footed Myotis, Greater Broad-nosed Bat and Eastern Cave Bat.

Hunter Ironbark Research Program

31. The Applicant **must** implement any relevant findings of the Hunter Ironbark Research Program for the Ravensworth complex during the establishment of the vegetation in the Rehabilitation Area (see Table 9 above) to the satisfaction of the Secretary.

Regent Honeyeater Recovery Plan Contribution

32. The Applicant **must** contribute at least \$200,000 over 2 years towards the implementation of actions under the National Regent Honeyeater Recovery Plan. The initial payment of at least \$100,000 must be made within 6 months of the date of this consent.

Long Term Security of Offsets

33. By the end of December 2015, unless the Secretary agrees otherwise, the Applicant **must** make suitable arrangements to provide appropriate long term security for the land within the Biodiversity Offset Strategy identified in Table 9 (excluding the Rehabilitation Area), to the satisfaction of the Secretary.

Biodiversity Management Plan

34. The Applicant **must** prepare a Biodiversity Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with OEH, and submitted to the Secretary for approval within 6 months of the date of this consent;
 - (b) describe how the implementation of the biodiversity offset strategy would be integrated with the overall rehabilitation of the site;
 - (c) establish baseline data for the existing habitat in the offsite biodiversity offset area and on the site;
 - (d) describe the short, medium, and long term measures that would be implemented to:
 - manage the impacts of clearing vegetation, including pre-clearance surveys;
 - manage the remnant vegetation and habitat on the site; and
 - implement the biodiversity offset strategy;
 - (e) include detailed performance and completion criteria for evaluating the performance of the biodiversity offset strategy, and triggering remedial action (if necessary);
 - (f) include a detailed description of the measures that would be implemented over the next 3 years, including the procedures to be implemented for:
 - enhancing the quality of existing vegetation and fauna habitat in the biodiversity offset areas;
 - restoring native vegetation and fauna habitat on the biodiversity areas and rehabilitation area through focusing on assisted natural regeneration, targeted vegetation establishment and the introduction of naturally scarce fauna habitat features (where necessary);
 - maximising the salvage of resources within the approved disturbance area – including vegetative and soil resources – for beneficial reuse in the enhancement of the biodiversity areas or rehabilitation area;
 - collecting and propagating seed;
 - protecting vegetation and fauna habitat outside the approved disturbance area on site;
 - minimising the impacts on fauna on site, including undertaking pre-clearance surveys;
 - managing any potential conflicts between the proposed restoration works in the biodiversity areas and any Aboriginal heritage values (both cultural and archaeological);
 - managing salinity;
 - controlling weeds and feral pests;
 - controlling erosion;
 - managing grazing and agriculture on site;
 - controlling access; and
 - bushfire management;
 - (g) include a seasonally-based program to monitor and report on the effectiveness of these measures, and progress against the detailed performance and completion criteria;
 - (h) identify the potential risks to the successful implementation of the biodiversity offset strategy, and include a description of the contingency measures that would be implemented to mitigate these risks; and
 - (i) include details of who would be responsible for monitoring, reviewing, and implementing the plan.
- The Applicant **must** implement the approved plan as approved from time to time by the Secretary.

Conservation Bond

35. Within 6 months of the approval of the Biodiversity Management Plan, 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 described in the Biodiversity Management Plan.

The sum of the bond **must** be determined by:

- (a) calculating the full cost of implementing the offset strategy (other than land acquisition costs); and
- (b) employing a suitably qualified person whose appointment has been endorsed by the Secretary, to verify the calculated costs,

to the satisfaction of the Secretary.

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

The conservation bond **must** be reviewed by the Applicant and, if required, an updated bond **must** be lodged with the Department within 3 months of any of the following:

- (a) an approved revision of 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 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 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 satisfactory completion of the relevant works.

With the agreement of the Secretary, this bond may be combined with the rehabilitation security deposit administered by [DRE](#).

Notes:

- *Alternative funding arrangements for long-term management of the biodiversity offset strategy, such as provision of capital and management funding as agreed by OEH as part of a Biobanking Agreement or transfer to conservation reserve estate can be used to reduce the liability of the conservation and biodiversity bond.*
- *The sum of the conservation bond required under this condition excludes the costs associated with the establishment of the Rehabilitation Area, to the extent that these costs are covered by a separate rehabilitation security required under the mining lease.*

HERITAGE

Human Remains

36. This consent does not allow the Applicant to disturb any human remains found on the site.

Protection of Heritage Items

37. Unless otherwise authorised under the NP&W Act, the Applicant **must** ensure that the project does not damage any of the identified Aboriginal sites located outside the approved disturbance area of the project.

Note: Identified heritage items outside the approved disturbance area are listed in Table 1 of Appendix 10.

Loders Creek Grinding Grooves

38. The Applicant **must** relocate the Loders Creek Grinding Grooves and any associated objects to a suitable site within the Loders Creek catchment, in consultation with the OEH and Aboriginal Stakeholders, and to the satisfaction of the Secretary.

Wollombi Brook Conservation Area

39. The Applicant **must** establish the 109 ha Wollombi Brook Conservation Area shown in Figure 2 of Appendix 10, to the satisfaction of the Secretary.

Note: The Aboriginal heritage conservation area/s may be combined with the biodiversity conservation areas required under this consent.

Long Term Aboriginal Heritage Conservation

40. The Applicant **must** make suitable arrangements for the long-term protection and management of the Wollombi Brook Conservation Area and Loders Creek Grinding Grooves Relocation Site, in consultation with OEH and Aboriginal stakeholders, and to the satisfaction of the Secretary.

Heritage Management Measures

41. The Applicant **must** implement the:
- Aboriginal heritage mitigation and management measures [described in the documents listed in condition 2 of schedule 2](#);
 - Aboriginal archaeological management measures summarised in Table 2 of Appendix 10;
 - historic heritage management measures summarised in Table 3 of Appendix 10, to the satisfaction of the Secretary.

Heritage Management Plan

42. The Applicant **must** prepare a Heritage Management Plan for the development to the satisfaction of the Secretary. This plan must:
- be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;
 - be prepared in consultation with OEH and the relevant Aboriginal stakeholders;
 - be submitted to the Secretary for approval prior to carrying out any development under this consent;
 - include a detailed plan for:

- the relocation of the Loders Creek Grinding Grooves; and
 - conservation of the Wollombi Brook Conservation Agreement Area;
- (e) include a detailed description of the proposed implementation of the heritage management measures required under condition 39 above;
- (f) include a program to monitor and report on the effectiveness of the management measures carried out under the plan.

The Applicant must implement the approved plan as approved from time to time by the Secretary.

TRANSPORT

Road/Rail Works

43. Prior to the closure of the relevant section of Broke Road, the Applicant **must** realign Broke Road and associated intersections, to the satisfaction of Council.

Note: The proposed realignment of Broke Road is shown in the figure in Appendix 11.

44. The Applicant **must** design, construct, and maintain the two proposed haul road bridges over the realignment of Broke Road, to the satisfaction of Council.
45. The Applicant **must**:
- (a) design, construct and maintain the proposed haul road crossing of the Crown Road between the two parts of the Eastern Emplacement Area;
 - (b) design, construct and maintain the new rail siding adjacent to the existing Saxonvale Rail Spur; and
 - (c) ensure neither the proposed haul road crossing nor the new rail siding compromises the existing access to the mushroom composting facility land,
- to the satisfaction of the Secretary.

Transport Management Plan

46. The Applicant **must** prepare a Transport Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with RMS, Council, the Department of Lands, and the owner of the mushroom composting facility, and submitted to the Secretary for approval prior to commencing construction of the Broke Road realignment;
 - (b) describe the measures that would be implemented to minimise the construction traffic impacts of the development, particularly on the Golden Highway/Putty Road/Mitchell Line of Road intersection;
 - (c) include the detailed plans for the:
 - proposed haul road crossing of the Crown Road between the two parts of the Eastern Emplacement Area; and
 - new rail siding adjacent to the existing Saxonvale Rail Spur; and
 - (d) include a program to monitor and report on the amount of coal transported from the Bulga mine complex in each calendar year.

The Applicant must implement the approved plan as approved from time to time by the Secretary.

VISUAL

Noise & Visual Bund

47. The Applicant **must** design, construct and maintain the proposed noise and visual bund to the satisfaction of the Secretary. This bund must:
- (a) be completed as soon as practicable after the commencement of development under this consent;
 - (b) be constructed to ensure the western (outer) edge of the bund is at its full design height (up to 165 m AHD) with an initial vegetation cover, within 4 years of the date of this consent; and
 - (c) be generally consistent with the concept plan in the EIS and the figure in Appendix 12

Visual Screening – Broke Road

48. The Applicant **must** install and maintain suitable planting and screening to minimise the views of on-site mining infrastructure from Broke Road, in consultation with Council and to the satisfaction of the Secretary. This planting and screening must:
- (a) be installed in conjunction with the road works and prior to the use of the realignment; and
 - (b) be strategically located along the realignment of Broke Road or within the site.

Visual & Lighting

49. The Applicant **must**:

- (a) implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the development;
- (b) ensure no fixed outdoor lights shine above the horizontal or above the building line or any illuminated structure;
- (c) ensure no in-pit mobile lighting rigs shine above the pit wall and other mobile lighting rigs do not shine above the horizontal;
- (d) ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1997 – Control of Obtrusive Effects of Outdoor Lighting*, or its latest version;
- (e) take all practical measures to shield views of mining operations from users of public roads and privately-owned residences, to the satisfaction of the Secretary.

Visual Impact Management Plan

50. The Applicant **must** prepare a Visual Impact Management Plan for the development to the satisfaction of the Secretary. This plan must:
- (a) be prepared in consultation with Council, and submitted to the Secretary for approval within 6 months of the date of this consent;
 - (b) include the detailed plans for:
 - Noise & Visual Bund; and
 - visual screening along the Broke Road realignment;
 - (c) describe the measures that would be implemented to minimise the visual and lighting impacts of the development; and
 - (d) include a program to monitor and report on the implementation of the detailed plans and the effectiveness of the proposed visual and lighting mitigation measures.

The Applicant **must** implement the approved plan as approved from time to time by the Secretary.

BUSHFIRE MANAGEMENT

51. 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 as much as possible if there is a fire in the surrounding area.

WASTE

52. The Applicant **must**:
- (a) implement all reasonable and feasible measures to minimise the waste generated by the development;
 - (b) ensure that the waste generated by the development is appropriately stored, handled and disposed of; and
 - (c) monitor and report on effectiveness of the waste minimisation and management measures each calendar year, to the satisfaction of the Secretary.

REHABILITATION

Rehabilitation Objectives

53. The Applicant **must** rehabilitate the site to the satisfaction of **DRE**. This rehabilitation must be generally consistent with the proposed rehabilitation strategy in the EIS (and depicted conceptually in the figures in Appendix 13), and comply with the objectives in Table 10.

Table 10: Rehabilitation Objectives

<i>Feature</i>	<i>Objective</i>
Mine site (as a whole)	<ul style="list-style-type: none"> • Safe, stable and non-polluting • Final landforms to: <ul style="list-style-type: none"> ○ be designed to minimise the visual impacts of the development; ○ be in keeping with the natural terrain features of the area; ○ be integrated with the rehabilitated landforms of surrounding mines; ○ incorporate micro-relief; ○ avoid straight run drainage drop structures; ○ minimise long term groundwater seepage; ○ minimise exposure of tailings material and prevent the

	<ul style="list-style-type: none"> ○ occurrence of spontaneous combustion; and be sustainable and compatible with surrounding land uses.
Final Void	<ul style="list-style-type: none"> • Designed as long term groundwater sinks and to maximise groundwater flows across back-filled pits to the final void • Minimise: <ul style="list-style-type: none"> ○ the size and depth of final voids ○ the drainage catchment of final voids ○ any high wall instability risk ○ risk of flood interaction for all flood events up to and including the Probable Maximum Flood
Revegetation	<ul style="list-style-type: none"> • Restore self-sustaining ecosystems, including establishing at least: <ul style="list-style-type: none"> ○ 2,200 ha of Central Hunter Grey Box–Ironbark Woodland EEC; ○ 250 ha of Central Hunter Ironbark–Spotted Gum–Grey Box Forest EEC; and ○ 50 ha of Central Hunter Swamp Oak Forest. • Establish native vegetation areas that complement and improve local and regional biodiversity
Agriculture	<ul style="list-style-type: none"> • Return at least 260 hectares of land within the project disturbance area to be suitable for agricultural use
Surface infrastructure	<ul style="list-style-type: none"> • To be decommissioned and removed, unless DRE agrees otherwise
Community	<ul style="list-style-type: none"> • Ensure public safety • Minimise the adverse socio-economic effects associated with mine closure

Note: The Revegetation objective is satisfied through establishment of the Rehabilitation Area required under condition 29 of schedule 3.

Progressive Rehabilitation

54. 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 rehabilitation strategies [must](#) be employed when areas prone to dust generation cannot yet be permanently rehabilitated.

Note: It is accepted that some parts of the site that are progressively rehabilitated may be subject to further disturbance at some later stage of the development.

