

# CONSOLIDATED CONSENT

## ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

### DETERMINATION OF DEVELOPMENT APPLICATION UNDER SECTION 101 OF THE ACT.

I, the Minister for Urban Affairs and Planning, under section 101 of the Environmental Planning and Assessment Act, 1979 ("the Act") determine the development application ("the Application") referred to in Schedule 1 by granting consent to the application subject to the conditions set out in Schedule 2.

The reasons for the imposition of the conditions are:

- (i) to minimise the adverse impact the development may cause through noise, visual disturbance, air and water pollution, traffic and subsidence;
- (ii) to provide for environmental monitoring and reporting;
- (iii) to set requirements for infrastructure provision.

Craig Knowles  
Minister for Urban Affairs and Planning

Sydney, 20 November 1996

File No. N95/00395/001

#### Schedule 1

**Application made by:**

Nardell Coal Corporation Pty Ltd ("the Applicant")

**To:**

Singleton Shire Council (DA104/96) ("the Council")

**In respect of:**

Various parcels of land described in Attachment "A", Parishes of Ravensworth and Vane, being the Ravensworth Coal Terminal and beneath the Ravensworth No.2, Ravensworth South and Narama open cut coal mines.

**For the following:**

Construction and operation of an underground coal mine and associated raw and product coal handling facilities. ("The development")

**Note:**

- 1) To ascertain the date upon which the consent becomes effective, refer to section 101(9) of the Act.
- 2) To ascertain the date upon which the consent is liable to lapse, refer to section 99 of the Act.

All following Black type represents June 2013 modification (Mod 9)

Lavender type represents July 2022 modification (Mod 10)

***The Department has prepared a consolidated version of the consent which is intended to include all modifications to the original determination instrument.***

***The consolidated version of the consent has been prepared by the Department with all due care. This consolidated version is intended to aid the consent holder by combining all consents relating to the original determination instrument but it does not relieve a consent holder of its obligation to be aware of and fully comply with all consent obligations as they are set out in the legal instruments, including the original determination instrument and all subsequent modification instruments.***

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## DEFINITIONS

Adaptive management	Adaptive management includes monitoring subsidence impacts and subsidence effects and, based on the results, modifying the mining plan as mining proceeds to ensure that the effects, impacts and/or associated environmental consequences remain within predicted and designated ranges and in compliance with the conditions of this consent
Annual Review	The review required by condition 2 of schedule 4
Applicant	Resource Pacific Pty Limited, or any person carrying out any development under this consent, with the exception of the area identified on Figure 4 of Appendix 2 as the "Operational Area to be managed by Ashton Coal Operations Ltd (Yancoal)", where the Applicant is Ashton Coal Operations Pty Ltd or any person carrying out any development under this consent
Ashton Mine Complex	The operation of the development under DA 309-11-2001-i, either solely or in combination with part of the Ravensworth Underground Mine, as shown in Appendix 2, Figures 3 and 4
Associated surface infrastructure	Includes ventilation shafts, gas drainage and gas flaring infrastructure, pit top facilities, access road, offices, car park, electrical sub-station, and associated services and easements such as powerlines, water supply, fire control, communications and waste water
BCA	Building Code of Australia
BCD	Biodiversity & Conservation Division within the Department
Built features	Includes any building or work erected or constructed on land, and includes dwellings and infrastructure such as any formed road, street, path, walk, or driveway; any pipeline, water, sewer, telephone, gas or other service main
CCC	Community Consultative Committee
Conditions of this consent	Conditions contained in schedules 2 to 4 inclusive
Construction	The demolition of buildings or works, carrying out of works and erection of buildings covered by this consent
Council	Singleton Council
CPI	Consumer Price Index, as published by the Australian Bureau of Statistics
Day	The period from 7am to 6pm on Monday to Saturday, and 8am to 6pm on Sundays and Public Holidays
Department	Department of Planning and Environment
Development	Development for the Ravensworth Underground Mine and associated surface infrastructure, as described in the EAs and EA (Mod 9) and Modification Report (MOD 10)
Development Layout Plans	The indicative development layouts depicted in the figures in Appendix 2
DPE Water	Water Group within the Department
EAs	Environmental Impact Statements, Statement of Environmental Effects and Environmental Assessments previously prepared for the development, as listed in Appendix 4
EA (Mod 9)	Environmental Assessment titled <i>Ravensworth Underground Mine – Liddell Seam Project</i> , prepared by GSS Environmental, dated April 2012, including the response to submissions dated August 2012 and the addendum letter dated 13 December 2012
Environmental consequences	The environmental consequences of subsidence impacts, including: damage to built features; loss of surface water flows to the subsurface; loss of standing pools; adverse water quality impacts; development of iron bacterial mats; cliff falls; rock falls; damage to Aboriginal heritage sites; impacts on aquatic ecology; and ponding
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
EPA	Environment Protection Authority
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
First workings	Development of main headings, longwall gate roads, related cut throughs and the like
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>
Heritage NSW	Heritage group within the Department
Incident	A set of circumstances that: <ul style="list-style-type: none"> <li>causes or threatens to cause material harm to the environment; and/or</li> <li>breaches or exceeds the limits or performance measures/criteria in this consent</li> </ul>

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Land	As defined in the EP&A Act, except for where the term is used in noise and air quality-related conditions 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
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Mining operations	Includes all extraction, processing, handling, storage and transportation of coal carried out on the site
Minister	NSW Minister for Planning, or delegate
Minor	Not very large, important or serious
Mitigation	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
Modification Report (MOD 10)	The modification application entitled <i>Ashton-Ravensworth Underground Mine Integration Modification – Ravensworth Underground Mine Modification Report</i> , prepared by Glencore and Yancoal and submitted on 9 November 2021
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
NRAR	Natural Resources Access Regulator
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Planning Secretary	Planning Secretary under the EP&A Act, or nominee and/or delegate
Privately-owned land	Land that is not owned by a public agency, or a mining company (or its subsidiary)
Ravensworth mine complex	The combined operations of the Ravensworth Underground Mine and the Ravensworth Operations Project (which includes the former Ravensworth West mine, Narama mine, Cumnock No.1 mine, Ravensworth Coal Terminal and surface facilities associated with the Ravensworth Underground Mine)
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
Reasonable costs	The costs agreed between the Department and the Applicant for obtaining independent experts to review the adequacy of any aspects of the extraction plan, or where such costs cannot be agreed, the costs determined by a dispute resolution process
Rehabilitation	The treatment or management of land disturbed by the development for the purpose of establishing a safe, stable and non-polluting environment
Remediation	Activities associated with partially or fully repairing or rehabilitating the impacts of the development or controlling the environmental consequences of this impact
Resources Regulator	NSW Resources Regulator within Regional NSW
ROM coal	Run-of-mine coal
Safe, serviceable & repairable	Safe means no danger to users who are present, serviceable means available for its intended use, and repairable means damaged components can be repaired economically
SA NSW	Subsidence Advisory NSW
Second workings	Extraction of coal from longwall panels, mini-wall panels or pillar extraction
Site	The land listed in Appendix 1
SMP	Subsidence Management Plan
Statement of commitments	The Applicant's commitments set out in the EA (Mod 9)
Subsidence	The totality of subsidence effects, subsidence impacts and environmental consequences of subsidence impacts
Subsidence effects	Deformation of the ground mass due to mining, including all mining-induced ground movements, such as vertical and horizontal displacement, tilt, strain and curvature
Subsidence impacts	Physical changes to the ground and its surface caused by subsidence effects, including tensile and shear cracking of the rock mass, localised buckling of strata caused by valley closure and upsidence and surface depressions or troughs
TfNSW	Transport for New South Wales

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## SCHEDULE 2 ADMINISTRATIVE CONDITIONS

### OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT

1. 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 APPROVAL

2. The Applicant **must** carry out the development generally in accordance with the:
  - (a) EAs;
  - (b) EA (Mod 9), **Modification Report (MOD 10) and the Development Layout Plans in Appendix 2**;
  - (c) statement of commitments; and
  - (d) conditions of this consent.

#### Notes:

- The general layout of the development is shown in Appendix 2.
- The statement of commitments is reproduced in Appendix 3.
- The EAs are listed in Appendix 4.

