

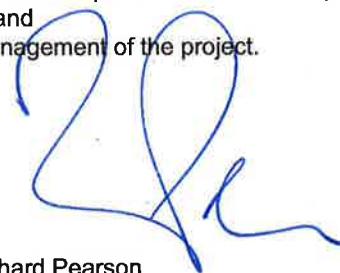
# Project Approval

## Section 75J of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning and Infrastructure, I approve the project application referred to in Schedule 1, subject to the conditions in Schedules 2 to 6.

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 project.



Richard Pearson  
Deputy Director-General  
Development Assessment and Systems Performance

Sydney

25<sup>th</sup> January

2012

### SCHEDULE 1

Application Number:	09_0203
Proponent:	Oceanic Coal Australia Pty Ltd
Approval Authority:	Minister for Planning and Infrastructure
Land:	See Appendix 1
Project:	West Wallsend Colliery Continued Operations Project

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## DEFINITIONS

Adaptive management	Adaptive management includes monitoring subsidence effects and impacts 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/or designated ranges and in compliance with the conditions of this approval
Annual Review	The review required by condition 3 of Schedule 6
Approved mine plan	The mine plans depicted in the figures in Appendix 2
BCA	Building Code of Australia
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
Community Consultative Committee	Community Consultative Committee
Cliff	A continuous rock face, including overhangs, having a minimum length of 20 metres, a minimum height of 10 metres and a minimum slope of 2 to 1 ( $>63.4^\circ$ ).
Cliff terrace	A combination of two to five minor cliffs in close proximity, that result in a "stepped" surface profile, with a total minimum cliff height of 10 metres and having a minimum length of 20 metres.
Conditions of this approval	Conditions contained in Schedules 2 to 6 inclusive
Construction	The demolition of buildings or works, carrying out of works and erection of buildings covered by this approval
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 Infrastructure
Director-General	Director-General of the Department, or delegate
DRE	Division of Resources and Energy, within the Department of Trade & Investment, Regional Infrastructure & Services
Dams Safety Committee	Dams Safety Committee
Environmental assessment	Environmental assessment titled <i>West Wallsend Colliery Continued Operations Project – Volumes 1 to 4</i> , dated July 2010, including the associated response to submissions (dated November 2010) and subsequent correspondence from Umwelt Environmental Consultants dated 26 October 2010, 6 April 2011, 2 September 2011 and 8 November 2011
Environmental consequences	The environmental consequences of subsidence impacts, including: damage to built features; loss of surface flows to the subsurface; loss of standing pools; adverse water quality impacts; 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>
EPL	Environment Protection Licence issued under the POEO Act
Executive Director Mineral Resources	Executive Director Mineral Resources within DRE, or the equivalent role
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
GDE	Groundwater Dependent Ecosystems
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 approval</li> </ul>
Council	Lake Macquarie Council
Land	As defined in the EP&A Act, except for where the term is used in the noise and air quality conditions in Schedules 3 and 4 of this approval 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 approval
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 area	The area affected by longwall mining within the Continued Underground Mining Area as identified on the 2nd figure in Appendix 2
Mining operations	Includes all extraction, processing, handling, storage and transportation of coal carried out on the site

Mining Services Facility	The Mining Services Facility shown in the 4 <sup>th</sup> figure in Appendix 2
Minister	Minister for Planning and Infrastructure, or delegate
Minor	Not very large, important or serious
Minor cliff	A continuous rock face, including overhangs, having a minimum length of 20 metres, heights between 5 metres and 10 metres and a minimum slope of 2 to 1 ( $>63.4^\circ$ ); or a rock face having a maximum length of 20 metres and a minimum height of 10 metres.
Mitigation	Activities associated with reducing the impacts of the project prior to or during those impacts occurring
MSB	Mine Subsidence Board
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
NOW	NSW Office of Water
OEH	Office of Environment and Heritage
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Private haul road	Road owned by Oceanic Coal Australia Pty Ltd and indicated in the 2 <sup>nd</sup> figure in Appendix 2
Privately-owned land	Land that is not owned by a public agency, or a mining company (or its subsidiary)
Project	The project described in the EA
Proponent	Oceanic Coal Australia Pty Ltd, or its successors in title
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 Proponent 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 project 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 project or controlling the environmental consequences of this impact
RMS	Roads and Maritime Services
Rock face feature	A rock face having a minimum length of 20 metres, heights between 3 metres and 5 metres and a minimum slope of 2 to 1 ( $>63.4^\circ$ )
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
Second workings	Extraction of coal from longwall panels, mini-wall panels or pillar extraction
Site	The land referred to in Schedule 1, and listed in Appendix 1
SSCA	Sugarloaf State Conservation Area
Statement of commitments	The Proponent's commitments in Appendix 3
Steep slopes	An area of land having a gradient between 1 in 3 (33% or $18.3^\circ$ ) and 2 in 1 (200% or $63.4^\circ$ )
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
Surface facilities sites	The West Wallsend Colliery pit top area; all ventilation shaft sites; mining services facility; sites for other mining purposes infrastructure; and any other site subject to existing or proposed surface disturbance associated with the project