Rehabilitation Management Plan

55. The Applicant [must prepare](#) a Rehabilitation Management Plan for the development to the satisfaction of [DRE](#). This plan must:
- (a) be prepared in consultation with the Department, [DPI Water](#), OEHL, Council and the CCC;
 - (b) be submitted to [DRE](#) for approval within 6 months of the date of this consent;
 - (c) be prepared in accordance with any relevant [DRE](#) guideline;
 - (d) describe how the rehabilitation of the site would be integrated with the implementation of the biodiversity offset strategy;
 - (e) include detailed performance and completion criteria for evaluating the performance of the rehabilitation of the site, and triggering remedial action (if necessary);
 - (f) describe the measures that would be implemented to ensure compliance with the relevant conditions of this consent, and address all aspects of rehabilitation including mine closure, final landform, and final land use;
 - (g) provide for detailed mine closure planning, including measures to minimise socio-economic effects due to mine closure, to be conducted prior to the site being placed on care and maintenance;
 - (h) include interim rehabilitation where necessary to minimise the area exposed for dust generation;
 - (i) include a program to monitor and report on the effectiveness of the measures, and progress against the detailed performance and completion criteria; and
 - (j) build to the maximum extent practicable on the other management plans required under this consent.
- [The Applicant must implement the approved Rehabilitation Management Plan as approved from time to time to the satisfaction of DRE.](#)

Note: The Biodiversity Management Plan and Rehabilitation Management Plan need to be substantially integrated for achieving biodiversity objectives for the rehabilitated mine-site.

SCHEDULE 4 ADDITIONAL PROCEDURES

NOTIFICATION OF LANDOWNERS/TENANTS

1. Within 1 month of the date of this consent, the Applicant **must**:
 - (a) notify in writing the owners of:
 - the land listed in Table 1 of schedule 3 that they have the right to require the Applicant to acquire their land at any stage during the development and/or request the Applicant to ask for additional noise and/or air quality mitigation measures (whichever is relevant) to be installed at their residence at any stage during the development (if they have not requested acquisition);
 - any residence on the land listed in Table 2 of schedule 3 that they have the right to request the Applicant to ask for additional noise and/or air quality mitigation measures (whichever is relevant) to be installed at their residence at any stage during the development; and
 - any privately-owned land within 2 kilometres of the approved open cut mining pit/s that they are entitled to ask for an inspection to establish the baseline condition of any buildings or structures on their land, or to have a previous property inspection report updated;
 - (b) notify the tenants of any mine-owned land of their rights under this consent (see condition 17 of schedule 3); and
 - (c) send a copy of the NSW Health fact sheet entitled “Mine Dust and You” (as may be updated from time to time) to the owners and/or existing tenants of any land (including mine-owned land) where the predictions in the [documents listed in condition 2 of schedule 2](#) identify that dust emissions generated by the development are likely to be greater than the relevant air quality criteria in schedule 3 at any time during the life of the development.

2. Prior to entering into any tenancy agreement for any land owned by the Applicant that is predicted to experience exceedances of the recommended dust and/or noise criteria, or for any of the land listed in condition 1 that is subsequently purchased by the Applicant, the Applicant **must**:
 - (a) advise the prospective tenants of the potential health and amenity impacts associated with living on the land, and give them a copy of the NSW Health fact sheet entitled “Mine Dust and You” (as may be updated from time to time); and
 - (b) advise the prospective tenants of the rights they would have under this consent.

3. As soon as practicable after obtaining monitoring results showing:
 - (a) an exceedance of any relevant criteria in schedule 3, the Applicant **must** notify the affected landowners in writing of the exceedance, and provide regular monitoring results to these landowners until the development is again complying with the relevant criteria; and
 - (b) an exceedance of any relevant air quality criteria in schedule 3, the Applicant **must** send a copy of the NSW Health fact sheet entitled “Mine Dust and You” (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).

INDEPENDENT REVIEW

4. If an owner of privately-owned land, excluding the mushroom composting facility, 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;
 - if the development is not complying with these criteria then identify the measures that could be implemented to ensure compliance with the relevant criteria; and
 - in cases where there is an exceedance of any air quality criteria, and more than one mine is responsible for the exceedance, determine the relative share of each mine regarding the impact of the development; and
- (b) give the Secretary and landowner a copy of the independent review.

LAND ACQUISITION

5. Within 3 months of receiving a written request from a landowner with acquisition rights, excluding the mushroom composting facility, the Applicant **must** make a binding written offer to the landowner based on:
- (a) the current market value of the landowner's interest in the land at the date of this written request, as if the land was unaffected by the development, having regard to the:
 - existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and
 - presence of improvements on the land and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date, but excluding any improvements that have resulted from the implementation of the additional noise and/or air quality mitigation measures in condition 2 of schedule 3;
 - (b) the reasonable costs associated with:
 - relocating within the Singleton, Cessnock or Muswellbrook local government area, or to any other local government area determined by the Secretary; and
 - obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is to be acquired; and
 - (c) reasonable compensation for any disturbance caused by the land acquisition process.

However, if at the end of this period, the Applicant and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Secretary for resolution.

Upon receiving such a request, the Secretary will request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer to:

- consider submissions from both parties;
- determine a fair and reasonable acquisition price for the land and/or the terms upon which the land is to be acquired, having regard to the matters referred to in paragraphs (a)-(c) above;
- prepare a detailed report setting out the reasons for any determination; and
- provide a copy of the report to both parties.

Within 14 days of receiving the independent valuer's report, the Applicant **must** make a binding written offer to the landowner to purchase the land at a price not less than the independent valuer's determination.

However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, they may refer the matter to the Secretary for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Secretary will determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in paragraphs (a)-(c) above, the independent valuer's report, the detailed report of the party that disputes the independent valuer's determination and any other relevant submissions.

Within 14 days of this determination, the Applicant **must** make a binding written offer to the landowner to purchase the land at a price not less than the Secretary's determination.

If the landowner refuses to accept the Applicant's binding written offer under this condition within 6 months of the offer being made, then the Applicant's obligations to acquire the land shall cease, unless the Secretary determines otherwise.

6. The Applicant **must** pay all reasonable costs associated with the land acquisition process described in condition 5 above, including the costs associated with obtaining Council approval for any plan of subdivision (where permissible), and registration of this plan at the Office of the Registrar-General.
-

SCHEDULE 5 ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Environmental Management Strategy

1. If the Secretary requires, the Applicant must prepare an Environmental Management Strategy for the Bulga mine complex to the satisfaction of the Secretary. This strategy must:
 - (a) be submitted to the Secretary for approval within 12 months of the date of this consent;
 - (b) provide the strategic framework for environmental management of the Bulga mine complex;
 - (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 that would be implemented to:
 - keep the local community and relevant agencies informed about the operation and environmental performance of the development;
 - receive, handle, respond to, and record 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 required to be carried out under the conditions of this consent.

The Applicant must implement the approved strategy as approved from time to time by the Secretary.

Adaptive Management

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

Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:

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

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;
 - the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
 - (c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
 - (d) a program to monitor and report on the:
 - impacts and environmental performance of the development;
 - effectiveness of any management measures (see c above);
 - (e) a contingency plan to manage any unpredicted impacts and their consequences;
 - (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.

Annual Review

4. By the end of March each year, unless the Secretary agrees otherwise, the Applicant **must submit a report 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 rehabilitation) that was carried out in the past financial year, and the development that is proposed to be carried out over the next year;
 - (b) include a comprehensive review of the monitoring results and complaints records of the development over the past 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 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 year to improve the environmental performance of the development.

Revision of Strategies, Plans and Programs

5. Within 3 months of:
 - (a) the submission of an annual review under Condition 4 above;
 - (b) the submission of an incident report under Condition 7 below;
 - (c) the submission of an audit report under Condition 9 below; or
 - (d) any modification to the conditions of this consent (unless the conditions require otherwise),the Applicant **must** review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary.

Within 4 weeks of conducting any such review, the Applicant must advise the Secretary of the outcomes of the review, and provide any revised documents to the Secretary for review and approval.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.

Updating & Staging Strategies, Plans or Programs

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

With the agreement of the Secretary, the Applicant may prepare a revision or stage of any strategy, plan or program required under this consent without undertaking consultation with all parties nominated under the applicable condition in this consent.

Notes:

- *While any strategy, plan or program may be submitted on a staged basis, the Applicant must ensure that the existing operations on site 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 to which the strategy, plan or program applies, the relationship of this stage to any future stages, and the trigger for updating the strategy, plan or program.*

Community Consultative Committee

6. The Applicant **must** operate a Community Consultative Committee (CCC) for the Bulga mine complex to the satisfaction of the Secretary. This CCC must be operated in general accordance with the **Community Consultative Committee Guidelines for State Significant Projects** (Department of Planning & Environment, 2016, or its latest version).

Notes:

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Applicant complies with this consent.*

- *In accordance with the guideline, the Committee should be comprised of an independent chair and appropriate representation from the Applicant, Council, recognised environmental groups and the local community.*

REPORTING

Incident Reporting

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

Regular Reporting

8. 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.

INDEPENDENT ENVIRONMENTAL AUDIT

9. By the end of 2015, 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 conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
 - (b) include consultation with the relevant agencies;
 - (c) assess the environmental performance of the development and assess whether it is complying with the requirements in this consent and any relevant EPL or Mining Lease (including any assessment, 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, plan or program required under the abovementioned approvals; **and**
 - (f) **be conducted and reported to the satisfaction of the Secretary.**

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

10. **Within 12 weeks of commencing each audit, unless the Secretary agrees otherwise, the Applicant must submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of any measures proposed to address the recommendations.**

ACCESS TO INFORMATION

11. Within 6 months of the date of this consent, the Applicant **must**:
 - (a) make copies of the following publicly available on its website:
 - the **documents listed in condition 2 of schedule 2**;
 - current statutory approvals for the development;
 - 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, which is to be updated monthly;
 - minutes of CCC meetings;
 - the annual reviews of the development (for the last 5 years, if applicable);
 - any independent environmental audit of the development, and the Applicant's response to the recommendations in any audit;
 - any other matter required by the Secretary; and
 - (b) keep this information up-to-date, to the satisfaction of the Secretary.

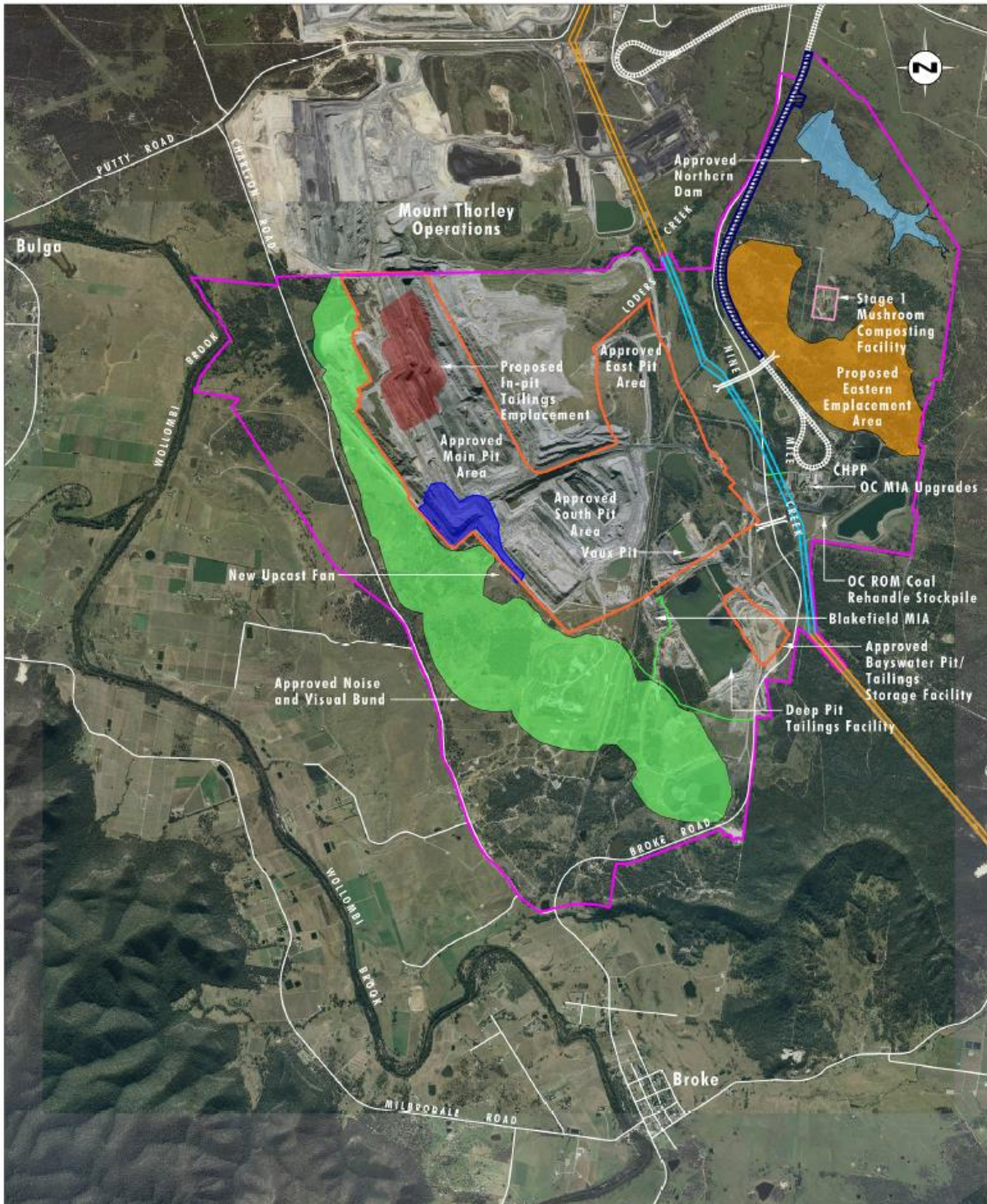
**APPENDIX 1
SCHEDULE OF LAND**

Lot	DP	Owner
25	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
80	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
56	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
2	102103	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
44	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
49	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
1	563668	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
54	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
35	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
1	621145	Bulga Coal Management Pty Ltd
61	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
126	729952	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
39	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
1	376892	Bulga Coal Management Pty Ltd
6	704474	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
22	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
1	435160	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
46	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
1	745971	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
50	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
98	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
79	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
29	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
2	133168	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
38	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
86	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
3	133168	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
14	247398	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
37	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
68	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
75	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
34	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
52	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
15	247398	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
6	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
44	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
3	133135	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
40	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
6	248448	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
B	174788	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
77	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
4	561424	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%