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

### LIMITS ON APPROVAL

5. Mining operations under this approval may take place on the site until 31 July 2024 **except for mining operations undertaken generally in accordance with Modification Report (MOD 10) which may take place until 31 December 2032.**

*Note: Under this consent, the Applicant is required to rehabilitate the site and perform additional undertakings to the satisfaction of either the Planning Secretary. 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.*

6. The Applicant **must** not extract more than 7 million tonnes of ROM coal from the Ravensworth Underground Mine in a calendar year.

### STRUCTURAL ADEQUACY

7. The Applicant **must** ensure that all new buildings and structures, and any alterations or additions to existing buildings and structure, that are part of the development are constructed in accordance with:
  - (a) the relevant requirements of the BCA; and
  - (b) any additional requirements of **SA NSW** where the building or structure is located on land within a declared Mine Subsidence District.

#### 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.

### DEMOLITION

8. 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.

### OPERATION OF PLANT AND EQUIPMENT

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

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## MANAGEMENT STRATEGIES, PLANS, PROGRAMS, ETC

10. With the approval of the **Planning Secretary**, the Applicant may integrate any strategy, plan, program, report, review or audit required by this consent with any similar strategy, plan, program, report, review or audit for other components of the Ravensworth mine complex and the Ashton Mine Complex as approved under DA 309-11-2001-i and its subsequent modifications.
11. With the approval of the **Planning Secretary**, the Applicant may submit any strategy, plan or program required by this consent on a progressive basis.

*Notes:*

- While any strategy, plan or program may be submitted on a progressive basis, the Applicant will need to 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 ENHANCEMENT

12. By the end of December 2013, the Applicant **must** pay Council an additional financial contribution toward community enhancement of \$152,299.40.

*Note: The original consent for the development required the Applicant to contribute \$900 for each of the estimated 153 employees (ie a total contribution of \$137,700). The additional contribution reflects the additional employees at the mine over-and-above the original estimate (ie a total of 264 employees, or 111 more than originally estimated), with the contribution amount increased according to CPI (ie \$1,372.07 for each additional employee).*

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## SCHEDULE 3 SPECIFIC ENVIRONMENTAL CONDITIONS

### SUBSIDENCE

#### Performance Measures – Natural and Heritage Features

- The Applicant **must** ensure that the development does not cause any exceedances of the performance measures in Table 1, to the satisfaction of the **Planning Secretary**.

Table 1: Subsidence Impact Performance Measures

<b>Watercourses</b>	
Bowmans Creek and Bayswater Creek	No greater subsidence impact or environmental consequences than predicted in the EAs
Bowmans Creek and Bayswater Creek alluvium	No greater subsidence impact or environmental consequences than predicted in the EAs
Hunter River and its alluvium	Negligible environmental consequences
<b>Biodiversity</b>	
Threatened species, threatened populations, or endangered ecological communities	Negligible environmental consequences
<b>Heritage</b>	
Aboriginal heritage sites	No greater subsidence impact or environmental consequences than approved under a permit issued under section 90 of the <i>National Parks and Wildlife Act 1974</i>

Notes:

- The Applicant will be required to define more detailed performance indicators for each of these performance measures in the various management plans that are required under this consent (see condition 6 below).
- The requirements of this condition only apply to the impacts and consequences of mining operations undertaken following the date of approval of modification 9.
- Any breach of this condition is taken to be breach of this consent, and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation, notwithstanding that offsets may be agreed or implemented under condition 2 below.

- If the Applicant exceeds the performance measures in Table 1 and the **Planning Secretary** determines that:
  - it is not reasonable or feasible to remediate the impact or environmental consequence; or
  - remediation measures implemented by the Applicant have failed to satisfactorily remediate the impact or environmental consequence;
 then the Applicant **must** provide a suitable offset to compensate for the impact or environmental consequence, to the satisfaction of the **Planning Secretary**.

Note: Any offset required under this condition must be proportionate with the significance of the impact or environmental consequence.

#### Performance Measures – Built Features

- The Applicant **must** ensure that the development does not cause any exceedances of the performance measures in Table 2, to the satisfaction of the **Planning Secretary**.

Table 2: Subsidence Impact Performance Measures

<b>Built features</b>	
Key public infrastructure: <ul style="list-style-type: none"> <li>New England Highway;</li> <li>Main Northern Railway</li> </ul>	Always safe and serviceable.  Any damage that does not affect safety or serviceability must be fully repairable, and must be fully repaired.
Lemington Road/ Brunkers Lane	Always safe.  Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated.  Damage must be fully repaired or replaced, or else fully compensated.
Other public infrastructure (including dams and voids; roads and tracks; active mining areas and infrastructure; electricity transmission lines; gas pipelines; telecommunications)	Always safe.  Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated.



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Built features	
networks and fibre optic cables; water supply pipelines, etc.)	Damage must be fully repaired or replaced, or else fully compensated.
Houses, industrial premises, swimming pools, farm dams and other built features or improvements	
Public safety	
Public safety	Negligible additional risk

**Notes:**

- The Applicant will be required to define more detailed performance indicators for each of these performance measures in the Built Features Management Plan (see condition 6 below).
- The requirements of this condition only apply to the impacts and consequences of mining operations undertaken following the date of approval of modification 9.
- Requirements regarding "safe" or "serviceable" do not prevent preventative or mitigatory actions being taken prior to or during mining in order to achieve or maintain these outcomes.
- Any breach of this condition is taken to be breach of this consent, and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.
- Compensation required under this condition includes any compensation payable under the Mine Subsidence Compensation Act 1961 and/or the Mining Act 1992.

- Any dispute between the Applicant and the owner of any built feature over the interpretation, application or implementation of the performance measures in Table 2 is to be settled by the **Planning Secretary**. The **Planning Secretary** may seek the advice of **SA NSW** on the matter. Any decision by the **Planning Secretary** must be final and not subject to further dispute resolution under this consent.

## First Workings

- The Applicant may carry out first workings generally in accordance with the mine layout proposed in the EAs, EA (Mod 9) and the **Modification Report MOD 10**, provided that the **Resources Regulator** is satisfied that the first workings are designed to remain stable and non-subsiding, except insofar as they may be impacted by approved second workings.

*Note: The intent of this condition is not to require an additional approval for first workings, but to ensure that first workings are built to geotechnical and engineering standards sufficient to ensure long term stability, with zero resulting subsidence impacts.*

## Extraction Plan

- The Applicant must prepare and implement an Extraction Plan for any second workings on site, to the satisfaction of the **Planning Secretary**. The plan must:
  - be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the **Planning Secretary**;
  - be approved by the **Planning Secretary** before the Applicant carries out any of the second workings covered by the plan;
  - include detailed plans of existing and proposed first and second workings and any associated surface development;
  - include detailed performance indicators for each of the performance measures in Tables 1 and 2;
  - provide revised predictions of the conventional and non-conventional subsidence effects, subsidence impacts and environmental consequences of the proposed second workings, incorporating any relevant information obtained since the approval of modification 9;
  - describe the measures that would be implemented to:
    - ensure compliance with the performance measures in Tables 1 and 2; and
    - manage or remediate subsidence impacts and/or environmental consequences;
  - include a contingency plan that expressly provides for adaptive management where monitoring indicates that there has been an exceedance of any performance measure in Tables 1 and 2, or where any such exceedance appears likely;
  - include the following in consultation with the **Resources Regulator**:
    - a Subsidence Monitoring Program to:
      - provide data to assist with the management of the risks associated with subsidence;
      - validate the subsidence predictions;
      - analyse the relationship between the predicted and resulting subsidence effects and predicted and resulting impacts under the plan and any ensuing environmental consequences; and
      - inform the contingency plan and adaptive management process;
    - a Coal Resource Recovery Plan that demonstrates effective recovery of the available resource;
    - a Built Features Management Plan, which has been prepared in consultation with **Dams Safety NSW**, **TINSW** and the owners of potentially affected features, which:



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- includes measures to manage the potential impacts and consequences of subsidence on any built features; and
  - includes provisions for reviewing the final terminating position of longwalls close to the New England Highway in response to subsidence monitoring;
  - a Public Safety Management Plan to ensure public safety in the mining area; and
  - appropriate revisions to the Rehabilitation Management Plan required under the project approval for the Ravensworth Operations Project (MP 09\_0176);
- (i) include a:
- Water Management Plan, which has been prepared in consultation with **DPE Water**, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on surface water resources, groundwater resources and flooding, and which includes:
    - surface and groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse impacts on water resources or water quality;
    - a program to monitor and report groundwater inflows to underground workings; and
    - a program to predict, manage and monitor impacts on any groundwater bores on privately-owned land;
  - Biodiversity Management Plan, which has been prepared in consultation with **BCD** and **the Resources Regulator**, which:
    - includes a program of works to ensure that overall terrestrial and aquatic biodiversity values are the same or better than existed in the locality prior to longwall mining;
    - provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna;
  - Land Management Plan, which has been prepared in consultation with any affected public authorities, to manage the potential impacts and/or environmental consequences of the proposed second workings on land in general;
  - Heritage Management Plan, which has been prepared in consultation with **Heritage NSW** and relevant Aboriginal stakeholders, which includes a program/procedures for:
    - minimising disturbance to Aboriginal sites as far as is reasonable and feasible, particularly in relation to the RUM-OS1 site;
    - salvage, excavation and/or management of Aboriginal sites and potential archaeological deposits within the project disturbance area, including the RUM-OS1 site;
    - protection and monitoring of Aboriginal sites outside the project disturbance area, including provisions to protect the undisturbed portion of the RUM-OS1 site from activities associated with the development;
    - managing the discovery of any new Aboriginal objects or skeletal remains during the development; and
    - ongoing consultation and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage on the site; and
- (j) include a program to collect sufficient baseline data for future Extraction Plans.

*Note: An SMP approved by the Resources Regulator prior to 1 January 2014 is taken to satisfy all requirements of this condition, even if it is subsequently modified and approved prior to the carrying out of the approved second workings.*

### Payment of Reasonable Costs

7. The Applicant **must** pay all reasonable costs incurred by the Department to engage suitably qualified, experienced and independent experts to review the adequacy of any aspect of an Extraction Plan submitted for approval.

### SURFACE INFRASTRUCTURE MANAGEMENT

#### Gas Drainage

8. The Applicant **must** ensure that all gas drainage pipelines (other than connection points, monitoring points, dewatering facilities, regulation or isolation points) between gas drainage plants are buried, unless otherwise agreed with the relevant landowner or unless burial is inappropriate for safety or other reasons, to the satisfaction of the **Planning Secretary**.
9. The Applicant **must** prepare and implement a Gas Drainage Management Plan in respect of construction and use of future gas drainage **and ventilation** infrastructure (ie for any gas drainage not subject to approval at the date of approval of modification 9) to the satisfaction of the **Planning Secretary**. This plan must be submitted to the **Planning Secretary** for approval prior to the construction of any future gas drainage **and ventilation** infrastructure and must include details of the Applicant's commitments regarding:
- (a) community consultation;
  - (b) landholder agreements;

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- (c) assessment of noise, air quality, traffic, biodiversity, heritage, public safety and other impacts in accordance with approved methods;
- (d) avoidance of significant impacts and minimisation of impacts generally;
- (e) beneficial re-use or flaring of drained hydrocarbon gases, wherever practicable;
- (f) achievement of applicable standards and goals;
- (g) mitigation and/or compensation for significant noise, air quality and visual impacts (including minimising visibility of infrastructure from the New England Highway); and
- (h) rehabilitation of disturbed sites.

### Service Boreholes

10. The Applicant **must** prepare and implement a Service Boreholes Management Plan in respect of construction and use of future service boreholes (ie any service boreholes not subject to approval at the date of approval of modification 9) to the satisfaction of the **Planning Secretary**. This plan must be submitted to the **Planning Secretary** for approval prior to the construction of any future service borehole and must include details of the Applicant's commitments regarding:
- (a) community consultation;
  - (b) landholder agreements;
  - (c) assessment of noise, air quality, traffic, biodiversity, heritage, public safety and other impacts in accordance with approved methods;
  - (d) avoidance of significant impacts and minimisation of impacts generally;
  - (e) achievement of applicable standards and goals;
  - (f) mitigation and/or compensation for significant noise, air quality and visual impacts (including minimising visibility of infrastructure from the New England Highway); and
  - (g) rehabilitation of disturbed sites.

### Personal Emergency Device (PED) Communications

11. The Applicant **must** prepare and implement a PED Communications Management Plan in respect of construction and use of future PED communications infrastructure (ie for any PED communications infrastructure not subject to approval at the date of approval of modification 9) to the satisfaction of the **Planning Secretary**. This plan must be submitted to the **Planning Secretary** for approval prior to the construction of any future PED communications infrastructure and must include details of the Applicant's commitments regarding:
- (a) community consultation;
  - (b) landholder agreements;
  - (c) assessment of noise, air quality, traffic, biodiversity, heritage, public safety and other impacts in accordance with approved methods;
  - (d) avoidance of significant impacts and minimisation of impacts generally;
  - (e) achievement of applicable standards and goals;
  - (f) mitigation and/or compensation for significant noise, air quality and visual impacts (including minimising visibility of infrastructure from the New England Highway); and
  - (g) rehabilitation of disturbed sites.

## NOISE

### Noise Criteria

12. The Applicant **must** ensure that the noise generated by the development does not exceed the criteria in Table 3 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.

Table 3: Noise Criteria dB(A)

Receiver	Day ( $L_{Aeq}$ (15min))	Evening ( $L_{Aeq}$ (15min))	Night ( $L_{Aeq}$ (15min))	Night ( $L_{A1}$ (1 min))
Any residence on any privately owned land	35	35	35	45

*Note: Noise generated by the development is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.*

However, these noise criteria do not apply if the Applicant has an agreement with the relevant owner/s of these residences/land to generate higher noise levels, and the Applicant has advised the Department in writing of the terms of this agreement.

## Operating Conditions

13. The Applicant **must**:
- (a) implement best practice noise management, including all reasonable and feasible noise mitigation measures to minimise the noise generated by the development;
  - (b) regularly assess the meteorological data and relocate, modify and/or suspend operations to ensure compliance with the relevant conditions of this approval; and
  - (c) co-ordinate the noise management on site with the noise management at nearby mines, including the Ravensworth Operations Project, to minimise the cumulative noise impacts of the mines, to the satisfaction of the **Planning Secretary**.

## Noise Management Plan

14. The Applicant **must** prepare and implement a Noise Management Plan for the development to the satisfaction of the **Planning Secretary**. This plan must:
- (a) be submitted to the **Planning Secretary** for approval by the end of October 2013;
  - (b) describe the noise mitigation measures that would be implemented to ensure compliance with the relevant conditions of this approval; and
  - (c) include a noise monitoring program that includes a protocol for determining exceedances of the relevant conditions of this approval; and
  - (d) include a protocol that has been prepared in consultation with the owners of nearby mines to minimise the cumulative noise impacts of the mines.

## AIR QUALITY AND GREENHOUSE GAS

### Odour

15. The Applicant **must** ensure that no offensive odours are emitted from the site, as defined under the POEO Act, unless otherwise authorised by an EPL.

### Greenhouse Gas Emissions

16. The Applicant **must** implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site to the satisfaction of the **Planning Secretary**.

*Note: This condition does not extend to Scope 3 emissions, as defined in the National Greenhouse Energy Reporting Guidelines.*

## Operating Conditions

17. The Applicant **must**:
- (a) implement best practice air quality management, including all reasonable and feasible measures to minimise off-site odour, fume and dust emissions generated by the development, including those generated by any spontaneous combustion;
  - (b) minimise any visible off-site air pollution generated by the development;
  - (c) regularly assess meteorological forecasting data and relocate, modify and/or suspend operations to ensure compliance with the relevant conditions of this approval; and
  - (d) co-ordinate air quality management on site with the air quality management at nearby mines, including the Ravensworth Operations Project to minimise the cumulative air quality impacts of the mines, to the satisfaction of the **Planning Secretary**.

## Air Quality and Greenhouse Gas Management Plan

18. The Applicant **must** prepare and implement an Air Quality and Greenhouse Gas Management Plan for the development to the satisfaction of the **Planning Secretary**. This plan must:
- (a) be submitted to the **Planning Secretary** for approval by the end of October 2013;
  - (b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval;
  - (c) include an air quality monitoring program that includes a protocol for determining exceedances of the relevant conditions of this approval; and
  - (d) include a protocol that has been prepared in consultation with the owners of nearby mines to minimise the cumulative air quality impacts of the mines.