## SCHEDULE 2 ADMINISTRATIVE CONDITIONS

### **OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT**

1. In addition to meeting the specific performance criteria established under this approval, the Proponent shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.

### **TERMS OF APPROVAL**

2. The Proponent shall carry out the project generally in accordance with the:
  - (a) EA;
  - (b) statement of commitments; and
  - (c) conditions of this approval.

*Notes:*

- *The general layout of the project is shown on the figures in Appendix 2.*
- *The statement of commitments is reproduced in Appendix 3.*

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 approval shall prevail to the extent of any inconsistency.
4. The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
  - (a) any strategies, plans, programs, reviews, audits, reports or correspondence that are submitted in accordance with this approval; and
  - (b) the implementation of any actions or measures contained in these documents.

### **LIMITS ON APPROVAL**

#### **Mining Operations**

5. The Proponent may carry out mining operations on site until the end of December 2021.

*Note: Under this approval, the Proponent is required to rehabilitate the site and perform additional undertakings to the satisfaction of either the Director-General or the Executive Director Mineral Resources. Consequently this approval 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 & Transport**

6. The Proponent shall:
  - (a) not extract more than 5.5 million tonnes of ROM coal from the site per calendar year; and
  - (b) transport all ROM coal extracted from the site to the Macquarie Coal Preparation Plant via the private haul road.

#### **Hours of Operation**

7. The Proponent may carry out underground mining operations and associated surface operations 24 hours a day, 7 days a week.
8. The Proponent shall restrict construction operations associated with the Mining Services Facility to 7am to 6pm Monday to Friday and 8am to 1pm Saturday, unless inaudible at any residential premises.

### **SURRENDER OF CONSENTS**

9. By the end of December 2012, or as otherwise agreed by the Director-General, the Proponent shall surrender all existing development consents for mining operations relied on by the Proponent for the site (other than this approval) in accordance with Section 104A of the EP&A Act.

*Note: This requirement does not extend to the surrender of the 1981 Stockton Borehole Colliery consent or to construction and occupation certificates for existing and proposed building works under Part 4A of the EP&A Act. Surrender of a consent or approval should not be understood as implying that works legally constructed under a valid consent or approval can no longer be legally maintained or used.*

10. Prior to the surrender of these consents, the conditions of this approval (including any notes) shall prevail to the extent of any inconsistency with the conditions of these consents.

## **STRUCTURAL ADEQUACY**

11. The Proponent shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structure, that are part of the project are constructed in accordance with:
  - (a) the relevant requirements of the BCA; and
  - (b) any additional requirements of the MSB where the building or structure is located on land within declared Mine Subsidence Districts.

*Notes:*

- *Under Part 4A of the EP&A Act, the Proponent 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 project.*
- *Under Section 15 of the Mine Subsidence Compensation Act 1961, the Proponent is required to obtain the MSB's approval before constructing any improvements within a Mine Subsidence District.*

## **DEMOLITION**

12. The Proponent shall 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**

13. The Proponent shall 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.

## **STAGED SUBMISSION OF STRATEGIES, PLANS OR PROGRAMS**

14. With the approval of the Director-General, the Proponent may submit any strategies, plans or programs required by this approval on a progressive basis.