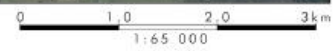
Lot	DP	Owner
62	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
1	445449	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
1	821150	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
109	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
60	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
19	247398	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
1	1145329	Bulga Coal Management Pty Ltd
2	1143947	Commonwealth of Australia
8	248448	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
5	248448	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
3	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
84	856359	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
11	730762	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
20	263943	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
4	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
10	730762	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
274	260663	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
85	856359	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
271	260663	Miller Pohang Coal Co. Pty Limited
3	247398	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
6	561424	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
82	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
11	247398	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
103	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
13	247398	Bulga Coal Management Pty Ltd
10	244826	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
52	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
125	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
6	247398	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
18	247398	Bulga Coal Management Pty Ltd
53	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
5	247398	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
4	247398	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
16	247398	Saxonvale Coal Pty Limited 97.5% and Nippon Steel Australia Pty Limited 2.5%
76	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
2	247398	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
5	561424	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
1	247398	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
51	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
17	247398	Bulga Coal Management Pty Limited
30	755264	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
709	749857	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
852	612261	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
1	62544	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%

Lot	DP	Owner
2	62544	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
1	657988	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
1	47305	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
69	755270	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
191	545559	Bulga Coal Management Pty Ltd
21	811613	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
6	10022	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
192	545559	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
7	10022	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
125	755270	Bulga Coal Management Pty Ltd
17	10022	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
20	811613	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
1	564480	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
1	171648	Saxonvale Coal Pty Limited 87.5% and Nippon Steel Australia Pty Limited 12.5%
1	136366	Mushroom Composters Pty Ltd
82	1006883	Mushroom Composters Pty Ltd
Part Charlton Road		
Part Broke Road		
Various Unnamed Crown Roads		

APPENDIX 2 DEVELOPMENT LAYOUT



Source: AAM Hatch Pty Limited (March 2012), BCM (2013)



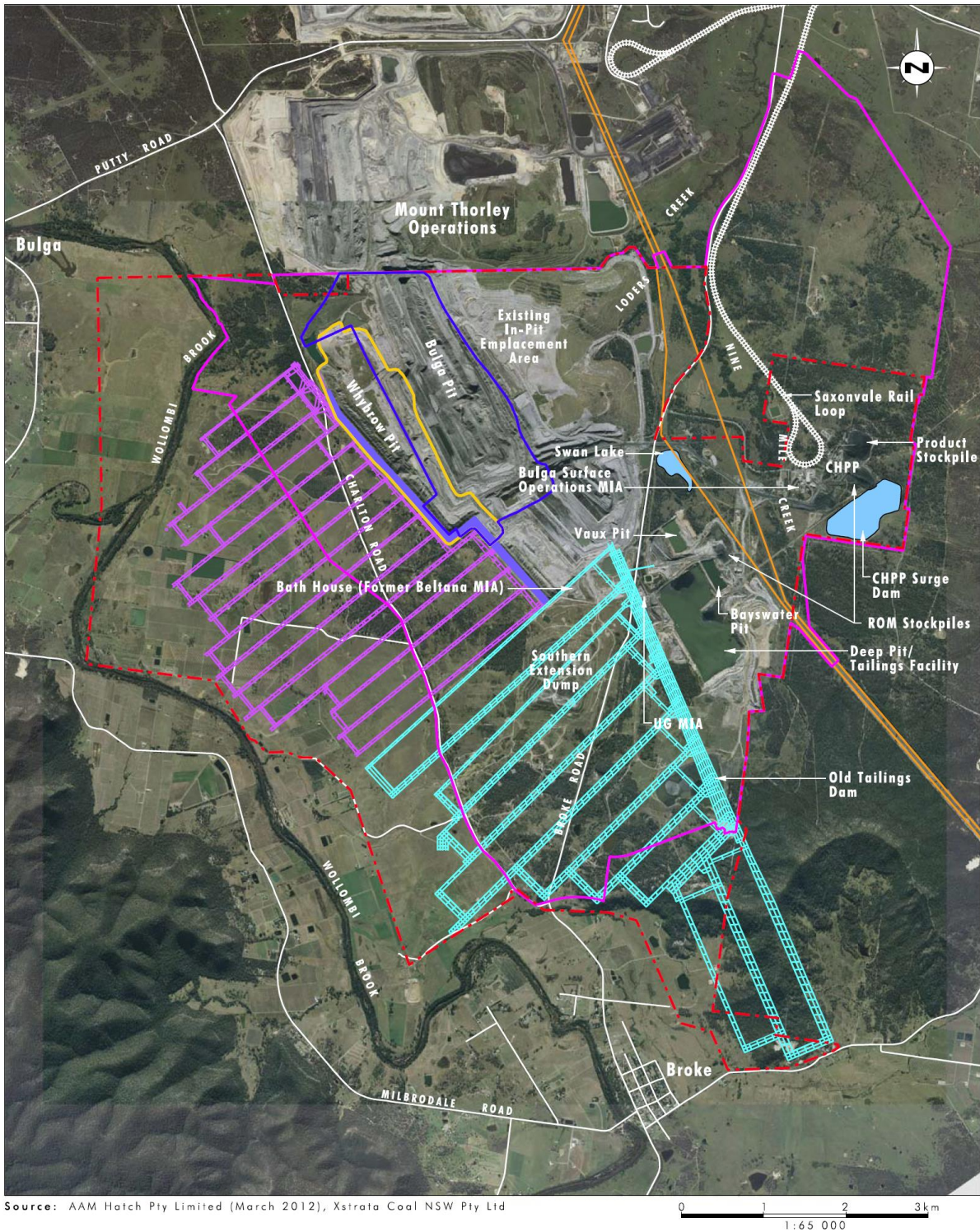
Legend

- | | |
|--------------------------------------|--|
| Revised Project Area | Approved BCC Access Roads |
| Coal Extraction Area | Existing 330kV Transmission Line |
| Approved Noise and Visual Bund | Approved 330kV Transmission Line Realignment |
| Proposed Revised EEA | Approved Underground Access via Open Cut |
| Proposed In-pit Tailings Emplacement | Existing Rail Line |
| Approved Northern Dam | |
| Approved Rail Siding | |

Proposed Modified Development

File Name (A4): 2869_1035.dgn
20161212 10.29

**APPENDIX 3
BULGA MINE COMPLEX**



- Legend**
- Saxonvale Colliery Holding Boundary
 - Project Area
 - Existing 330kV Transmission Line
 - Main Mine Water Storage Dam
 - Completed Underground Mining Operations in Whybrow Seam
 - Blakefield South Underground Workings
 - Wybrow Highwall
 - Bulga Pit
 - Whybrow Pit

FIGURE 1.3
Existing Mining Operations
in Project Area

**APPENDIX 4
TERMS OF THE VOLUNTARY PLANNING AGREEMENT**

PART A – CONTRIBUTIONS FOR PROJECTS

Purpose of the Development Contribution	Amount of Development Contribution	Date for payment of Development Contribution	Indicative schedule
Local community projects			
<p>Village Master Plan The purpose of this contribution is to contribute to the cost of developing a Village Master Plan for the villages of Broke, Bulga and immediate surrounds. The Village Master Plan will be developed in a collaborative manner through consultation between the Developer, Council and the local community. The purpose of the Village Master Plan is to identify projects that will benefit the community in the local area in which the Bulga Optimisation Project is situated by facilitating the ongoing sustainability of the Bulga, Broke, Milbrodale community.</p>	\$60,000	Upon receipt from Council of a valid Operational Plan for this Development Contribution.	Within 12 months of Development Consent
<p>Implementation of Village Master Plan The purpose of this contribution is to implement the Village Master Plan in the villages of Broke, Bulga and immediate surrounds. Once developed the Plan will be funded via the creation of a Village Fund through a separate Council restricted asset account to keep the administration costs down. A portion of this contribution (\$155,000) will be expended towards projects, which have previously been identified in the Developer’s “Our Villages, Our Vision” initiative, including but not limited to:</p> <ul style="list-style-type: none"> • Village Entrance Signage & Associated Works; • Provision of services; • Redevelopment of the Broke Recreation Ground/Skate Park; • Development of McNamara Park, and • Improvements to Bulga Recreation Ground. 	\$655,000	Upon receipt from Council of a valid Operational Plan for this Development Contribution.	Commence within 24 months of Development Consent
<p>Concept Study for Broke Road Cycleway The purpose of this contribution is to undertake a concept study for cycle ways in the Broke and Milbrodale area.</p>	\$20,000	Upon receipt from Council of a valid Operational Plan for this Development Contribution.	Within 24 months of Development Consent

Purpose of the Development Contribution	Amount of Development Contribution	Date for payment of Development Contribution	Indicative schedule
Projects in the Singleton Local Government Area			
<p>Significant Strategic Project</p> <p>The purpose of this contribution is to contribute towards the cost of undertaking a significant strategic project within the Singleton Local Government Area. Council will propose the details of the project for approval by the Developer. Once approved by the Developer, the project will be implemented in accordance with an Operational Plan.</p>	\$700,000	Upon receipt from Council of a valid Operational Plan for this Development Contribution.	Project & schedule to be developed within 12 months of development consent
<p>Singleton Performing Arts Planning Study</p> <p>The purpose of this contribution is to undertake a planning study for furtherance of the performing arts in the Singleton Local Government Area.</p>	\$80,000	Upon receipt from Council of a valid Operational Plan for this Development Contribution.	Within 24 months of Development Consent
<p>Replacement of Mobile Preschool Vehicle</p> <p>The purpose of this contribution is to contribute towards the cost of replacing the mobile preschool vehicle that services rural areas within the Singleton Local Government Area.</p>	\$65,000	Upon receipt from Council of a valid Operational Plan for this Development Contribution.	Within 12 months of Development Consent
<p>Singleton CBD Master Plan Implementation Contribution – Stage 1</p> <p>The purpose of this contribution is to contribute towards the implementation of Stage 1 of the Singleton CBD Master Plan, which consists of developing a children’s playground and pedestrian areas in Singleton CBD.</p>	\$50,000	Upon receipt from Council of a valid Operational Plan for this Development Contribution.	Within 12 months of Development Consent
<p>Additional Project</p> <p>The purpose of this contribution is to contribute towards the cost of undertaking a suitable additional project within the Singleton Local Government Area. Council will propose the details of the project for approval by the Developer. Once approved by the Developer, the project will be implemented in accordance with an Operational Plan.</p>	\$90,000	Upon receipt from Council of a valid Operational Plan for this Development Contribution.	Project & schedule to be developed within 12 months of development consent
TOTAL	\$1,720,000		

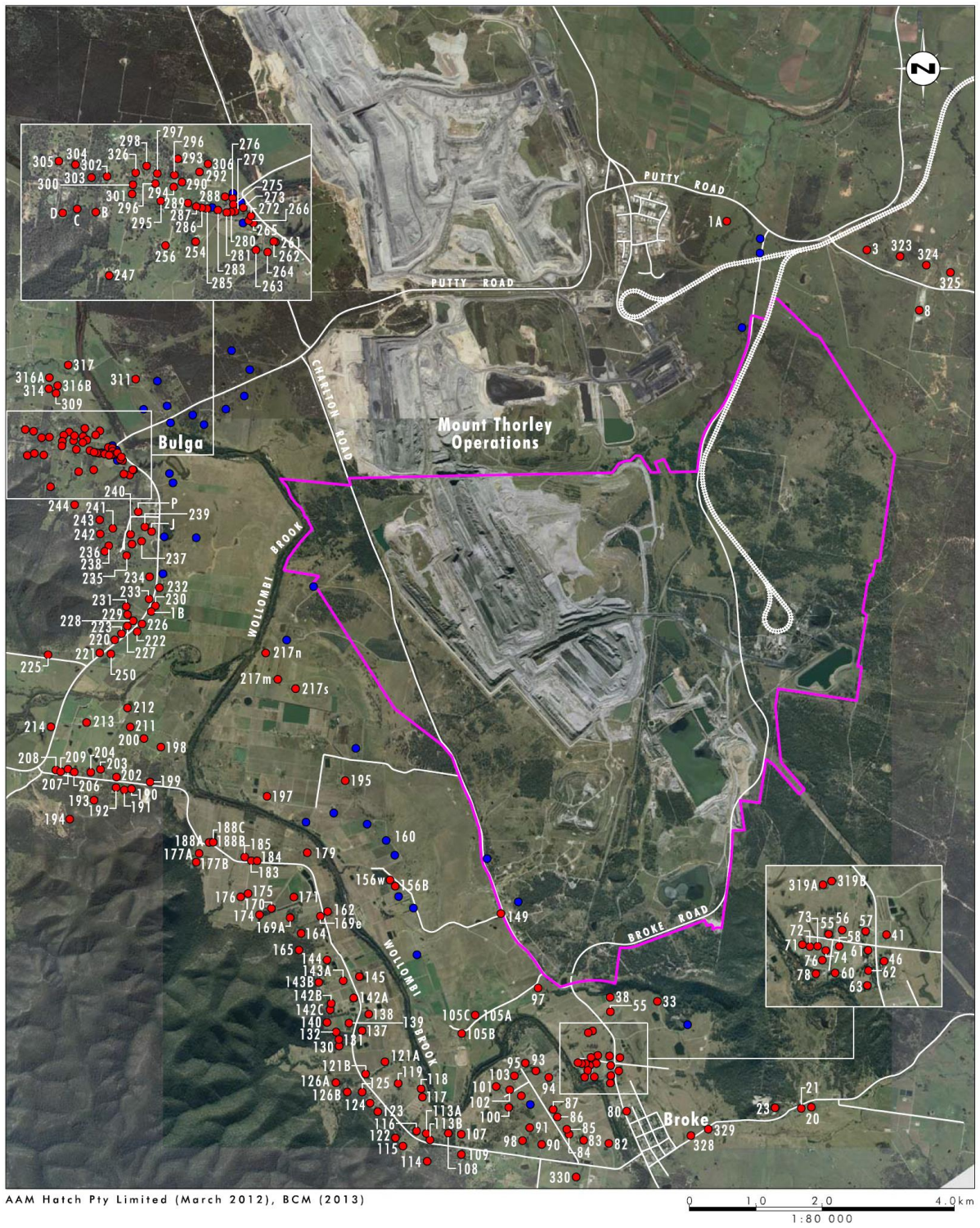
PART B – ANNUAL CONTRIBUTION TO MAINTENANCE OF PART OF BROKE ROAD

Purpose of the Development Contribution	Amount of Development Contribution	Date for payment of Development Contribution
<p>Annual contribution to road maintenance costs</p> <p>The purpose of this contribution is to compensate Council for the costs incurred by Council in maintaining the additional length of Broke Road (1.69km) which was created as a result of the realignment of Broke Road, which forms part of the Bulga Optimisation Project.</p>	<p>\$47,975.00* per annum, as adjusted for CPI in accordance with clause 5.3.</p> <p>* This development contribution will not be payable by the Developer in respect of any calendar year in which the open cut is suspended or closed.</p>	<p>Commencing on 31 December 2015 in respect of the 2015 calendar year and continuing on 31 December each year thereafter (in respect of the foregoing calendar year) until 31 December 2040.</p>