## METEOROLOGICAL MONITORING

19. During the life of the project, the Applicant **must** ensure that there is a suitable meteorological station in the vicinity of the site that:

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- (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*, or as otherwise approved by EPA.

## SOIL AND WATER

### Water Supply

20. 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, to the satisfaction of the **Planning Secretary**.

*Note: The Applicant is required to obtain all necessary water licences and approvals for the project under the Water Act 1912 and/or Water Management Act 2000.*

### Compensatory Water Supply

21. The Applicant **must** provide compensatory water supply to any landowner of privately-owned land whose basic landholder rights are adversely and directly impacted (other than an impact that is negligible) as a result of the development, in consultation with **DPE Water**, **NRAR** and to the satisfaction of the **Planning Secretary**.

The compensatory water supply measures must provide an alternative long-term supply of water that is equivalent to the loss attributed to the development. Equivalent water supply should be provided (at least on an interim basis) within 24 hours of the loss being identified.

If the Applicant and the landowner 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 **Planning Secretary** for resolution.

If the Applicant is unable to provide an alternative long-term supply of water, then the Applicant **must** provide alternative compensation to the satisfaction of the **Planning Secretary**.

### Surface Water Discharges

22. The Applicant **must** ensure that all surface water discharges from the site comply with the discharge limits (both volume and quality) set for the project in any EPL; or relevant provisions of the POEO Act or *Protection of the Environment Operations (Hunter River Salinity Trading Scheme) Regulation 2002*.

### Water Management Plan

23. The Applicant **must** prepare and implement a Water Management Plan for the development to the satisfaction of the **Planning Secretary**. This plan must be prepared in consultation with **DPE Water**, and be submitted to the **Planning Secretary** for approval by the end of October 2013. The plan must include:

- (a) a Site Water Balance, which must:
  - include details of:
    - sources and security of water supply;
    - water use on site;
    - water management on site;
    - any off-site water transfers; and
  - investigate and implement all reasonable and feasible measures to minimise water use by the development;
- (b) an Erosion and Sediment Control Plan, which must:
  - identify activities that could cause soil erosion, generate sediment or affect flooding;
  - describe measures to minimise soil erosion and the potential for the transport of sediment to downstream waters, and manage flood risk;
  - describe the location, function, and capacity of erosion and sediment control structures and flood management structures; and
  - describe what measures would be implemented to maintain the structures over time;
- (c) a Surface Water Management Plan, which must include:
  - detailed baseline data on surface water flows and quality in creeks and other waterbodies that could potentially be affected by the development;
  - surface water and stream health impact assessment criteria including trigger levels for investigating any potentially adverse surface water impacts;
  - a program to monitor and assess:
    - surface water flows and quality;
    - impacts on water users;

- stream health; and
  - channel stability;
- (d) a Groundwater Management Plan, which must include:
  - detailed baseline data of groundwater levels, yield and quality in the region, and privately owned groundwater bores, that could be affected by the development;
  - groundwater impact assessment criteria including trigger levels for investigating any potentially adverse groundwater impacts;
  - a program to monitor and assess:
    - groundwater inflows to the mining operations;
    - impacts on regional aquifers;
    - impacts on the groundwater supply of potentially affected landowners;
    - impacts on the Hunter River, Bayswater Creek and Bowmans Creek alluvial aquifers; and
    - impacts on any groundwater dependent ecosystems and riparian vegetation;
- (e) a Surface and Ground Water Response Plan, which must include:
  - a response protocol for any exceedances of the surface water and groundwater assessment criteria;
  - measures to prevent, minimise or offset groundwater leakage from alluvial aquifers caused by the development, particularly when mining within 150 metres of any such alluvials;
  - measures to compensate landowners of privately-owned land whose basic landholder rights is adversely affected by the development; and
  - measures to mitigate and/or offset any adverse impacts on groundwater dependent ecosystems or riparian vegetation.

## TRANSPORT

### Road Maintenance

24. The Applicant **must** pay Council an annual road maintenance contribution of \$5,030.91, to be adjusted annually in accordance with movements in the CPI.

*Note: The original consent for the development required the Applicant to make an annual contribution to the Council of \$3300 adjusted for CPI. The figure quoted in this condition is an updated amount incorporating annual CPI adjustments since the original consent.*

### Road Access

25. Access to the development from the New England Highway for employee, service vehicles, and occasional heavy vehicles **must** be via Pikes Gully Road and not via the Old State Highway.

## HERITAGE

### Aboriginal Cultural Heritage Management Plan

26. The Applicant **must** prepare and implement an Aboriginal Cultural Heritage Management Plan for the project to the satisfaction of the **Planning Secretary**. This plan must:
- (a) be prepared in consultation with **Heritage NSW**, the Aboriginal community, and be submitted to the **Planning Secretary** for approval by the end of December 2013;
  - (b) include a program/procedures for:
    - minimising disturbance to Aboriginal sites as far as is reasonable and feasible, particularly in relation to the RUM-OS1 site;
    - salvage, excavation and/or management of Aboriginal sites and potential archaeological deposits within the project disturbance area, including the RUM-OS1 site;
    - protection and monitoring of Aboriginal sites outside the project disturbance area, including provisions to protect the undisturbed portion of the RUM-OS1 site from activities associated with the development;
    - managing the discovery of any new Aboriginal objects or skeletal remains during the development; and
    - ongoing consultation and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage on the site.

## REHABILITATION

### Rehabilitation Objectives

27. The Applicant **must** rehabilitate the site **in accordance with the provisions under the Mining Act 1992 and must be generally consistent with the proposed rehabilitation activities described in the documents listed in condition 2 of Schedule 2**. This rehabilitation must comply with the objectives in Table 3.

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Table 3: Rehabilitation Objectives

Feature	Objective
Mine site (as a whole)	Safe, stable & non-polluting
Surface infrastructure	To be decommissioned and removed, unless the Resources Regulator agrees otherwise
Portals and vent shafts	To be decommissioned and made safe and stable.
	Retain habitat for threatened species (eg bats), where practicable
Watercourses subject to subsidence impacts	Hydraulically and geomorphologically stable, with riparian vegetation that is the same or better than prior to mining
Land to be restored or maintained for agricultural purposes	Restored and maintained to: <ul style="list-style-type: none"> <li>the same or higher land capability and agricultural suitability than prior to mining; and</li> <li>a landform consistent with the surrounding environment, including no greater than minor changes to flooding characteristics or ponding.</li> </ul>
Other land	Restore ecosystem function, including maintaining or establishing self-sustaining eco-systems comprised of: <ul style="list-style-type: none"> <li>local native plant species (unless the Resources Regulator agrees otherwise); and</li> <li>a landform consistent with the surrounding environment, including no greater than minor changes to flooding characteristics or ponding.</li> </ul>
Built features damaged by mining operations	Repair to pre-mining condition or equivalent unless: <ul style="list-style-type: none"> <li>the owner agrees otherwise; or</li> <li>the damage is fully restored, repaired or compensated for under the <i>Mine Subsidence Compensation Act 1961</i>.</li> </ul>
Community	Ensure public safety
	Minimise the adverse socio-economic effects associated with mine closure

Notes:

- These rehabilitation objectives apply to all subsidence impacts and environmental consequences caused by mining taking place after the date of approval of modification 9; and to all surface infrastructure part of the development, whether constructed prior to or following the date of this approval.
- Rehabilitation of subsidence impacts and environmental consequences caused by mining which took place prior to the date of approval of modification 9 may be subject to the requirements of other approvals (eg under a mining lease or an Subsidence Management Plan approval) or the Applicant's commitments.
- The Rehabilitation Management Plan, required under the approval for the Ravensworth Operations Project, must be prepared in a manner that is consistent with the rehabilitation objectives in Table 3.
- Some aspects of the surface infrastructure associated with the development are used as shared infrastructure across the Ravensworth mine complex. As such, those items of surface infrastructure may be rehabilitated at closure of the Ravensworth Operations Project. This will be reflected in the relevant Rehabilitation Management Plans.

## Progressive Rehabilitation

28. The Applicant **must** rehabilitate the site progressively, that is, as soon as reasonably practicable following disturbance.