*Notes:*

- *While any strategy, plan or program may be submitted on a progressive basis, the Proponent will need to ensure that the existing operations on site are covered by suitable strategies, plans or programs at all times; and*
- *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.*

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**SCHEDULE 3**  
**SPECIFIC ENVIRONMENTAL CONDITIONS – UNDERGROUND MINING**

**SUBSIDENCE**

**Performance Measures – Natural and Heritage Features, etc**

1. The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 1, to the satisfaction of the Director-General.

*Table 1: Subsidence Impact Performance Measures*

<b>Water Resources</b>	
Diega Creek, where depth of cover beneath the creek is <80 metres	Negligible environmental consequences, including: <ul style="list-style-type: none"> <li>• <i>negligible</i> reduction in the quantity of water entering the creeks (ie baseflow or environmental flows);</li> <li>• <i>negligible</i> reduction in the quality of water entering the creeks; and</li> <li>• <i>negligible</i> reduction in creek bed and bank stability.</li> </ul>
Cockle Creek, where depth of cover beneath the creek is <100 metres	No connective cracking between the surface and the mine
Diega Creek, where depth of cover beneath the creek is >80 metres	No greater environmental consequences than predicted in the EA
Cockle Creek, where depth of cover beneath the creek is >100 metres	No connective cracking between the surface and the mine
Bangalow Creek and Palmers Creek	
<b>Land</b>	
Cliffs	Minor environmental consequences (that is occasional rockfalls, displacement or dislodgement of boulders or slabs, or fracturing, that in total do not impact more than 3% of the total face area of cliffs within the mining area).
Minor cliffs and cliff terraces	Minor environmental consequences (that is occasional rockfalls, displacement or dislodgement of boulders or slabs, or fracturing, that in total do not impact more than 5% of the total face area of such features within the mining area).
Rock face features and steep slopes	Minor environmental consequences (that is occasional rockfalls, displacement or dislodgement of boulders or slabs, or fracturing, that in total do not impact more than 7% of the total face area of such features within the mining area)
<b>Biodiversity</b>	
Threatened species, threatened populations, or endangered ecological communities	Negligible environmental consequences
Core koala habitat (as defined by SEPP 44)	Negligible environmental consequences
<b>Heritage Sites</b>	
Aboriginal heritage sites listed in Table 1 of Appendix 4	Negligible impact or environmental consequences
Aboriginal heritage sites listed in Table 2 of Appendix 4	Negligible impact or environmental consequences unless agreed by the Director General in accordance with condition 18
Aboriginal heritage site listed in Table 3(a) of Appendix 4	Negligible impact or environmental consequences unless agreed by the Director General in accordance with condition 19
Aboriginal heritage sites listed in Tables 3(b) and 4 of Appendix 4	No greater subsidence impact or environmental consequences than predicted in the EA
Historic heritage sites	No greater subsidence impact or environmental consequences than predicted in the EA
<b>Mine workings</b>	
First workings under an approved Extraction	To remain long-term stable and non-subsiding.

Plan beneath any feature where performance measures in this table require negligible impact, negligible consequence or negligible loss	
Second workings	To be carried out only within the longwall mining domains, in accordance with an approved Extraction Plan.

Notes:

- *The Proponent will be required to define more detailed performance indicators (including impact assessment criteria) for each of these performance measures in the various management plans that are required under this approval.*
- *Measurement and/or monitoring of compliance with performance measures and performance indicators is to be undertaken using generally accepted methods that are appropriate to the environment and circumstances in which the feature or characteristic is located. These methods are to be fully described in the relevant management plans. In the event of a dispute over the appropriateness of proposed methods, the Director-General will be the final arbiter.*
- *The requirements of this condition only apply to the impacts and consequences of mining operations, construction or demolition undertaken following the date of this approval.*

## Offsets

2. If the Proponent exceeds the performance measures in Table 1 and the Director-General determines that:

- it is not reasonable or feasible to remediate the impact or environmental consequence; or
- remediation measures implemented by the Proponent have failed to satisfactorily remediate the impact or environmental consequence;

then the Proponent shall provide a suitable offset to compensate for the impact or environmental consequence, to the satisfaction of the Director-General.

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

## Performance Measures – Built Features

3. The Proponent shall ensure that the project does not cause any exceedances of the performance measures in Table 2, to the satisfaction of the Director-General.

*Table 2: Subsidence Impact Performance Measures*

<b>Built Features</b>	
Key public infrastructure: F3 Freeway	Always safe and serviceable.  Damage that does not affect safety or serviceability must be fully repairable, and must be fully repaired.
Public infrastructure: Gencom communications towers, power lines, Caltex/Jemena Petroleum and natural gas pipelines; Telstra/Nextgen/Optus optic fibre cables, Telstra communications tower, Transgrid Transmission Towers, Wakefield Road, State Survey Marks	Always safe.  Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated.  Damage must be fully repairable, and must be fully repaired or else replaced or fully compensated.
Other built features and improvements, including tracks and fences	Serviceability should be maintained wherever practicable. Loss of serviceability must be fully compensated.  Damage must be fully repairable, and must be fully repaired or else replaced or fully compensated.