PART C – ANNUAL CONTRIBUTION TO LOCAL COMMUNITY INITIATIVES

Purpose of the Community Contribution	Amount of Community Contribution	Date for payment of Community Contribution
<p>Annual contribution to Broke Village Events</p> <p>The purpose of this contribution is to contribute towards the cost of staging community events in the village of Broke.</p>	<p>\$15,000.00 per annum for 10 years, as adjusted for CPI in accordance with clause 5.3.</p>	<p>To be paid by the Developer to the relevant local community organisation(s) for 10 years, commencing in the year following development consent</p>
<p>Annual contribution to local education and child development</p> <p>The purpose of this contribution is to contribute toward the costs of providing education and child development in the local community in which the Bulga Optimisation Project exists.</p>	<p>\$10,000.00 per annum for 10 years, as adjusted for CPI in accordance with clause 5.3.</p>	<p>To be paid by the Developer to the relevant local community organisation(s) for 10 years, commencing in the year following development consent</p>

**APPENDIX 5
LAND OWNERSHIP**

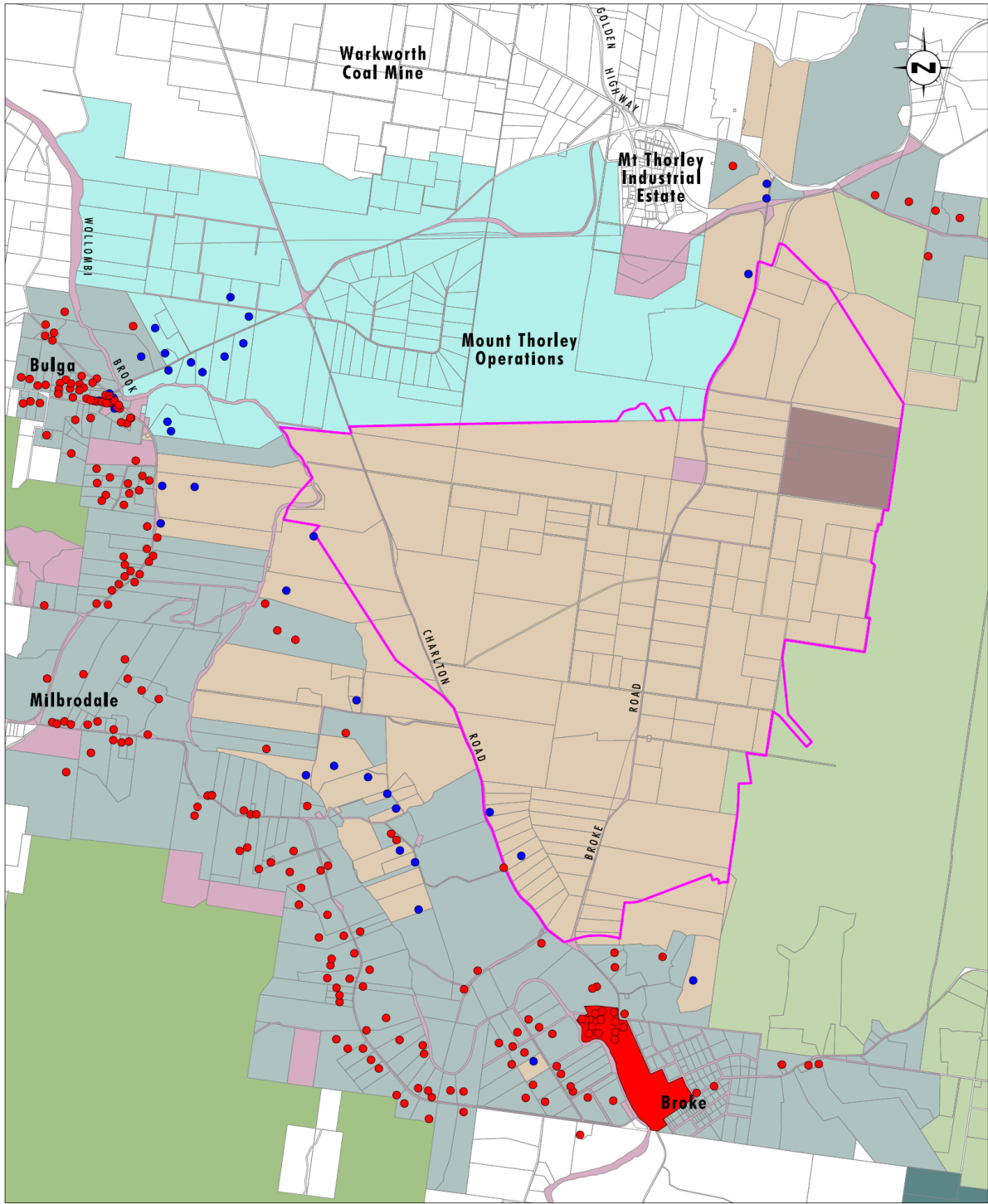


- Legend**
- Revised Project Area
 - Mine Owned Residence
 - Private Residence

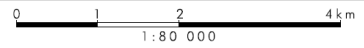
**Location of Properties Included
in Noise Assessment**

File Name (A4): 2869_1037.dgn
20161212 10.53

Figure 1: Surrounding Residences



Source: BCM (2012), LPMA



Legend

- Revised Project Area
- Broke Residential Area
- Residence Location
- Mine Owned Residence Location
- Bulga Coal
- Mushroom Composter Pty Ltd
- Commonwealth
- Crown Land/Road Reserve/State Rail
- Mount Thorley Warkworth
- Private Freehold
- National Park
- State Forest

Land Ownership

File Name (A4): 2869_1041.dgn
20161214 13.01

Figure 2: Land Ownership within the Development Application Area

**APPENDIX 6
ALTERNATE NOISE CRITERIA**

<i>Location</i>	<i>Day</i> <i>L_{Aeq} (15 min)</i>	<i>Evening</i> <i>L_{Aeq} (15 min)</i>	<i>Night</i> <i>L_{Aeq} (15 min)</i>	<i>Night</i> <i>L_{A1} (1 min)</i>
95,142A, 143B, 164, 165, 195, 217s	36	36	36	45
All other privately-owned residences	35	35	35	45

APPENDIX 7 NOISE COMPLIANCE ASSESSMENT

Applicable Meteorological Conditions

1. The noise criteria in Table 3 of schedule 3 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/100m and wind speeds greater than 2 m/s at 10 m above ground level; or
 - (c) temperature inversion conditions greater than 3°C/100m.

Determination of Meteorological Conditions

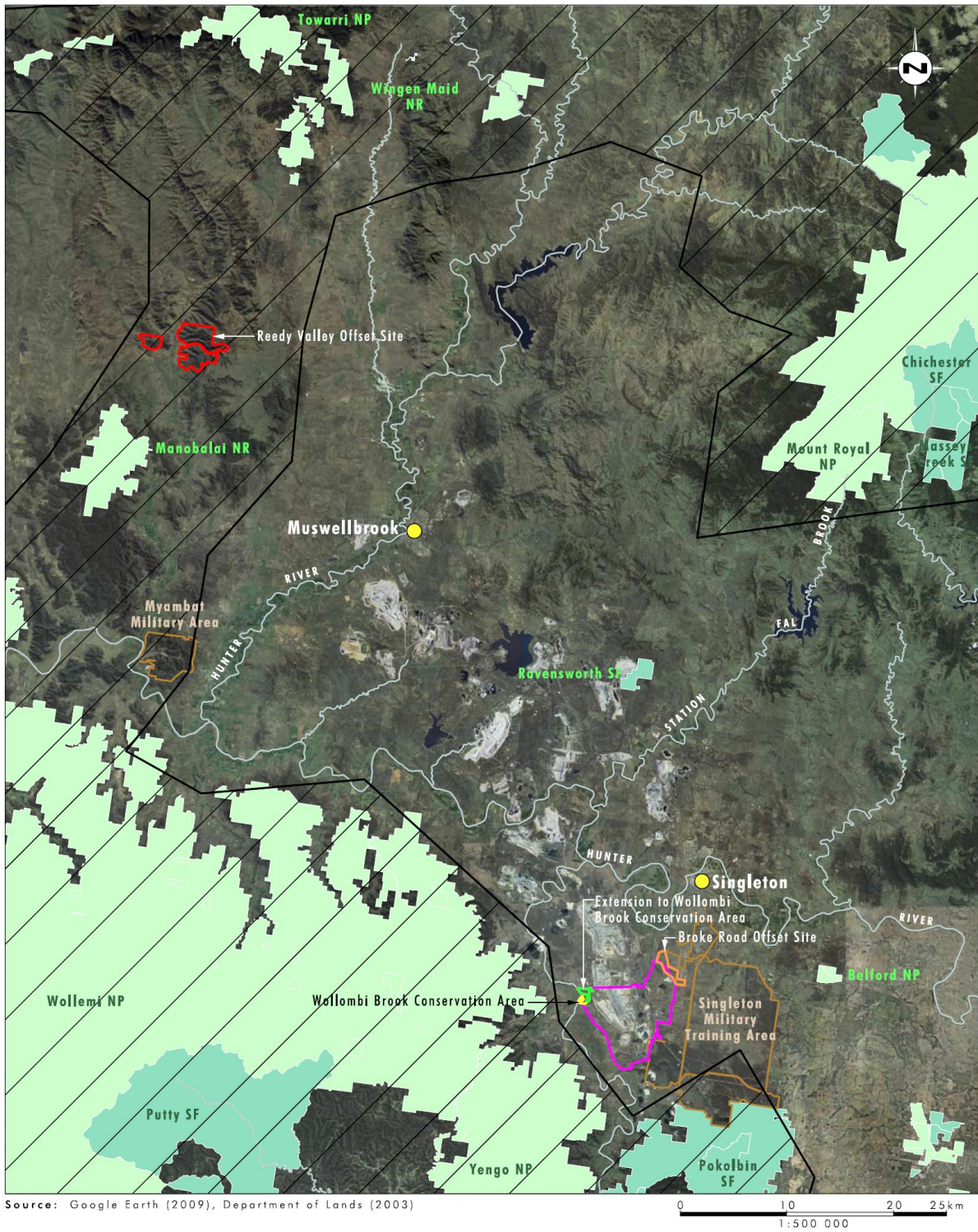
2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions **must** be that recorded by the meteorological station located on the site.

Compliance Monitoring

3. Attended monitoring is to be used to evaluate compliance with the relevant conditions of this consent.
4. This monitoring must be carried out at least once a month (but at least two weeks apart) unless the **Secretary** directs otherwise.
5. Unless otherwise agreed with the Secretary, 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) meteorological conditions during which collection of noise data is not appropriate;
 - (c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and
 - (d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.