## SCHEDULE 4 ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

### ENVIRONMENTAL MANAGEMENT

#### Adaptive Management

1. The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the performance measures or associated performance indicators and impact assessment criteria in schedule 3. Any exceedance of these 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 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 **Planning Secretary**, to the satisfaction of the **Planning Secretary**.

#### Annual Review

2. By the end of March each year, the Applicant **must** review the environmental performance of the development to the satisfaction of the **Planning Secretary**. This review must:
  - (a) describe the works (including any rehabilitation) that were carried out in the previous calendar year, and the works that are proposed to be carried out over the current calendar year;
  - (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against the:
    - relevant statutory requirements, limits or performance measures/criteria;
    - monitoring results of previous years; and
    - relevant predictions in the EAs;
  - (c) identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance;
  - (d) identify any trends in the monitoring data over the life of the development;
  - (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
  - (f) describe what measures will be implemented over the next year to improve the environmental performance of the development.

#### Revision of Strategies, Plans and Programs

3. Within 3 months of:
  - (a) the submission of an annual review under condition 2 above;
  - (b) the submission of an incident report under condition 5 below;
  - (c) the submission of an audit under condition 7 below; and
  - (d) any modification to the conditions of this consent,the Applicant **must** review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the **Planning Secretary**.

*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.*

#### Community Consultative Committee

4. The Applicant **must operate** a Community Consultative Committee (CCC) for the development to the satisfaction of the **Planning Secretary**. This CCC must be operated in accordance with the **Department's Community Consultative Committee Guidelines: State Significant Development (2019)**, or its latest version. With the agreement of the CCC Chairs and the approval of the **Planning Secretary**, matters associated with the relevant parts of the Ashton Coal Project, as shown in Figures 4 and 5 of Appendix 2, may be dealt with by the Ravensworth Underground Mine CCC.

#### 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 **must include** an independent chair and appropriate representation from the Applicant, Council, recognised environmental groups and the local community.
- The CCC may be combined with any similar CCC for the Ravensworth Operations Project.



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## REPORTING

### Incident Reporting

5. The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing via the Department's Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident.

### Non-Compliance Notification

- 5A. Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing via the Department's Major Projects Website and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

**Note:** A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

### Regular Reporting

6. 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.

*Note: This website may be integrated with any similar website established for the Ravensworth mine complex.*

## INDEPENDENT ENVIRONMENTAL AUDIT

7. By the end of June 2015, and every 3 years thereafter, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. This audit must:
  - (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Planning 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; and, if appropriate
  - (e) recommend measures or actions to improve the environmental performance of the development, and/or any strategy, plan or program required under these approvals.

**Notes:**

- This audit team must be led by a suitably qualified auditor and include experts in subsidence and any other field specified by the Planning Secretary.
- The audits should be coordinated with similar auditing requirements for the Ravensworth Operations Project.

8. Within 6 weeks of the completion of this audit, or as otherwise agreed by the Planning Secretary, the Applicant must submit a copy of the audit report to the Planning Secretary, together with its response to any recommendations contained in the audit report.

## ACCESS TO INFORMATION

9. From 30 September 2013, the Applicant must:
  - (a) make copies of the following publicly available on its website:
    - the EAs;
    - all current statutory approvals for the development;
    - all approved strategies, plans and programs required under the conditions of this consent;
    - a summary of the monitoring results of the development, which have been reported in accordance with the various plans and programs approved under the conditions of this consent;
    - a complaints register, updated on a monthly basis;
    - minutes of CCC meetings;

## CONSOLIDATED CONSENT

- the annual reviews (over the last 5 years);
  - any independent environmental audit, and the Applicant's response to the recommendations in any audit;
  - any other matter required by the [Planning Secretary](#); and
- (b) keep this information up-to-date, to the satisfaction of the [Planning Secretary](#).
- 

FOR INFORMATION

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## APPENDIX 1 SCHEDULE OF LAND

Lot Number	Deposited Plan (DP)
21, 22	869399
100	868268
3, 5, 11	125406
601, 602	1019325
502	864519
1, 3, 4	776382
200 to 202	975271
13 to 16	247945
1210, 1211	878458
21	817272
21, 22	878457
1, 3	859924
1241, 1242	1007536
1, 2	1089848
122	872131
129 to 147, 153 to 167	2328
1, 4, 5	747099
1 to 4	774682
1, 3	747902
51	1048492
1	823148
15	825904
1	738417
8	845360
180	858299
11	858172
100, 101	1140112
1	124977
A	158063
2	804150
Various public roads and public road reserves	

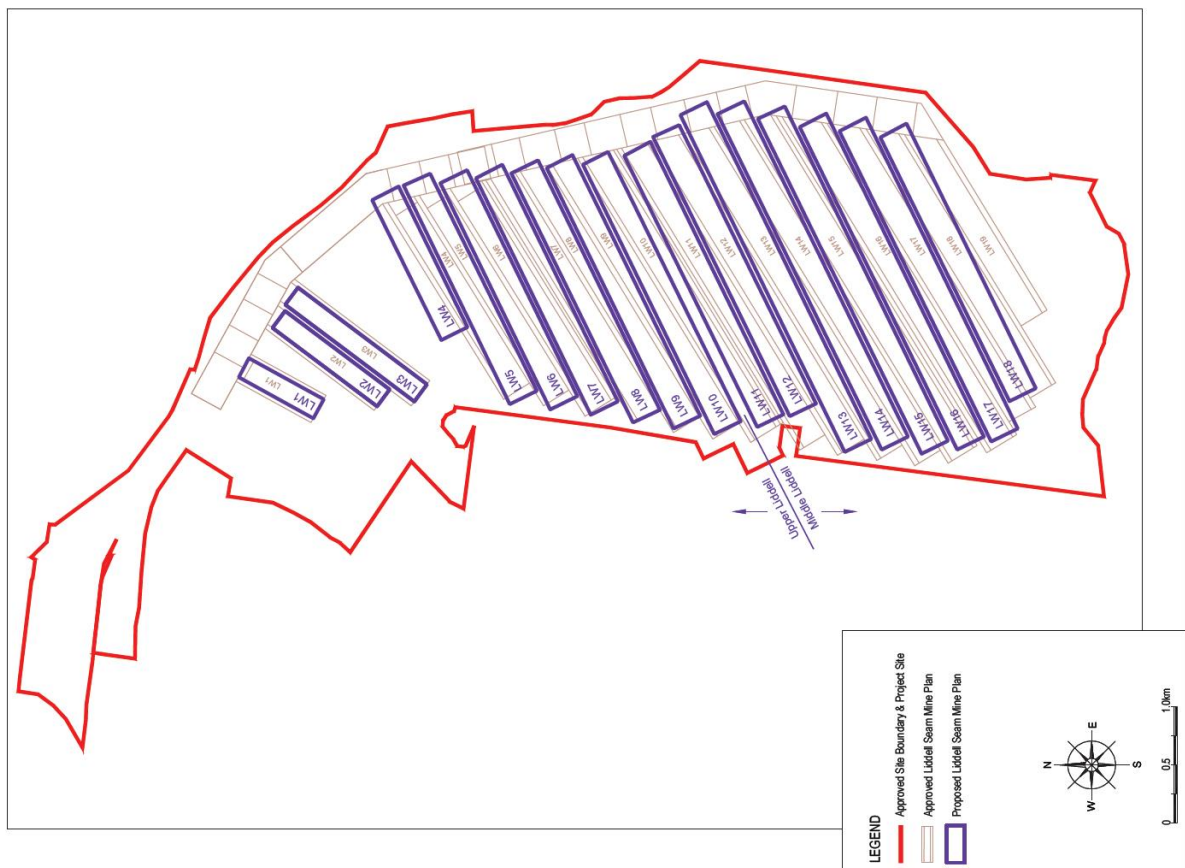
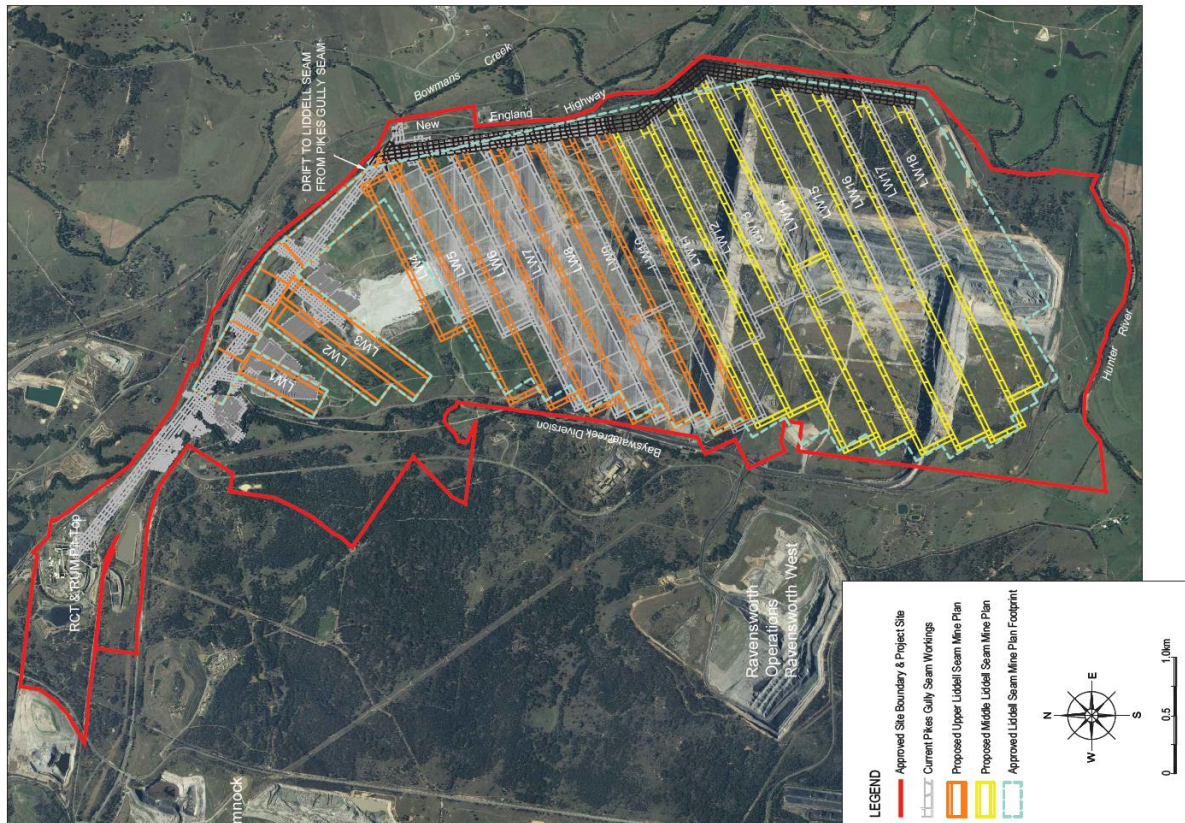