## **Public Safety**

Public safety	Negligible additional risk
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Notes:

- *The Proponent will be required to define more detailed performance indicators for each of these performance measures in Built Features Management Plans or Public Safety Management Plan (see condition 5 below).*
- *Measurement and/or monitoring of compliance with performance measures and performance indicators is to be undertaken using generally accepted methods that are appropriate to the environment and circumstances in which the feature or characteristic is located. These methods are to be fully described in the relevant management plans. In the event of a dispute over the appropriateness of proposed methods, the Director-General will be the final arbiter.*
- *The requirements of this condition only apply to the impacts and consequences of mining operations undertaken following the date of this approval.*
- *Requirements under this condition may be met by measures undertaken in accordance with the Mine Subsidence Compensation Act 1961.*

- Requirements regarding safety or serviceability do not prevent preventative or mitigatory actions being taken prior to or during mining in order to achieve or maintain these outcomes.

4. Any dispute between the Proponent 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 Director-General, following consultation with the MSB and the Executive Director Mineral Resources. Any decision by the Director-General shall be final and not subject to further dispute resolution under this approval.

### **Extraction Plan**

5. The Proponent shall prepare and implement an Extraction Plan for second workings on site to the satisfaction of the Director-General. Each extraction plan must:

- (a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Director-General;
- (b) be approved by the Director-General before the Proponent carries out any of the second workings covered by the plan;
- (c) include detailed plans of existing and proposed first and second workings and any associated surface development;
- (d) include detailed performance indicators for each of the performance measures in Tables 1 and 2;
- (e) provide revised predictions of the potential subsidence effects, subsidence impacts and environmental consequences of the proposed second workings, incorporating any relevant information obtained since this approval;
- (f) describe the measures that would be implemented to ensure compliance with the performance measures in Tables 1 and 2, and manage or remediate any impacts and/or environmental consequences;
- (g) include a Built Features Management Plan, which has been prepared in consultation with DRE and the owners of affected public infrastructure, to manage the potential subsidence impacts and/or environmental consequences of the proposed second workings, and which:
  - addresses in appropriate detail all items of key public infrastructure and other public infrastructure and all classes of other built features;
  - has been prepared following appropriate consultation with the owner/s of potentially affected feature/s;
  - recommends appropriate remedial measures and includes commitments to mitigate, repair, replace or compensate all predicted impacts on potentially affected built features in a timely manner; and
  - in the case of all key public infrastructure, and other public infrastructure except roads, trails and associated structures, reports external auditing for compliance with ISO 31000 (or alternative standard agreed with the infrastructure owner) and provides for annual auditing of compliance and effectiveness during extraction of longwalls which may impact the infrastructure;
  - include a revised and updated F3 Freeway Management Plan;
- (h) include a Water Management Plan, which has been prepared in consultation with OEH and NOW, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on watercourses and aquifers, including:
  - 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 stream flows, assess any changes resulting from subsidence impacts and remediate and improve stream stability;
  - a program to monitor and report groundwater inflows to underground workings;
  - a program to predict, manage and monitor impacts on groundwater bores on privately-owned land; and
- (i) include a Biodiversity Management Plan, which has been prepared in consultation with OEH, which provides for the management of the potential impacts and/or environmental consequences of the proposed second workings on aquatic and terrestrial flora and fauna, with a specific focus on threatened species [particularly the black-eyed susan (*Tetratheca juncea*)], populations and their habitats; endangered ecological communities; and water dependent ecosystems;
- (j) include a 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, with a specific focus on cliffs, minor cliffs, cliff terraces, rock face features and steep slopes;
- (k) include a Heritage Management Plan, which has been prepared in consultation with OEH and relevant stakeholders for both Aboriginal and historic heritage, to manage the potential environmental consequences of the proposed second workings on both Aboriginal and non-Aboriginal heritage items, and includes all requirements under conditions 18-20 of Schedule 4;
- (l) include a Public Safety Management Plan, which has been prepared in consultation with DRE, to ensure public safety in the mining area;
- (m) include a subsidence monitoring program, which has been prepared in consultation with DRE and OEH, 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;

(n) 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;

(o) proposes appropriate revisions to the Rehabilitation Management Plan required under condition 29 of Schedule 4; and

(p) include a program to collect sufficient baseline data for future Extraction Plans.