APPENDIX 8
TODOROSKI AIR SCIENCES LETTER DATED 21 OCTOBER 2014

**APPENDIX 9
BIODIVERSITY OFFSET STRATEGY**



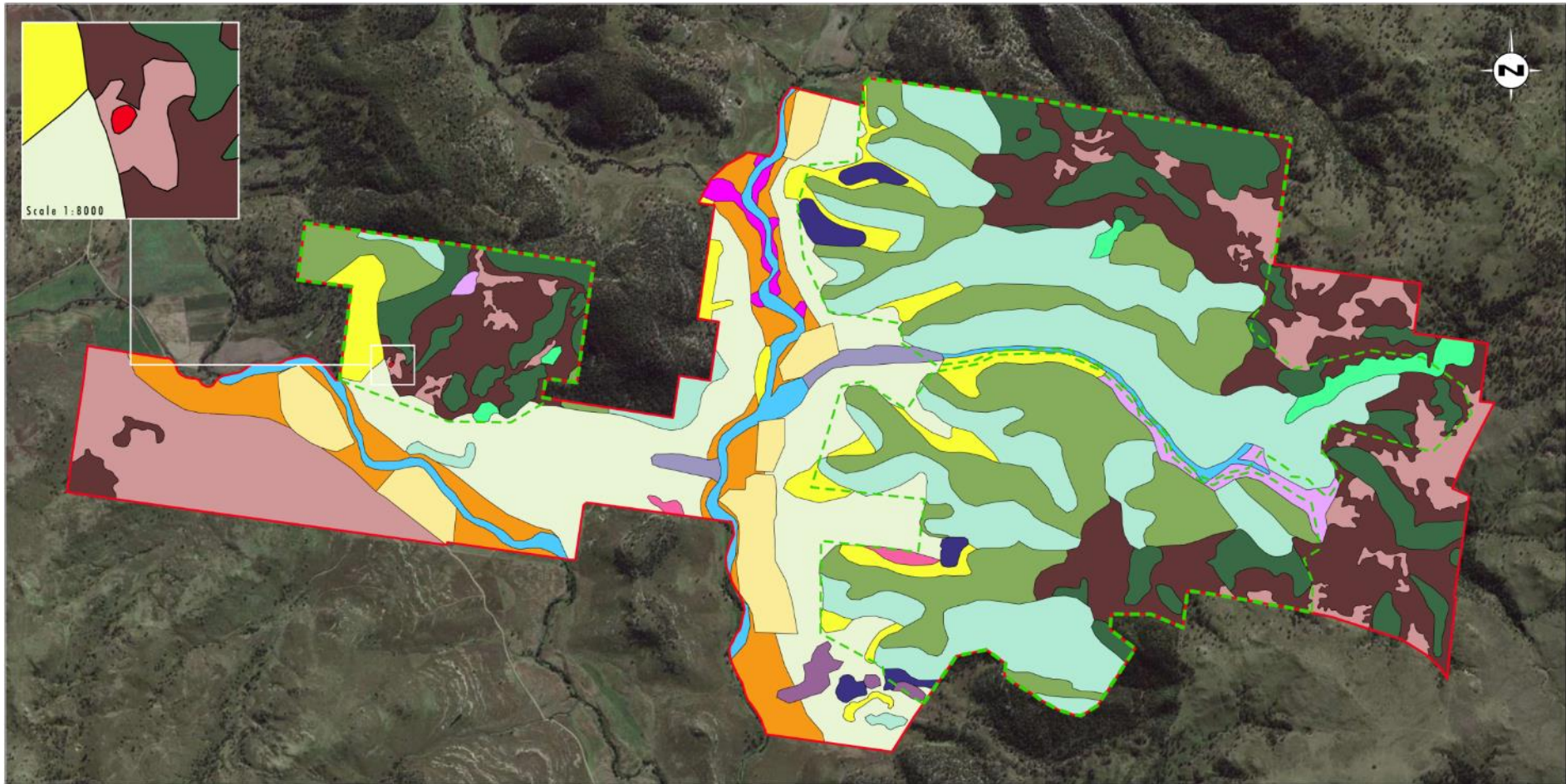
Legend

- | | |
|---|---|
| Revised Project Area | State Forest (SF) |
| Reedy Valley Offset Site | Military Area |
| Broke Road Offset Site | Great Eastern Ranges Conservation Corridor Initiative |
| Wollombi Brook Conservation Area | |
| Extension to Wollombi Brook Conservation Area | |
| National Park/Nature Reserve (NP/NR) | |

**Location of Ecology
Offset Sites**

File Name (A4): 2869_1040.dgn
20130823 16.03

Figure 1: Biodiversity Offset Areas



Source: Xstrata (2009)-Reedy Valley Property Boundary, Google Earth (2009)-Aerial, Umwelt (2012)-Vegetation Mapping

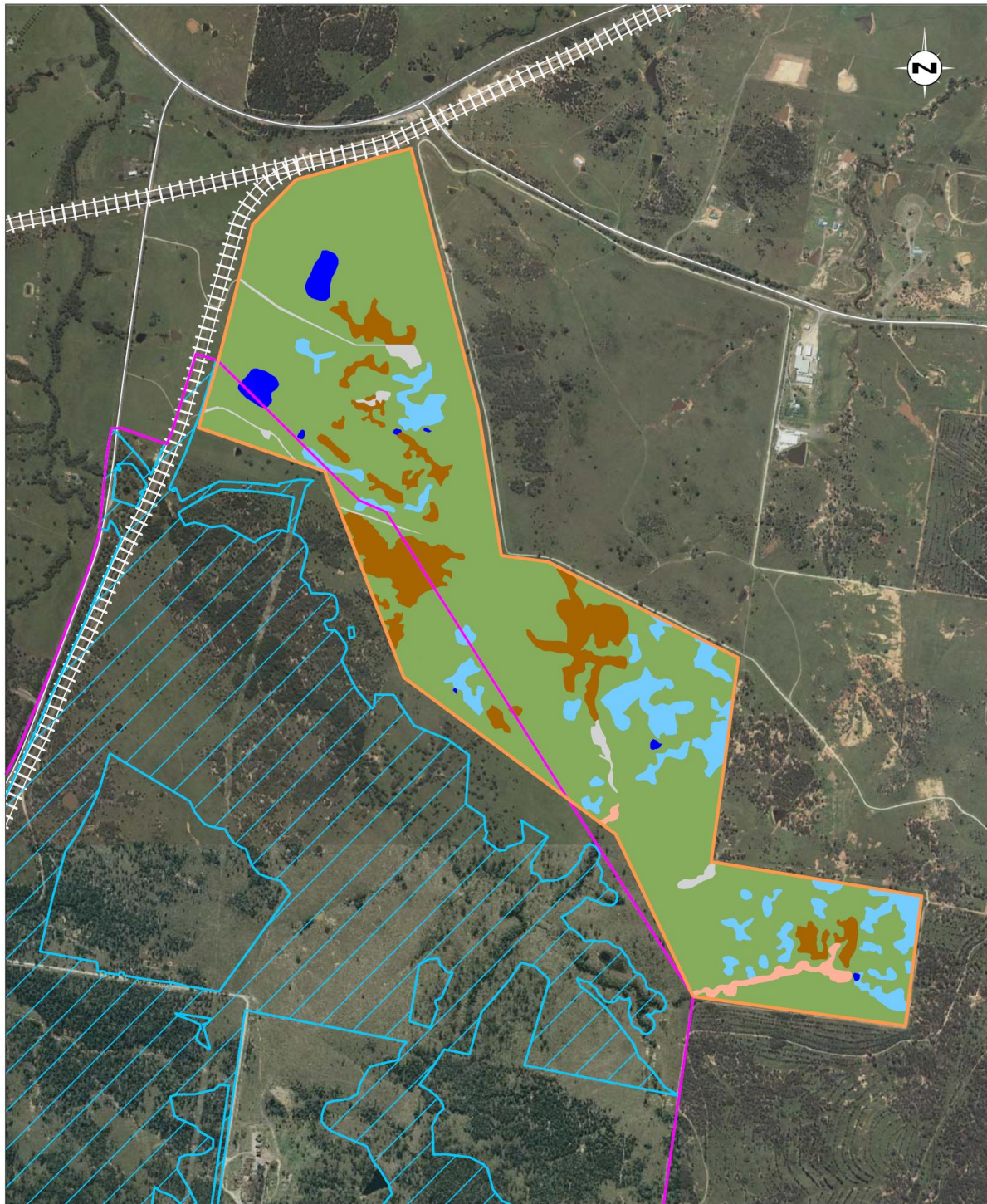
0 0,5 1 2km
1:40 000

Legend

- | | | |
|--|---|---|
| Reedy Valley Property | Ironbark Woodland on Alluvium/Colluvium DNG | Upper Hunter Hills Box - Ironbark - Redgum Woodland |
| Reedy Valley Offset Site | Narrabeen Callitris Forest | Upper Hunter Hills Sheltered Moist Forest |
| Fuzzy Box Woodland | Narrabeen Ironbark Woodland | Upper Hunter White Box - Ironbark Grassy Woodland |
| Hunter Floodplain Red Gum Woodland Complex | Narrabeen Sheltered Dry Forest | Upper Hunter White Box - Ironbark Grassy Woodland DNG |
| Hunter Floodplain Red Gum Woodland Complex DNG | Red Gum Open Forest on Alluvium DNG | Weeping Myall Woodland |
| Hunter Valley River Oak Forest | Red Gum Open Forest on Alluvium/Colluvium | Crop Land |
| Ironbark Woodland on Alluvium/Colluvium | Shrubby White Box Woodland | |

**Reedy Valley Property
Vegetation Communities**

Figure 2: Reedy Valley Biodiversity Offset Area



Source: Aerial - AAM Pty Limited (March 2012), Glencore, Boundaries - Bulga Coal (2013), Vegetation Communities - Umwelt (2013)

0 0.25 0.5 2.0km
1:20 000

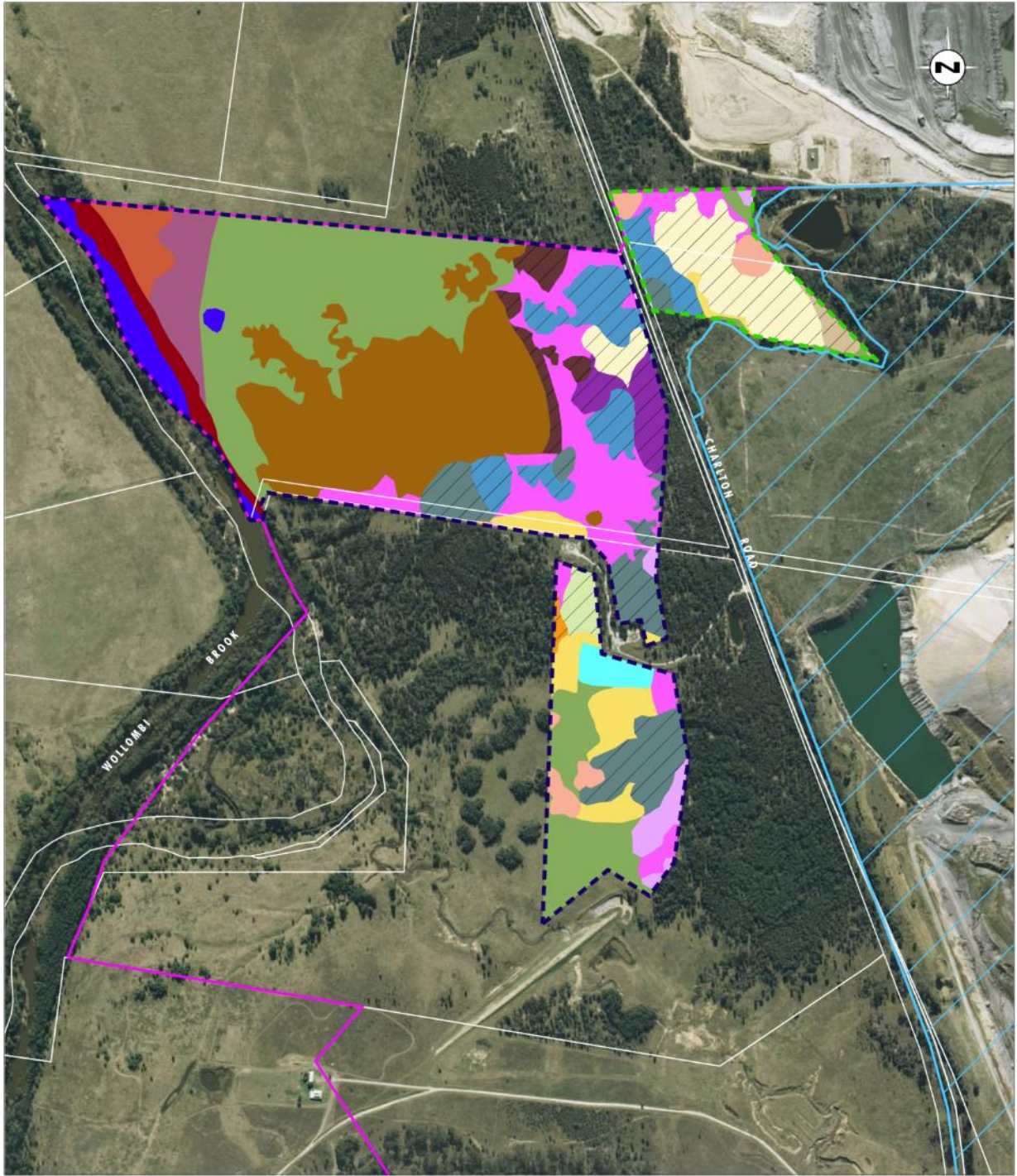
Legend

- ▬ Revised Project Area
- ▬ Revised Project Disturbance Footprint
- Broke Road Offset Site
- Central Hunter Grey Box - Ironbark Derived Native Grassland
- Central Hunter Grey Box - Ironbark Open Woodland
- Central Hunter Grey Box - Ironbark Woodland
- Central Hunter Swamp Oak Forest
- Disturbed
- Water body

Proposed Broke Road Offset Site

File Name (A4): 2869_1039.dgn
20161213 10.44

Figure 3: Broke Road Offset Area



Source: Aerial - AAM Pty Limited (March 2012), BCM (2013), Vegetation Mapping - Umwelt (2013)

0 100 250 500m

Legend

- Project Area
- Proposed Extension to Wollombi Brook Conservation Agreement Area (WSW EEC Management Area)
- Proposed Extension to Wollombi Brook Conservation Agreement Area (Joint Cultural Heritage/WSW EEC management Area)
- Revised Project Disturbance Footprint
- WSW Bullock Forest EEC
- WSW Ironbark Woodland EEC
- WSW Angophora Woodland EEC
- WSW Angophora and Bullock Woodland EEC
- WSW Angophora and Bullock Woodland (regenerating) EEC
- WSW Red Gum - Melaleuca Woodland EEC
- WSW Red Gum Woodland EEC
- WSW Regenerating EEC
- Warkworth Sands Disturbed Grassland
- Warkworth Sands Derived Native Grassland
- Central Hunter Bullock Forest Regeneration
- Central Hunter Grey Box-Ironbark Woodland EEC
- Central Hunter Grey Box-Ironbark Derived Native Grassland
- Central Hunter Swamp Oak Forest
- Shrubland on Alluvial Sand
- Grassland on Alluvial Sand
- Hunter Valley River Oak Forest EEC
- Exotic Grassland
- Water Body