## APPENDIX 2 PROJECT LAYOUT PLANS





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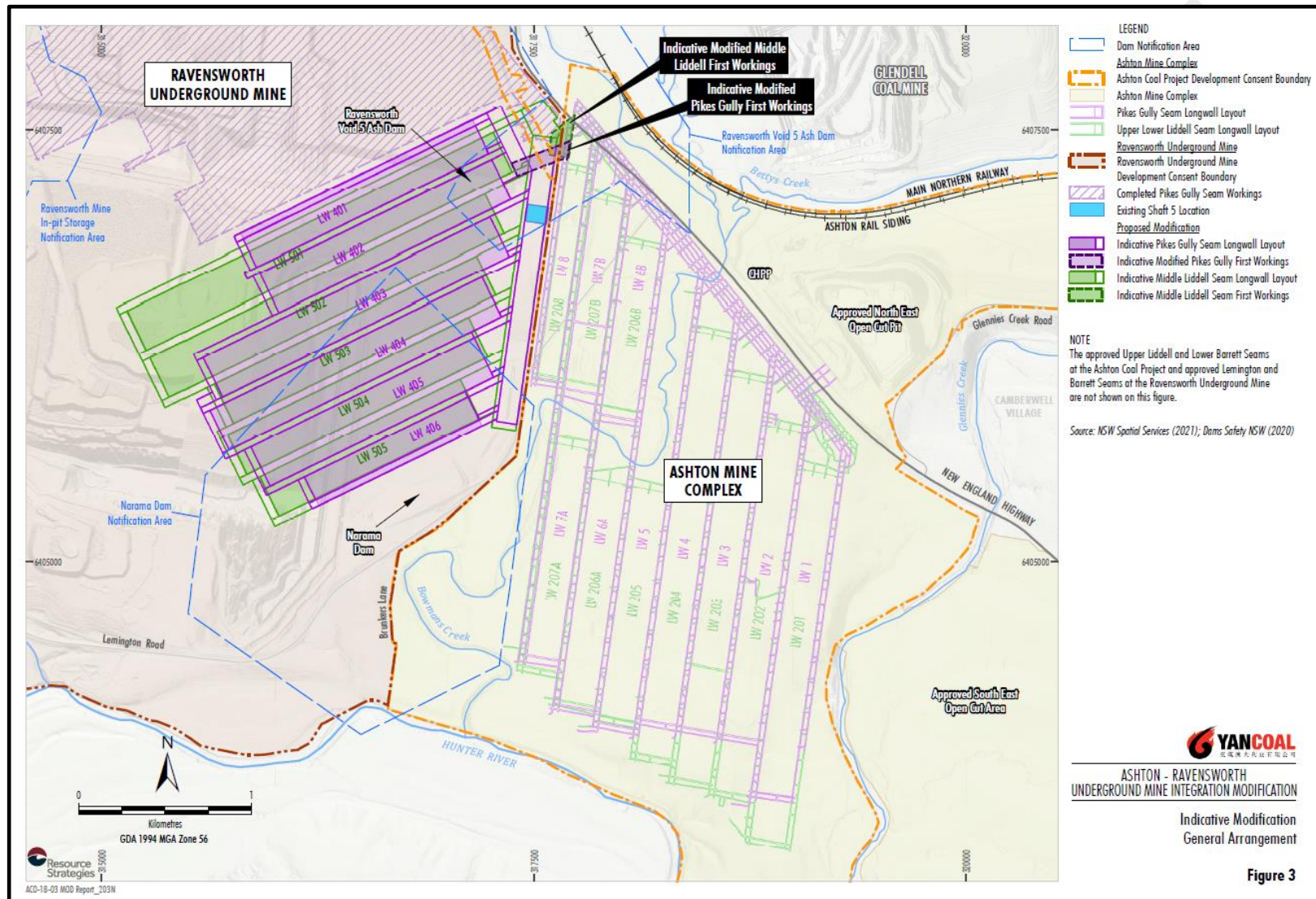