*Notes:*

- *To identify the longwall mining domains referred to in this condition, see Appendix 2.*
- *An SMP that is substantially consistent with this condition and which is approved by DRE prior to 30 September 2012 is taken to satisfy the requirements of this condition. Such an SMP may also be subject to later variation.*

6. The Proponent shall ensure that the management plans required under conditions 5(g)-(l) above include:

- (a) an assessment of the potential environmental consequences of the Extraction Plan, incorporating any relevant information that has been obtained since this approval; and
- (b) a detailed description of the measures that would be implemented to remediate predicted impacts.

### **First Workings**

7. The Proponent may carry out first workings on site, other than in accordance with an approved Extraction Plan, provided that DRE is satisfied that the first workings are designed to remain long-term 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.*

### **Payment of Reasonable Costs**

8. The Proponent shall 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.

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**SCHEDULE 4**  
**SPECIFIC ENVIRONMENTAL CONDITIONS – GENERAL**

**NOISE**

**Noise Criteria**

1. Until 31 December 2012, the Proponent shall ensure that the noise generated by the project 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: Interim Noise Criteria dB(A)*

<b>Receiver Area</b>	<b>Location</b>	<b>Day</b>	<b>Evening</b>	<b>Night</b>	
		$L_{Aeq}$ (15 min)	$L_{Aeq}$ (15 min)	$L_{Aeq}$ (15 min)	$L_{A1}$ (1 min)
R1	Killingworth (main)	39	39	39	49
R2	Killingworth (north)	44	44	44	49
R3	Barnsley (west)	40	40	40	49
R4	Barnsley (southwest)	41	41	41	49
R5	Barnsley (south)	37	37	37	49
R6	Barnsley (main)	35	35	35	49
R7	Barnsley (59 Charlton Street)	46	46	46	49
R8	Any residence in Wakefield	35	35	35	51

*Notes:*

- To interpret the locations referred to Table 3, see the plan and associated list in Appendix 5.
- Noise generated by the project 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 Proponent has an agreement with the relevant landowner to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.

2. From 1 January 2013, the Proponent shall ensure that the noise generated by the project does not exceed the criteria in Table 4 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.

*Table 4: Noise Criteria dB(A)*

<b>Receiver Area</b>	<b>Location</b>	<b>Day</b>	<b>Evening</b>	<b>Night</b>	
		$L_{Aeq}$ (15 min)	$L_{Aeq}$ (15 min)	$L_{Aeq}$ (15 min)	$L_{A1}$ (1 min)
R1	Killingworth (main)	39	39	39	49
R2	Killingworth (north)	41	41	41	49
R3	Barnsley (west)	40	40	40	49
R4	Barnsley (southwest)	41	41	41	49
R5	Barnsley (south)	37	37	37	49
R6	Barnsley (main)	35	35	35	49
R7	Barnsley (59 Charlton Street)	44	44	44	49
R8	Any residence in Wakefield	35	35	35	51

*Notes:*

- To interpret the locations referred to Table 4, see the plan and associated list in Appendix 5.
- Noise generated by the project 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 Proponent has an agreement with the relevant landowner to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.

## Cumulative Noise Criteria

3. The Proponent shall implement all reasonable and feasible measures to ensure that the noise generated by the project combined with the noise generated by other mines in the area does not exceed the criteria in Table 5 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.

Table 5: Cumulative noise criteria dB(A)  $L_{Aeq\ (period)}$

Location	Day	Evening	Night
All privately-owned land	55	45	40

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

## Noise Mitigation

4. Upon receiving a written request from the owner of the residence listed in Table 6, the Proponent shall implement noise mitigation measures (such as double-glazing, insulation, and/or air conditioning) at the residence in consultation with the landowner. These measures must be reasonable and feasible. If within 3 months of receiving this request from the owner, the Proponent 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 Director-General for resolution.