Proposed Wollombi Brook Conservation Agreement Area

Figure 4: Wollombi Brook Conservation Area

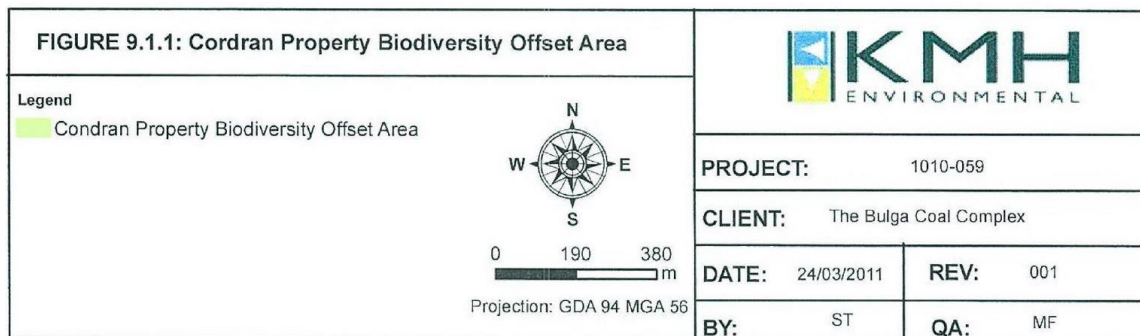
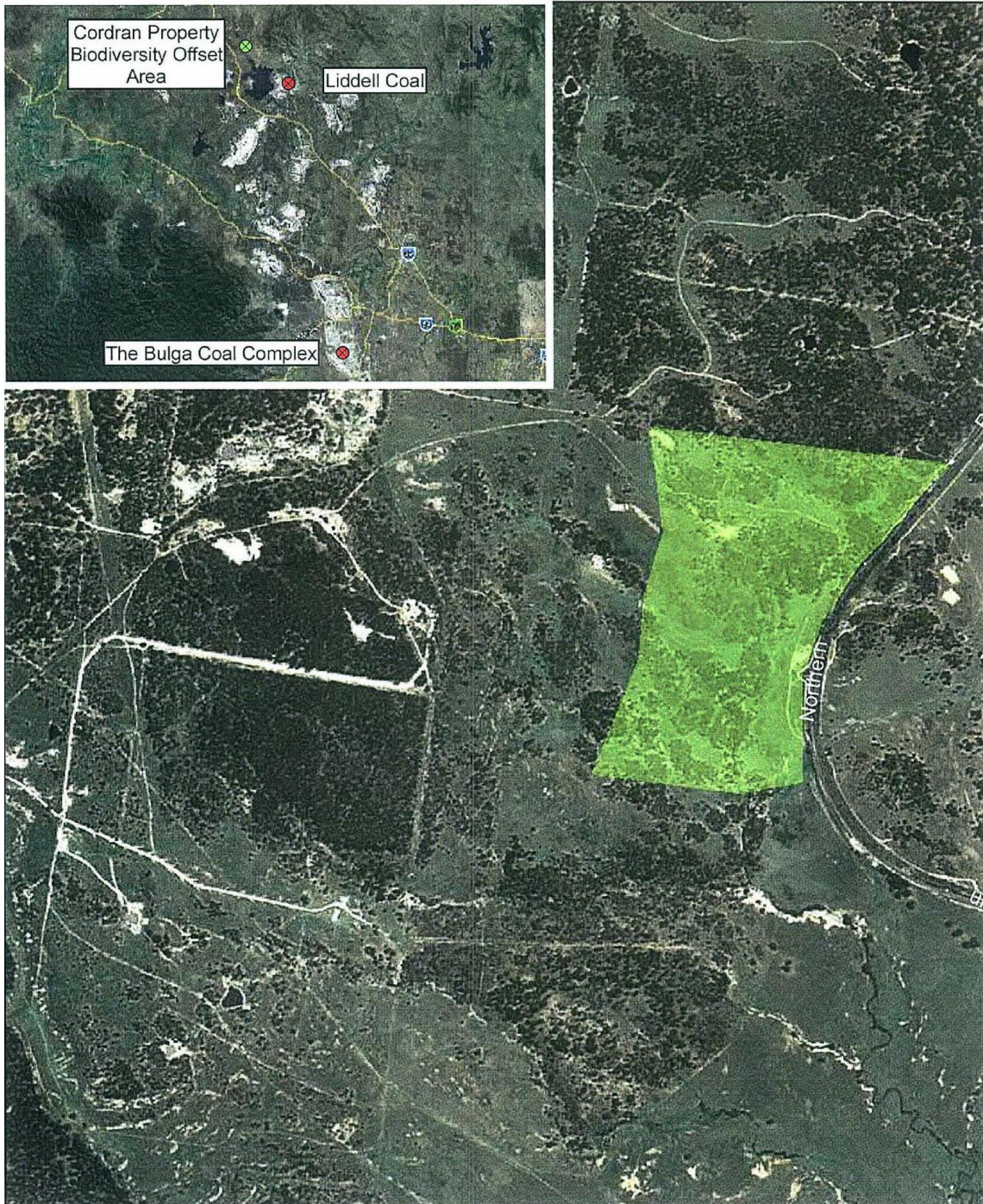


Figure 5: Location of the Condran Property Biodiversity Offset Area

APPENDIX 10
HERITAGE

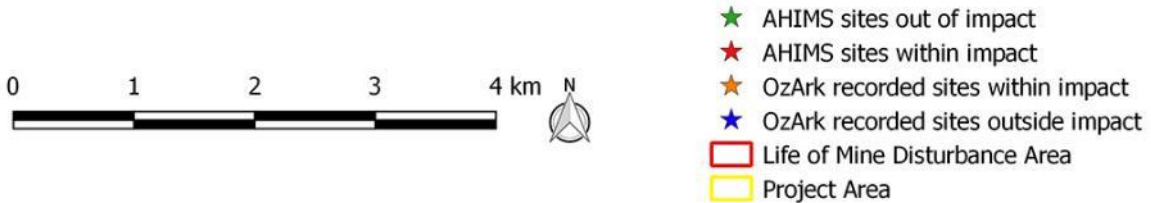
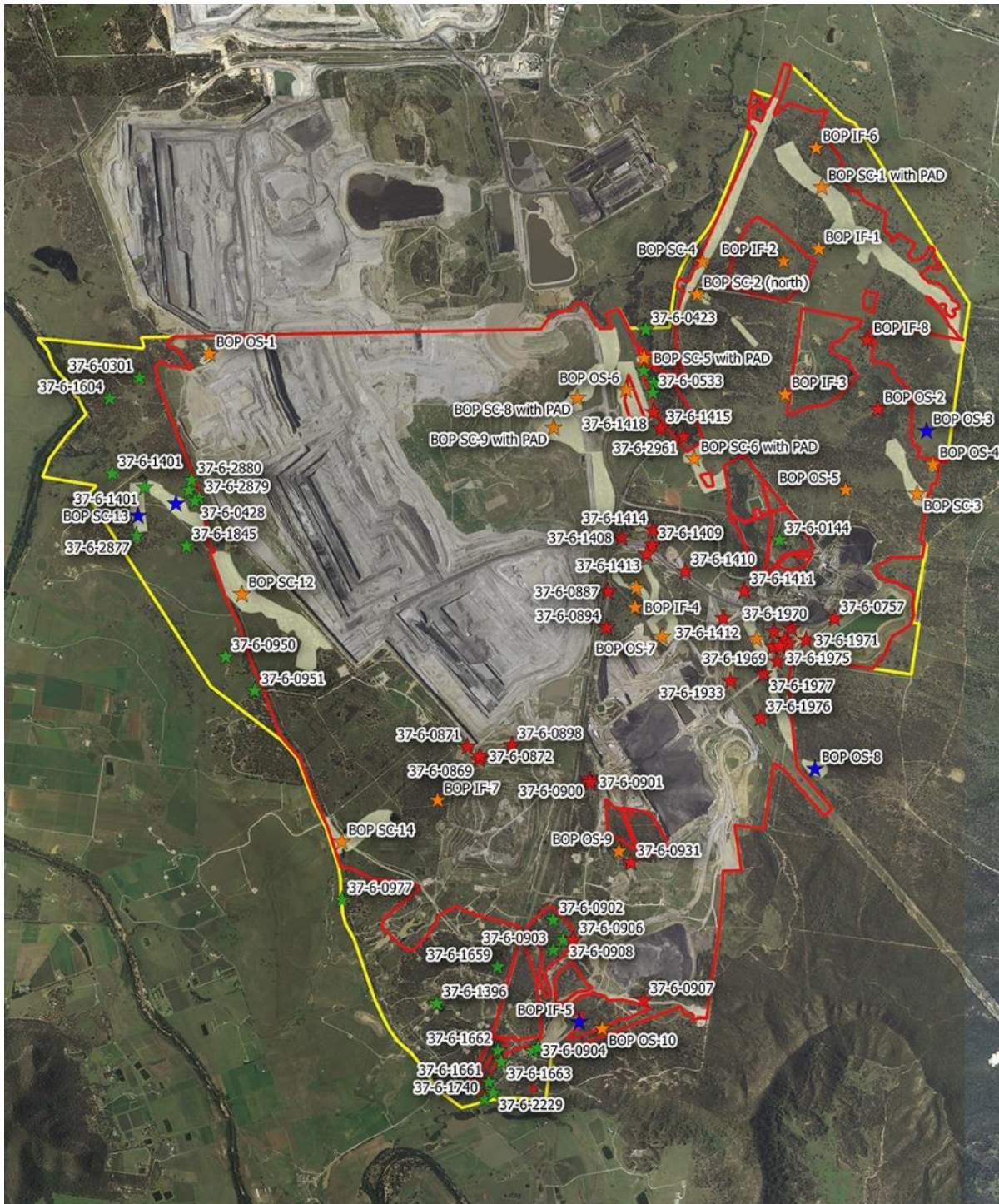


Figure 1: Aboriginal Cultural Heritage Areas of Significance

Table 1: Aboriginal sites not impacted by the Development

AHIMS Number	Site Name	Site Type
37-6-0301	MT15	Open site
37-6-0423	B1	Open site
37-6-0424	B2	Open site
37-6-0425	B3	Open site
37-6-0428	B6	Modified Tree - Scarred Tree
37-6-0533	B57	Open site
37-6-0902	SBU3	Open site
37-6-0903	SBU4	Open site
37-6-0904	SBU5	Open site
37-6-0908	SBU9	Open site
37-6-0950	BMU18	Open site
37-6-0951	BMU17	Isolated find
37-6-0977	BP2	Open site
37-6-1396	BCO4	Isolated find
37-6-1397	BCO5	Artefact - Isolated Find
37-6-1401	BCO10	Open site
37-6-1402	BCO6	Isolated find
37-6-1604	Bulga Conservation Area 1	Open site
37-6-1659	BP L5	Open site
37-6-1660	BP- L6	Artefact - Isolated Find
37-6-1661	W5	Open site
37-6-1662	BP L1	Isolated find
37-6-1663/1664	BP L2	Open site
37-6-1740	Broke Pipeline 7	Open site
37-6-1845	G-IF1	Artefact - Isolated Find
37-6-2229	YR3	Open site
37-6-2832	BOP IF-5	Isolated find
37-6-2837	OS-3	Open Site
37-6-2842	BOP OS-8	Open site
37-6-2855	BOP SC-11	Site Complex
37-6-2857	BOP SC-13	Site Complex
37-6-2877	G5	Artefact - Scatter
37-6-2879	G11	Artefact - Scatter
37-6-2880	GIF1-5	Artefact - Isolated Find