Figure 3 – Integration with Ashton Mine Complex



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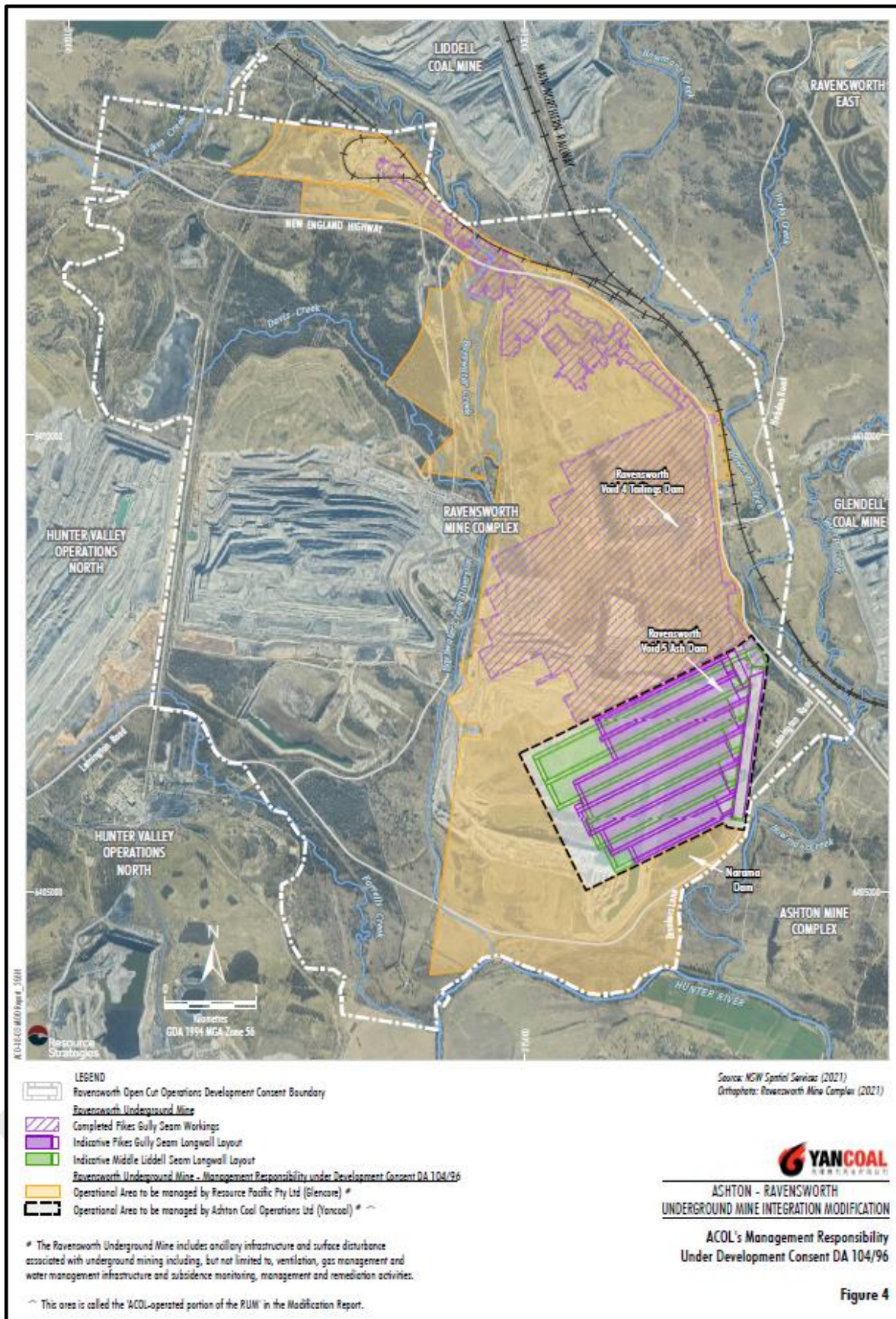


Figure 4 – Indicative Development Layout for MOD 10



## APPENDIX 3 STATEMENT OF COMMITMENTS

Subsidence
A new SMP will be prepared and lodged for approval prior to longwall mining within the Liddell Seam. The SMP application process will include a risk assessment, consultation with key stakeholders and relevant specialist studies for subsidence, geotechnical, groundwater and other environmental issues. It will also include a series of management plans for each key stakeholder. Consultation with key government agencies and stakeholders will continue throughout the preparation of the SMP application.
Additional studies have been commissioned to better define potential subsidence impacts (particularly on Void 4) and the associated issues. Specifically, Resource Pacific has committed to building a coupled geomechanical and fluid flow model with the CSIRO (mining and exploration division).
Regular maintenance and regrading will be undertaken to manage any surface movement and cracking around the access road to the proposed re-located position of the in-pit pumps and pump-out line of Mac Gen's Void 4. Roadside bunds on the upslope side of the access road will be installed in areas below steep slopes to protect against destabilised rock debris rolling down onto the road.
Resource Pacific will consult with Mac Gen, specifically in relation to Void 4, during the preparation of the new SMP application and associated management plans.
Resource Pacific will consult with Ashton Coal regarding the new SMP application and associated management plans in order to effectively address management issues arising from interactions of Ashton Coal operations.
Geotechnical assessments of the Voids 3, 4 and 5 dams retaining fly ash and tailings will be undertaken based on specific detail of the construction and unconsolidated nature of the waste rock forming the abutments. Of particular interest will be the pore pressure distribution within the retained fly ash and tailings.
In particular with regards to Void 4, a geotechnical assessment will be conducted prior to subsidence impact on the dam wall once the results of subsidence monitoring over the earlier Upper Liddell Seam longwall panels below the Pikes Gully Seam longwall panels allow the subsidence movements to be determined with a higher level of confidence than is currently possible.
A detailed review of the likely impacts of any low level ground movements on the wall of the Narama 1000 ML Dam will be undertaken prior to the commencement of adjacent underground mining.
Notification will be provided to the DSC prior to mining in the Pikes Gully Seam and Liddell Seam within the notification areas of the prescribed dams.
Resource Pacific will utilise LiDAR (Light Detection and Ranging) surveys to detect and evaluate subsidence movements over time. Evaluation of the LiDAR survey information will focus on significant surface features and infrastructure.
All subsidence lines will be measured in three dimensions allowing a greater level of understanding of ground movements.

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A main cross-line will be established across all the longwall panels with pegs spaced at approximately one-twentieth depth to the Pikes Gully Seam. This line will be surveyed at the completion of each longwall panel and at intervals as the longwall face approaches and passes under the line (at least until the horizontal movement characteristics have been established).
Where practical, longitudinal lines will be established for areas where the longwall panels in the Liddell Seam pass under the start or finish of the Pikes Gully Seam goaf edges to assist in understanding the interaction of these superimposed goaf edges.
Where practical and safe to do so, survey points will be established on the steep slopes associated with Voids 4 and 5 to better understand the interaction of subsidence with significant changes in topography. These points can be established as glass prisms to be observed remotely.
Resource Pacific will undertake regular inspections of the surface area subject to subsidence to identify any surface cracking and slumping, particularly within and around the backfill spoil dump areas. Appropriate protocols and strategies for minimising and managing subsidence-related issues, including erosion and spontaneous combustion, will be included within the SMP.
<b>Land Resources</b>
Areas of disturbance will be minimised and limited to only those areas identified as required for the modification works. If considered necessary, fencing (non-barbed) will be used to delineate the disturbance footprints and/or prevent access to surrounding areas.
Temporary erosion and sedimentation control measures will be implemented to reduce the likelihood and severity of erosion and sedimentation within and around the surface disturbance areas. These measures may include the use of sediment fences for non-channelised flow over disturbed areas, sand bags, hay balls and rip rap.
Erosion and sediment control will be addressed in the procedures for activities undertaken during construction. These procedures may include restricted access during wet weather, restricted access to areas under rehabilitation, and regular inspection and maintenance of structures.
Permanent erosion and sediment control measures will be implemented within disturbed areas associated with construction and/or affected by subsidence. These will generally be undertaken in accordance with the <i>Blue Book</i> (Volumes 1 and 2E) (LandCom 2004 and DECC 2008) and RUM's <i>Erosion and Sediment Control Plan</i> and will be regular inspected to ensure continued integrity.
In accordance with RUM's <i>Erosion and Sediment Control Plan</i> , natural topsoil will be stripped and stockpiled for use in rehabilitation following completion of construction works.
All disturbed areas will be sown with a pasture seed mix as soon as possible following completion of construction and replacement of topsoil.
In the event that any slumping, cracking, formation of depressions and/or ponding is identified, appropriate remedial action will be undertaken.
Decommissioning and removal of additional surface infrastructure and subsequent rehabilitation activities will be considered and addressed during the next revision of the <i>Conceptual Mine Closure Plan</i> and in accordance with the <i>Biodiversity, Rehabilitation and Land Management Plan</i> .
<b>Air Quality</b>
Where possible, vehicles on site will be confined to a designated route with an appropriate speed limit enforced.
Number of trips and trip distances will be minimised where possible.
Delivery and removal of materials will be planned and coordinated to avoid unnecessary trips.
Dirt that has been tracked onto sealed roads will be removed as soon as practicable.
When conditions are excessively dusty and windy, a water truck/cart will be used to dampen surfaces prior to grading / scraping and trafficable areas.
Where possible, working practices will be modified to limit excavation during periods of high winds.
Vegetation clearing and topsoil disturbance will be limited to the designated footprint required for construction.
Rehabilitation of disturbed areas will be undertaken promptly following completion of works.
The number of temporary material stockpiles and the number of work faces on material stockpiles will be minimised to limit wind erosion potential.