Table 6: Land where additional noise mitigation is available at the residence upon request

Receiver Area	Location
R7	Barnsley 59 Charlton Street

*Note: To identify the location referred to in Table 6, see the plan and associated list in Appendix 5.*

5. The Proponent shall ensure that the following noise mitigation measures are undertaken by the end of December 2012:
  - (a) all necessary works to ensure an operational noise reduction of 10dB(A) at the coal breaker; and
  - (b) any additional works to ensure compliance with the noise criteria in Table 4, to the satisfaction of the Director-General.

## Noise Compliance Report

6. The Proponent shall prepare a Noise Compliance Report for the project to the satisfaction of the Director-General. The report must:
  - (a) be prepared by a suitably qualified acoustic consultant, whose appointment has been approved by the Director-General;
  - (b) be prepared in consultation with OEH, and be submitted to the Director-General for approval by the end of March 2013;
  - (c) investigate and evaluate the effectiveness of the noise mitigation measures required under condition 5 above to comply with the noise criteria in Table 4; and
  - (d) if required, include an action plan to implement additional measures and a protocol for monitoring the effectiveness of these measures.

## Operating Conditions

7. The Proponent shall:
  - (a) implement best management practice, including all reasonable and feasible noise mitigation measures to minimise the construction, operational and road traffic noise generated by the project; and
  - (b) regularly assess the results of noise monitoring to ensure compliance with the relevant conditions of this approval, to the satisfaction of the Director-General.

## Noise Management Plan

8. The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must:
  - (a) be prepared in consultation with OEH and Council, and submitted to the Director-General for approval within 6 months of this approval;

- (b) describe the noise mitigation measures that would be implemented to ensure compliance with the relevant conditions of this approval;
- (c) include a protocol for continual improvement of noise performance; and
- (e) include a noise monitoring program that:
  - uses a combination of attended and unattended monitoring to evaluate the performance of the project; and
  - includes a protocol for determining exceedances of the relevant conditions of this approval.

## AIR QUALITY & GREENHOUSE GAS

### Odour

9. The Proponent shall ensure that no offensive odours are emitted from the site, as defined under the POEO Act.

### Greenhouse Gas Emissions

10. The Proponent shall implement all reasonable and feasible measures to minimise the release of greenhouse gas emissions from the site to the satisfaction of the Director-General.

### Air Quality Criteria

11. The Proponent shall implement all reasonable and feasible mitigation measures to ensure that the particulate emissions generated by the project do not exceed the criteria listed in Tables 7, 8 and 9 at any residence on privately-owned land or on more than 25 per cent of any privately-owned land.

*Table 7: Long term criteria for particulate matter*

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

*Table 8: Short term criterion for particulate matter*

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

*Table 9: Long term criteria for deposited dust*

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

#### Notes to Tables 7-9:

- <sup>a</sup> Total impact (ie incremental increase in concentrations due to the project plus background concentrations due to other sources);
- <sup>b</sup> Incremental impact (ie incremental increase in concentrations due to the project on its own);
- <sup>c</sup> 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
- <sup>d</sup> Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed to by the Director-General in consultation with OEH.

### Operating Conditions

12. The Proponent shall:

- (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 project, including from any spontaneous combustion on site,
- (b) minimise any visible air pollution generated by the project; and
- (c) regularly assess the air quality monitoring and meteorological data, and relocate, modify and/or suspend operations to ensure compliance with the relevant conditions of this approval; to the satisfaction of the Director-General.

## Air Quality & Greenhouse Gas Management Plan

13. The Proponent shall prepare and implement a detailed Air Quality & Greenhouse Gas Management Plan for the project to the satisfaction of the Director-General. This plan must:
  - (a) be prepared in consultation with OEH, and submitted to the Director-General for approval within 6 months of this approval;
  - (b) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval;
  - (c) describe the measures that would be implemented to minimise the greenhouse gas emissions from the site; and
  - (d) include an air quality monitoring program to evaluate the performance of the project and includes a protocol for determining exceedances with the relevant conditions of this approval.

## METEOROLOGICAL MONITORING

14. During the life of the project, the Proponent shall ensure that there is a suitable meteorological station operating in the vicinity of the site that complies with the requirements in the *Approved Methods for Sampling of Air Pollutants in New South Wales* guideline.

## SOIL & WATER

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

### Compensatory Water Supply

15. The Proponent shall provide a compensatory water supply to any landowner of privately-owned land whose water entitlements are adversely impacted (other than an impact that is negligible) as a result of the project, in consultation with NOW, and to the satisfaction of the Director-General.

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

If the Proponent 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 Director-General for resolution.