Table 2: Aboriginal sites impacted by the Development

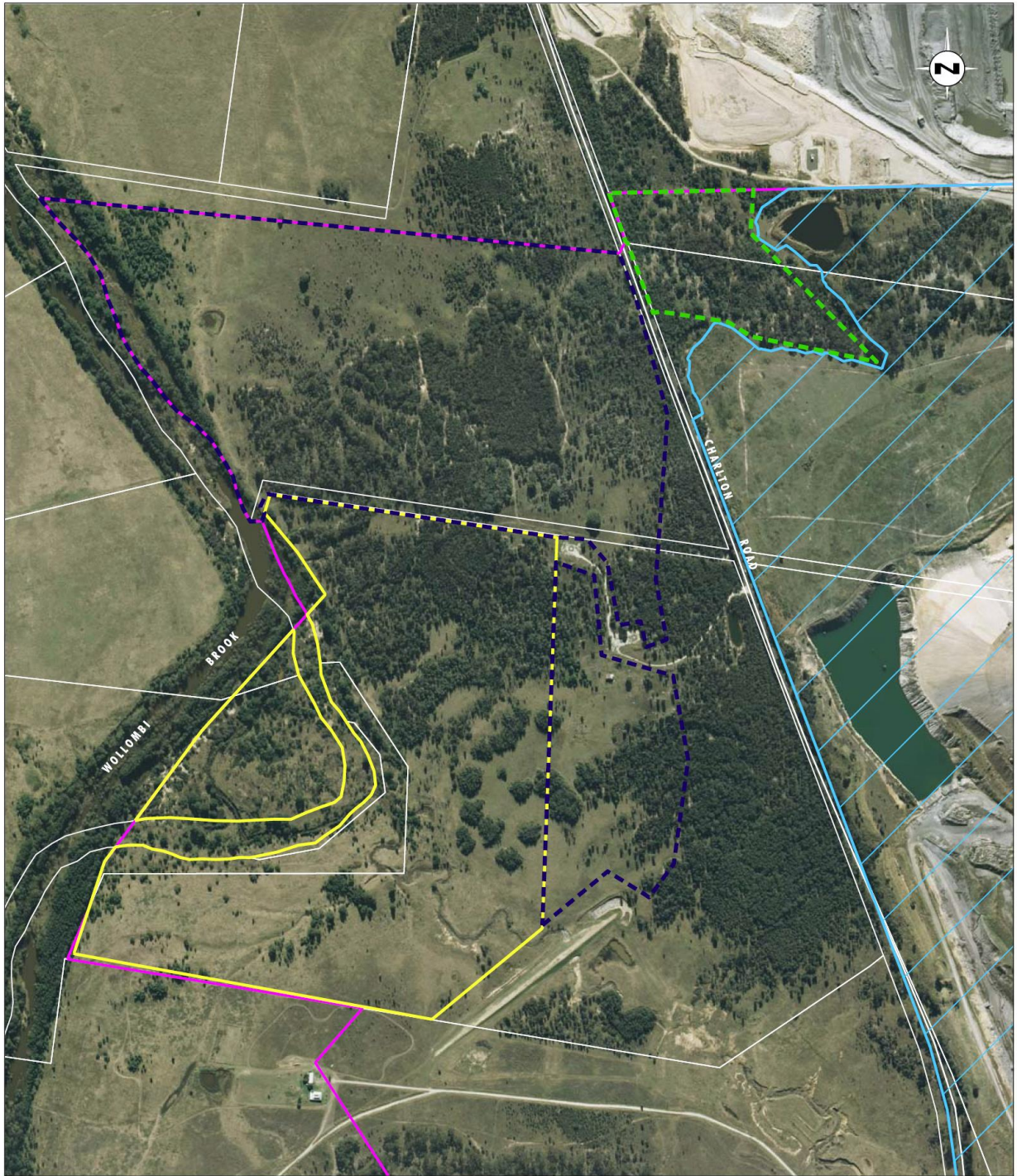
AHIMS Number	Site Name	Site Type	Management Category
37-6-0148	Loders Creek Grinding Groove Site. Within BOP SC-9 with PAD	Grinding grooves	1
37-6-0967	BMU1 Grinding Groove Site. Within BOP SC-12	Grinding grooves	1
37-6-2845	BOP SC-1 with PAD	Site complex	2 (Exposures 19, 32, 33 and 38-40)
37-6-2846	BOP SC-2	Site complex	3
37-6-2846	BOP SC-3	Site complex	3
37-6-2847	BOP SC-4	Site complex	3
37-6-2848	BOP SC-5 with PAD	Site complex	2 (western bank of Nine Mile Creek only)
37-6-2849	BOP SC-6 with PAD	Site complex	2 (eastern bank of Nine Mile Creek only, Exposures 1-4 only)
37-6-2850	BOP SC-7 with PAD	Site complex	3
37-6-2851	BOP SC-8 with PAD	Site complex	1 (Exposures 4, 9 and 10 only) 2 (Exposures 1, 5, 7, 8 and 12 only)

AHIMS Number	Site Name	Site Type	Management Category
37-6-2852	BOP SC-9 with PAD	Site complex	1 (Exposures 2, 4, 8 and 9 only) 2 (Exposures 1, 6, 7 and 10 and the margins around the Loders Creek Grinding Grooves site only)
37-6-2853	BOP SC-10 with PAD	Site complex	2 (Exposures 3-4 only)
37-6-2856	BOP SC-12	Site complex	1 (BMU 1 grinding groove site only) 2 (Exposures 4-7 and 9 only)
37-6-2858	BOP SC-14	Site complex	2
37-6-0146	Saxonvale E	Open site	3
37-6-0757	IF1BULGASOUTH	Isolated find	3
37-6-0869	BOC IF8(A1)	Isolated find	3
37-6-0871	BOC 8(A1)	Open site	3
37-6-0872	BOC 9(A1)	Open site	3
37-6-0887	BOC IF5(A2)	Isolated find	3
37-6-0894	BOC 2(a2)	Isolated find	3
37-6-0898	BOC 6(a1)	Open site	3
37-6-0900	SBU1	Open site	3
37-6-0901	SBU2	Isolated find	3
37-6-0906	SBU8	Isolated find	3
37-6-0907	SBU7	Open site	3
37-6-0931	SBU35	Open site	3
37-6-1408	BCO16	Open site	3
37-6-1409	BCO17	Open site	3
37-6-1410	BCO18	Open site	3
37-6-1411	BCO19	Open site	3
37-6-1412	BCO20	Open site	3
37-6-1413	BCO21	Isolated find	3
37-6-1414	BCO22	Open site	2
37-6-1415	BCO23	Open site	2
37-6-1418	BCO26	Open site	2
37-6-1933	BDS2	Isolated find	3
37-6-1936	BDS5	Isolated find	3
37-6-1969	BDS6	Open site	3
37-6-1970	BDS7	Isolated find	3
37-6-1971	BDS8	Isolated find	3
37-6-1972	BDS9	Isolated find	3
37-6-1973	BDS10	Isolated find	3
37-6-1974	BDS11	Isolated find	3
37-6-1975	BDS12	Open site	3
37-6-1976	BDS13	Isolated find	3
37-6-1977	BDS14	Open site	3
37-6-2828	BOP-IF-1	Isolated find	3
37-6-2829	BOP-IF-2	Isolated find	3
37-6-2830	BOP-IF-3	Isolated find	3
37-6-2831	BOP-IF-4	Isolated find	3
37-6-2833	BOP-IF-6	Isolated find	3
37-6-2834	BOP-IF-7	Isolated find	3
37-6-2835	BOP OS-1	Open site	3
37-6-2838	BOP OS-4	Open site	3
37-6-2839	BOP OS-5	Open site	3
37-6-2840	BOP OS-6	Open site	3
37-6-2841	BOP OS-7	Open site	3
37-6-2843	BOP OS-9	Open site	3
37-6-2844	BOP OS-10	Open site	3
37-6-2961	NMC South site Complex	Site Complex	3 (partial - NM11 only)

AHIMS Number	Site Name	Site Type	Management Category
37-6-2836	OS-2	Open Site	3
37-6-3661	BOP-IF-8	Isolated find	3

Management Categories

Category 1: Archaeological research and salvage
 Category 2: Limited archaeological research and salvage; and
 Category 3: Surface collection and research



Source: Aerial - AAM Pty Limited (March 2012), BCM (2013),
Vegetation Mapping - Umwelt (2013)

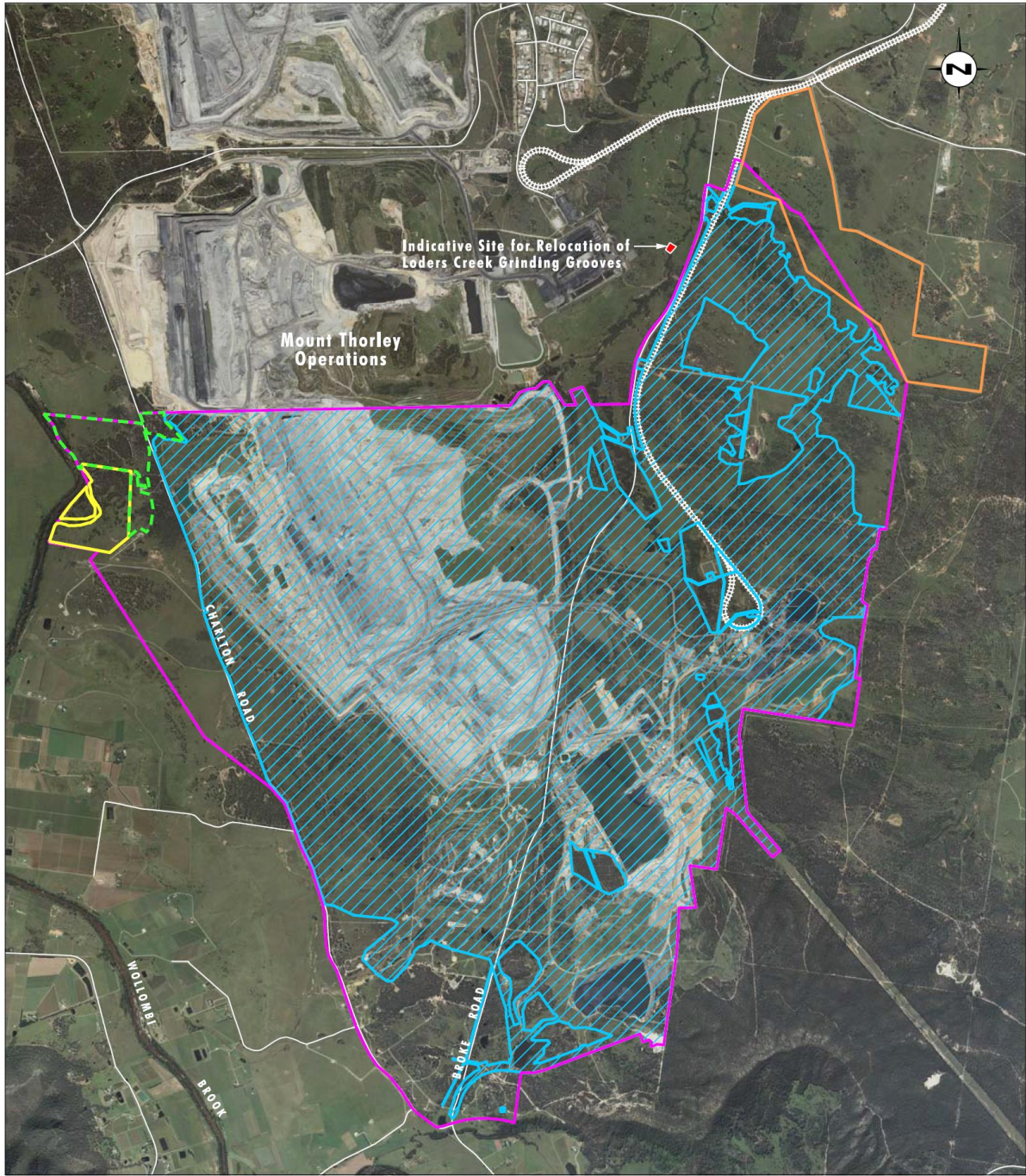
0 100 250 500m

Legend

- Project Area
- Proposed Wollombi Brook Conservation Agreement Area
- - - Proposed Extension to Wollombi Brook Conservation Agreement Area (WSW EEC Management Area)
- - - Proposed Extension to Wollombi Brook Conservation Agreement Area (Joint Cultural Heritage/WSW EEC management Area)
- ▨ Revised Project Disturbance Footprint

**Proposed Wollombi Brook
Conservation Agreement Area**

Figure 2: Wollombi Brook Conservation Area



Source: Aerial - AAM Pty Limited (March 2012), BCM (2013), Boundaries and Infrastructure - BCM (2011), Vegetation Communities - Umwelt (2012)

0 1 2 3km
1:60 000

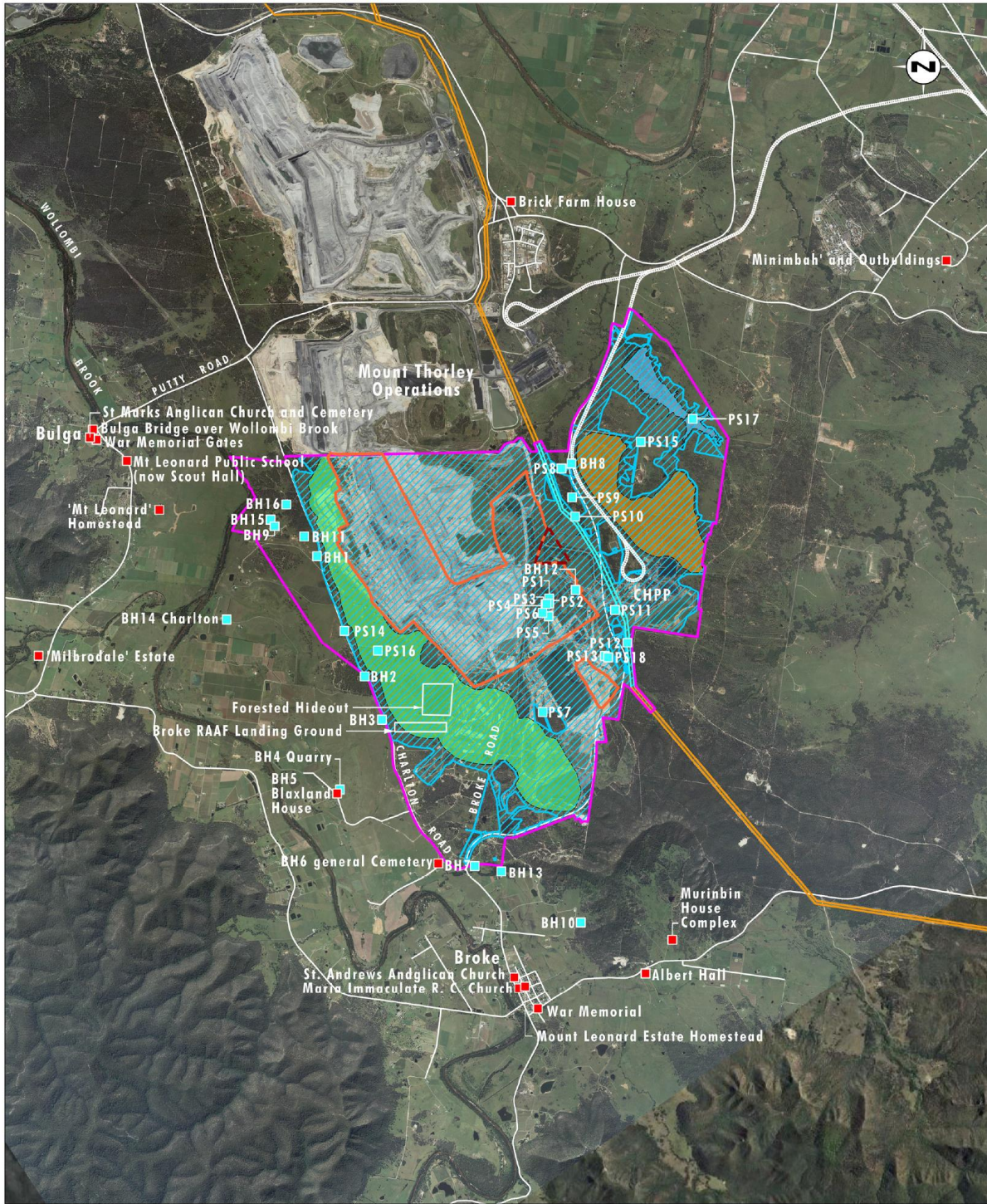
Legend

- Revised Project Area
- Revised Project Disturbance Footprint
- Proposed Brake Road Offset Site
- Existing Wollombi Brook Conservation Area
- Proposed Extension to Wollombi Brook Conservation Area