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A review of current dust management strategies will be undertaken against the best practice measures identified by Katestone Environmental (2011). The review will identify any additional dust management practices that are reasonable and feasible for implementation at RUM and will be undertaken in accordance with the requirements of a pollution reduction program imposed by the OEH on the RUM EPL.
<b>Noise</b>
The sound power of the gas extraction units, stone dust facility and air compressor house will be limited to $L_{Aeq}$ 111 dB, 106 dB and 107 dB, respectively to allow continual compliance with the project-specific criterion.
The ventilation fans will be oriented to the north-west so that their horizontal evases discharge away from the potential sensitive receptors.
An assessment of the sound power levels of construction equipment, such as power packs, generators and pumps associated with shaft boring, will be undertaken when construction commences to ensure levels do not exceed those listed in Table 3.3 of Global Acoustics' <i>Environmental Noise Impact Assessment</i> (2012).
Where possible, quieter plant items will be selected for construction activities.
Where possible, noisy activities, including drilling, will be undertaken within the day period. In the event that this is not possible, noise mitigation measures, such as placing acoustic barriers between the noise source and noise sensitive receptors, will be employed.
If required, acoustic barriers will be placed between stationary noise sources such as compressors, generators and drill rigs and noise sensitive receptor locations.
<b>Groundwater</b>
On-going monitoring of groundwater inflow into the underground mine workings will be undertaken to identify any additional groundwater licensing requirements as mining progresses.
Monitoring of pore pressures and piezometric elevations in existing regional piezometers will continue in order to discriminate between oscillatory groundwater movements attributed to rainfall recharge or subsidence related strata movements and longer term pressure losses related to mining.
Measurement of all water pumped underground and all mine water pumped to surface will be undertaken.
At least three new pore pressure monitoring piezometers (vertical transducer arrays) will be installed in accessible areas close to Void 4 and further south to enable mapping of the prevailing piezometric heads and likely hydraulic connectivity to existing and future underground operations.
Measurement of the piezometric profile within the tailings in Void 4 and the adjacent waste rock backfill will be undertaken to determine the state of saturation of the tailings.
Monitoring of basic water quality parameters pH and EC in pumped mine water will continue.
pH and EC will be monitored every six months in the regional monitoring network.
Annual measurement of TDS and speciation of water samples will be undertaken in selected piezometers to support identification of mixing of groundwater types.
Graphical plotting of basic water quality parameters will be undertaken to identify trend lines and statistics, including mean and standard deviation.
The monitoring network and program will be reviewed on an annual basis to determine on-going suitability.
Regular checks will be undertaken for departures from identified monitoring trends. Any such departures will initiate further actions, such as more intensive monitoring, re-assessment of impacts and/or mitigation measures.
An annual review of depressurisation of coal measures will be undertaken and compared with aquifer model predictions.
Finalise the updated <i>Water Management Plan</i> , including <i>Groundwater Monitoring Program</i> , in accordance with conditions 8 and 11A of DA 104/96 and in consultation with the NOW, for approval by the DP&I.
A management strategy will be prepared and implemented addressing the loss of waters stored in Void 4 to the underground mine workings and the management of mine water. This plan will be developed in accordance with the requirements of RUM's Environmental Protection Licence (EPL 10337) and in consultation with Macquarie Generation. It will address water quality issues, intended end use(s) and the management and approval requirements for the end use(s).
<b>Surface Water</b>
See commitments listed for Subsidence, Land Resources and Groundwater.



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Traffic and Transport
Liddell Station Road will be resealed where heavy cracking, potholes or water pooling are evident to improve the current pavement condition and to satisfy condition 30(i) of Development Consent DA 104/96.
Flora and Fauna
Exotic weeds within the vicinity of the modification works will be identified and, if necessary, removed/eradicated prior to surface disturbance.
The areas of disturbance will be minimised and limited to only those areas identified as required for the modification works. If considered necessary, fencing (non-barbed) will be used to delineate the disturbance footprints and/or prevent access to surrounding vegetated areas.
Appropriate erosion and sediment controls will be installed and maintained to safeguard downstream vegetation communities and aquatic habitats.
As part of the existing induction program at RUM, all employees and contractors will be informed of the importance of environmental protection.
Stockpiling of materials will occur within the nominated disturbed footprints.
Any areas of disturbance outside of the permanent surface infrastructure will be promptly rehabilitated to a stable landform and revegetated commensurate with surrounding lands.
Rehabilitated and revegetated areas will be monitored and maintained to ensure on-going stability and health.
Aboriginal Heritage
Prior to surface disturbance works, due diligence surveys will be undertaken at each disturbance site by a qualified archaeologists in order to confirm that no sites of Aboriginal heritage significance will be impacted.
The areas of disturbance will be minimised and limited to only those areas identified as required for the modification works. If considered necessary, fencing (non-barbed) will be used to delineate the disturbance footprints and/or prevent access to surrounding areas.
As part of the existing induction program at RUM, all employees and contractors will be made aware of their statutory obligations for Aboriginal cultural heritage under the <i>National Parks and Wildlife Act 1974</i> .
In the event that Aboriginal artefacts are located anywhere during the course of the modification works, all works in that area will cease and the OEH will be contacted for advice on how to proceed.
In the unlikely event that skeletal remains are identified, all works in that area will cease and the NSW Police Coroner and OEH will be contacted for advice on how to proceed.
European Heritage
The areas of disturbance will be minimised and limited to only those areas identified as required for the proposed modification works. If considered necessary, fencing (non-barbed) will be used to delineate the disturbance footprints and/or prevent access to surrounding areas.
In the event that significant European heritage material is uncovered anywhere during the course of the modification works, the Heritage Branch of the OEH will be notified and any required management strategies will be instigated.
Greenhouse Gas
The gas flares will be operated un-manned through a communication network to RUM, which will assist operational reliability to reach an anticipated 90%.
Continued implementation of the energy efficiency opportunities identified in the <i>Energy Efficiency Action Plan</i> .
Visual Amenity
Decommissioning and removal of additional surface infrastructure and subsequent rehabilitation activities will be considered and addressed during the next revision of the <i>Conceptual Mine Closure Plan</i> and in accordance with the <i>Biodiversity, Rehabilitation and Land Management Plan</i> .
Socio-Economic
Continual participation in the Ravensworth Complex CCC and project updates in the <i>Ravensworth News</i> .
An additional financial contribution will be made to Singleton Council in accordance with Condition 21(ii) of Development Consent DA 104/96 for the current additional 111 full-time employees at the rate specified (indexed by the CPI).

## APPENDIX 4 ENVIRONMENTAL ASSESSMENTS

<b>Application ID</b>	<b>Application Approval Date</b>	<b>Environmental Assessment</b>
DA 104/96	20 Nov 1999	Environmental Impact Statement prepared by HLA-Envirosciences Pty Ltd, dated July 1996
MOD 1	6 Jan 1998	Environmental impact assessment prepared by HLA-Envirosciences, dated 27 February 1997
MOD 2	5 Mar 2001	Statement of Environmental Effects (SEE) prepared by Umwelt (Australia) Pty Ltd, dated October 2000
MOD 3	11 Feb 2007	Statement of Environmental Effects for Newpac Colliery, Installation of No. 84 Cut-through Substation prepared by Umwelt (Australia) Pty Ltd, dated August 2006
MOD 4	11 Feb 2007	Newpac No.1 Colliery, Section 96 Application for Proposed Modification to Development Consent prepared by Resource Pacific Limited (undated) received by the Department 15 September 2006
MOD 5	4 Jul 2007	Ventilation shaft, electricity supply and underground workings Statement of Environmental Effects Resource Pacific Ltd (Revision 1) prepared by Connell Hatch, dated 27 March 2007
MOD 6	21 May 2008	Statement of Environmental Effects prepared by Connell Hatch consultants, dated 14 February 2008
MOD 7	3 Jul 2009	Environmental impact assessment prepared by Umwelt (Australia) Pty Ltd, dated April 2009, and the response to submissions dated June 2009
MOD 8	5 Jan 2011	Environmental Assessment titled <i>Proposed Modification to DA 104/96 for the Extension of Longwall Panels 6 to 10 and Installation of Gas Management and Associated Infrastructure, Ravensworth Underground Mine</i> , prepared by GSS Environmental, dated May 2010, and the response to submissions dated 17 August 2010