If the Proponent is unable to provide an alternative long-term supply of water, then the Proponent shall provide alternative compensation to the satisfaction of the Director-General.

### Surface Water Discharges

16. The Proponent shall 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.

### Surface Water Management Plan

17. The Proponent shall prepare and implement a Surface Water Management Plan for the project to the satisfaction of the Director-General. This plan must be prepared in consultation with NOW and OEH by suitably qualified and experienced persons whose appointment has been endorsed by the Director-General, and submitted to the Director-General for approval within 6 months of this approval. This plan must include:
  - (a) a comprehensive water balance for the project, that includes details of:
    - sources and security of water supply;
    - water use on site;
    - water management on site;
    - off-site water transfers; and
  - (b) management plans for the surface facilities sites, that include:
    - a detailed description of water management systems for each site, including:
      - clean water diversion systems;
      - erosion and sediment controls; and
      - any water storages;
    - measures to minimise potable water use and to reuse and recycle water;
    - measures to comply with surface water discharge limits;
    - measures to manage sewage wastewater in accordance with Council requirements; and
    - monitoring and reporting procedures.

*Note: This plan must be suitably integrated with the Water Management Plan that forms a part of an Extraction Plan.*

## HERITAGE

### Potential Avoidance of Heritage Items

18. The Proponent shall protect the heritage items identified in Table 2 of Appendix 4 unless the Proponent can demonstrate, to the satisfaction of the Director-General, that sites of a similar nature and similar significance exist in the SSCA.

### Minimisation of Impact to Heritage Items

19. The Proponent shall protect the heritage item identified in Table 3(a) of Appendix 4 unless the Proponent can demonstrate, to the satisfaction of the Director-General, that the measures relating to the sites in Table 3(b), identified in section 8.2.3 of the EA Technical Paper (Appendix 12 Part 1) have been achieved.

### Management of Heritage Items

20. Prior to carrying out any development on site that could impact the heritage items identified in Table 4 of Appendix 4, the Proponent shall undertake the management and mitigation measures identified in section 8.4 of the EA Technical Paper (Appendix 12 Part 1) in consultation with the relevant Aboriginal stakeholders, and in accordance with methodologies approved by the Director-General.

*Note: The methodologies for the management and mitigation measures are to be outlined in the Heritage Management Plan that forms part of the Extraction Plans.*

## TRANSPORT

### Monitoring of Coal Transport

21. The Proponent shall:
  - (a) keep accurate records of the amount of coal transported from the site (on a monthly basis); and
  - (b) make these records publicly available on its website at the end of each calendar year.

### Wakefield Road Intersection

22. The Proponent shall ensure that the intersection of the Mine Services Facility site access road and Wakefield Road is:
  - (a) constructed prior to the construction of the Mine Services Facility;
  - (b) not constructed until the intersection designs are approved by Council; and
  - (c) constructed and maintained to the satisfaction of Council.

### Traffic Management Plan

23. The Proponent shall prepare and implement a Traffic Management Plan for the site to the satisfaction of Council. The plan shall focus on traffic management along Wakefield Road to minimise potential conflicts between road users and to ensure that the intersection of the Mine Services Facility access road and Wakefield Road is operating effectively. The plan must be developed in consultation with the Council and the CCC, and must be submitted for the approval of the Director-General prior to the commencement of construction of the Mine Services Facility.

## VISUAL

### Visual Amenity and Lighting

24. The Proponent shall:
  - (a) implement all reasonable and feasible measures to minimise the visual and off-site lighting impacts of the project;
  - (b) ensure no unshielded outdoor lights shine above the horizontal; and
  - (c) ensure that all external lighting associated with the project complies with *Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting*, to the satisfaction of the Director-General.

## WASTE

25. The Proponent shall:
  - (a) minimise and monitor the waste generated by the project;
  - (b) ensure that the waste generated by the project is appropriately stored, handled and disposed of;
  - (c) manage on-site sewage treatment and disposal in accordance with the requirements of Council; and
  - (d) report on waste management and minimisation in the Annual Review,

to the satisfaction of the Director-General.

## BUSHFIRE

26. The Proponent shall:

- ensure that the project is suitably equipped to respond to fires on site; and
- assist the Rural Fire Service and emergency services as much as possible if there is a fire in the vicinity of the site.