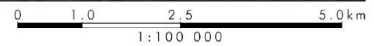
Indicative Site for Relocation of Loders Creek Grinding Grooves

File Name (A4): R13/2869_809.dgn
20161213 11.08

Figure 3: Loders Creek Conservation Area



Source: AAM Pty Limited (March 2012), BCM (2013)



Legend

- | | |
|--|---|
| Revised Project Area | Railway Line |
| Revised Project Disturbance Footprint | Proposed Revised EEA |
| Coal Extraction Area | Approved Noise and Visual Bund |
| Relevant East Pit Area | Approved Northern Dam |
| Existing 330kV Transmission Line | Listed Heritage Item |
| Approved 330kV Transmission Line Realignment | Non-listed Potential and Known Heritage Sites |

Historic Heritage Items

File Name (A4): 2869_940.dgn
20161213 10.37

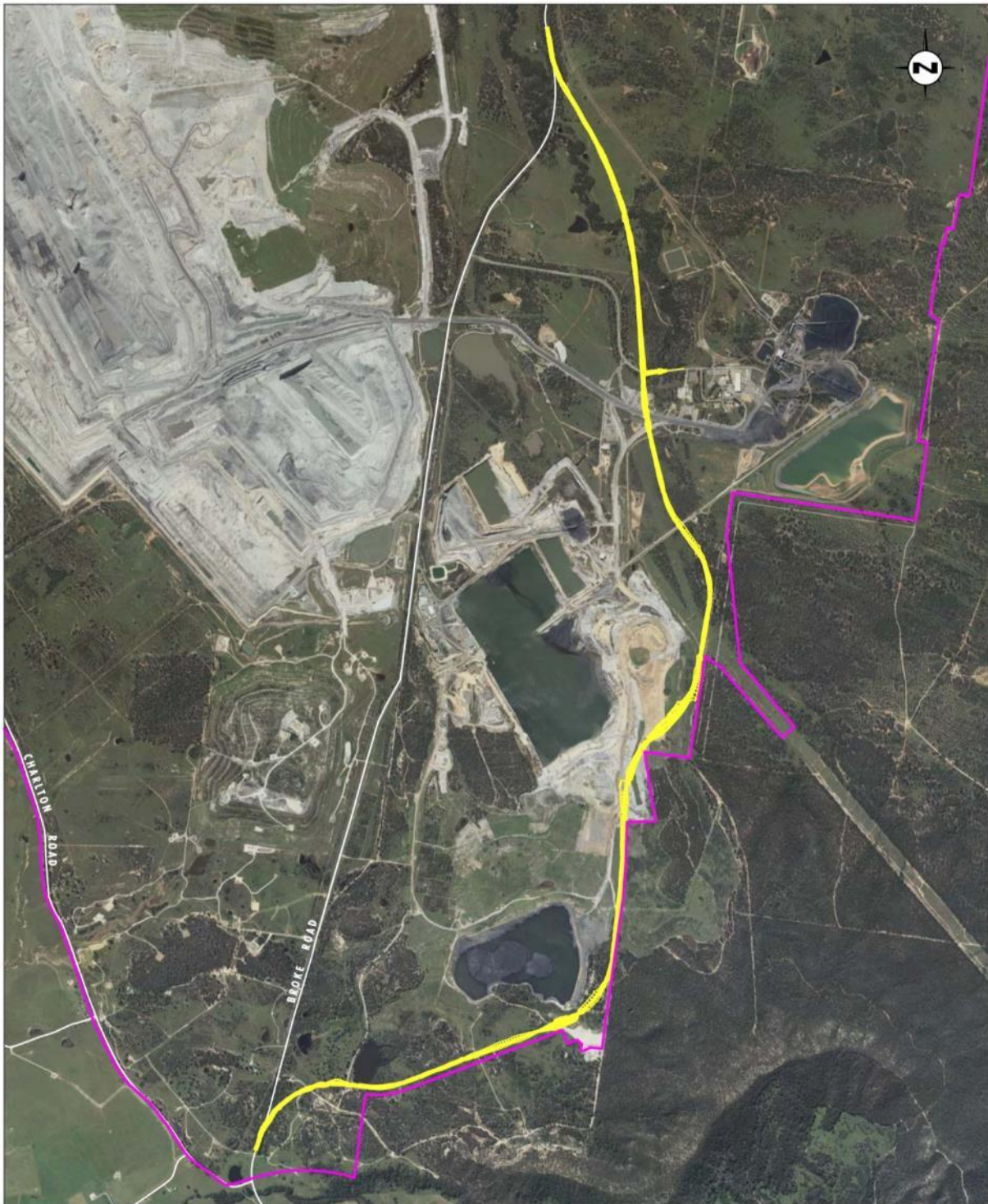
Figure 4: Historic Heritage Items

Table 3: European Heritage sites in the vicinity of the Development

Item ID	Listing/s	Location	Impact	Mitigation Proposed
BH7 – McNamara’s Dairy Cottage	Unlisted	Outside Project Area	Indirect – Potential indirect impact as a result of ground vibration associated with blasting.	A photographic/archival recording in accordance with Heritage Branch, OEH guidelines Photographic Recording of Heritage Items Using Film or Digital Capture (2006) is recommended prior to any blasting impacts as a result of the Project.
BH13 – Stone Wall alongside Monkey Place Creek	Unlisted	Outside Project Area	Indirect – Potential indirect impact as a result of ground vibration associated with blasting.	An individual structural analysis of Site BH13 should be undertaken by a suitably qualified structural engineer in order to identify if the recommended and predicted maximum vibration of up to 3 mm/s is appropriate for the site and any potential mitigation measures that may be required (in terms of its structural stability) based on the findings of the analysis.
General Cemetery (Site BH6)	Singleton LEP	Outside Project Area	Indirect – Potential indirect impact as a result of ground vibration associated with blasting.	A maximum vibration of 3mm/s should be adopted for this site. BCC currently contributes to the maintenance of Broke Cemetery and intends to continue this maintenance.
‘Charlton’ (Site BH14)	Singleton LEP	Outside Project Area	Indirect – Potential indirect impact as a result of ground vibration associated with blasting.	Blast sizes will be managed to 3 mm/s for this heritage item, unless a structural assessment is conducted which confirms tolerance for higher vibration levels.
Murinbin House Group (RNE Place ED 103881)	Register of the National Estate Commonwealth Heritage List Australian Heritage Places Inventory	Outside Project Area	Indirect – Potential indirect impact as a result of ground vibration associated with blasting	Blast sizes will be managed to 3 mm/s for this heritage item, unless a structural assessment is conducted which confirms tolerance for higher vibration levels. Blasting should be undertaken in accordance with any relevant recommendations of the Conservation Management Plan (CMP) for the Murinbin House Group.
St Andrews Anglican Church (RNE Place ID 1398)	Singleton LEP Register of the National Estate	Outside Project Area	Indirect – Potential indirect impact as a result of ground vibration associated with blasting	Blast sizes will be managed to 3 mm/s for this heritage item, unless a structural assessment is conducted which confirms tolerance for higher vibration levels.

Item ID	Listing/s	Location	Impact	Mitigation Proposed
'Mt Leonard' Homestead	Singleton LEP	Outside Project Area	Indirect – Potential indirect impact as a result of ground vibration associated with blasting	Blast sizes will be managed to 3 mm/s for this heritage item, unless a structural assessment is conducted which confirms tolerance for higher vibration levels.
PS17 – Former hut site	Unlisted	Within Project Area	Direct – Likely to be impacted as a result of the construction and use of a new water storage dam in the northeast portion of the Project Area.	<p>This site has been recorded as part of the preparation of this report. This site has been assessed as having local significance and low research potential.</p> <p>It is recommended that this site be retained in the landscape for as long as possible prior to impact. However, it can be removed as part of the Project.</p> <p>The Historic Heritage Assessment for the Project is considered to be a sufficient record of the site.</p> <p>Any potential additional associated features that are identified during any works in the area should be managed in accordance with Section 146 of the <i>Heritage Act 1977</i> (NSW).</p>

APPENDIX 11
REALIGNMENT OF BROKE ROAD



Source: AAM Pty Limited (March 2012), Xstrata Coal (NSW) Pty Ltd

0 0.5 1 1.5km
1:35 000

Legend

- Project Area
- Proposed Broke Road Realignment

Proposed Broke Road Realignment

APPENDIX 12
CONCEPTUAL PROFILE OF THE NOISE AND VISUAL BUND

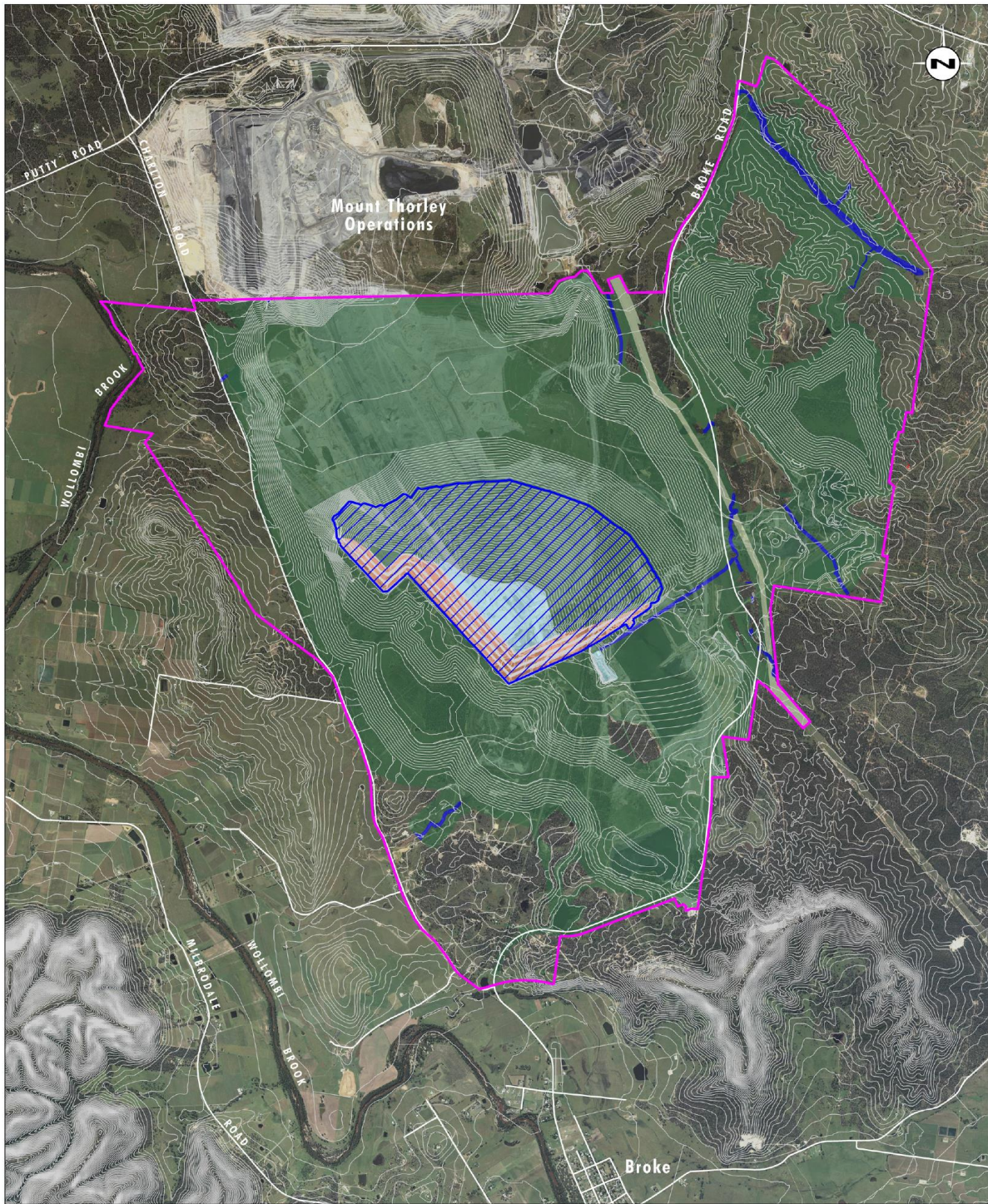


Figure 3.13 | *Example of a typical bund with suggested modifications to profile, considered in Workshop C*



Figure 3.14 | *Montage illustrating suggested modifications to the typical bund profile*

APPENDIX 13
REHABILITATION



Source: AAM Pty Limited (March 2012), BCM (2013), EMGA

0 1 2 3 km
1:60 000

Legend

- Revised Project Area
- Woodland
- Water
- Grassland
- Riparian Revegetation
- Highwall
- Maximum Void Water Level

FIGURE 3.6

Conceptual Final Landform
and Rehabilitation Areas

File Name (A4): R19/2869_993.dgn
20160708 15.00