## REHABILITATION

### Rehabilitation Objectives

27. The Proponent shall rehabilitate the site to the satisfaction of the Executive Director Mineral Resources. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the EA, and comply with the objectives in Table 10.

*Table 10: Rehabilitation Objectives*

<b>Feature</b>	<b>Objective</b>
Mine site (as a whole)	Safe, stable & non-polluting.
Surface infrastructure	Final land use compatible with surrounding land uses.
Portals and vent shafts	To be decommissioned and removed, unless the Executive Director Mineral Resources agrees otherwise
Watercourses within project area	To be decommissioned and made safe and stable.
Cliffs	Retain habitat for threatened species (eg bats), where practicable
Other land affected by the project	Hydraulically and geomorphologically stable
Built features damaged by mining operations	No additional risk to public safety compared to prior to mining
Community	Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems comprised of: <ul style="list-style-type: none"><li>• local native plant species (unless the Executive Director Mineral Resources agrees otherwise); and</li><li>• a landform consistent with the surrounding environment</li></ul>
	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 under the <i>Mine Subsidence Compensation Act 1961</i>.</li></ul>
	Ensure public safety.
	Minimise the adverse socio-economic effects associated with mine closure

*Notes to Table 10:*

- *These rehabilitation objectives apply to all subsidence impacts and environmental consequences caused by mining taking place after the date of this approval; and to all project surface infrastructure part of the project, 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 this approval may be subject to the requirements of other approvals (eg under a mining lease or an Subsidence Management Plan approval) or the Proponent's commitments.*

### Progressive Rehabilitation

28. The Proponent shall carry out the rehabilitation of the site progressively, that is, as soon as reasonably practicable following disturbance.

### Rehabilitation Management Plan

29. The Proponent shall prepare and implement a Rehabilitation Management Plan for the project, to the satisfaction of the Executive Director Mineral Resources. This plan must:

- be prepared in consultation with the Department, OEH, NOW, Council and the CCC, and be submitted to the Executive Director Mineral Resources in DRE for approval within 6 months of this approval, or as otherwise agreed with the Director-General;
- be prepared in accordance with any relevant DRE guideline, and be consistent with the rehabilitation objectives in the EA and in Table 10;
- build, to the maximum extent practicable, on the other management plans required under this approval; and
- address all aspects of rehabilitation and mine closure, including final land use assessment, rehabilitation objectives, domain objectives, completion criteria and rehabilitation monitoring.

*Note: The Rehabilitation Management Plan should address all land impacted by the project, whether prior to or following the date of this approval.*

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## **SCHEDULE 5** **ADDITIONAL PROCEDURES**

### **NOTIFICATION OF LANDOWNERS**

1. As soon as practicable after obtaining monitoring results showing:
  - (a) an exceedance of any relevant criteria in Schedule 4, the Proponent shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the project is again complying with the relevant criteria; and
  - (b) an exceedance of any relevant air quality criteria in Schedule 4, the Proponent shall 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**

2. If an owner of privately-owned land considers the project to be exceeding the relevant criteria in Schedule 4, then he/she may ask the Director-General in writing for an independent review of the impacts of the project on his/her land.

If the Director-General is satisfied that an independent review is warranted, then within 2 months of the Director-General's decision the Proponent shall:

- (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Director-General, to:
  - consult with the landowner to determine his/her concerns;
  - conduct monitoring to determine whether the project is complying with the relevant criteria in Schedule 4; and
  - if the project is not complying with these criteria then identify the measures that could be implemented to ensure compliance with the relevant criteria; and
- (b) give the Director-General and landowner a copy of the independent review.

3. If the independent review determines that the project is complying with the relevant criteria in Schedule 4, then the Proponent may discontinue the independent review with the approval of the Director-General.

If the independent review determines that the project is not complying with the relevant impact assessment criteria in Schedule 4, and that the project is primarily responsible for this non-compliance, then the Proponent shall:

- (a) implement all reasonable and feasible mitigation measures, in consultation with the landowner and appointed independent person, and conduct further monitoring until the project complies with the relevant criteria; or
- (b) secure a written agreement with the landowner to allow exceedances of the relevant criteria, to the satisfaction of the Director-General.

If the independent review determines that any relevant acquisition criteria in Schedule 4 are being exceeded and that the project is primarily responsible for this non-compliance, then upon receiving a written request from the landowner, the Proponent shall acquire all or part of the landowner's land in accordance with the procedures in conditions 4-5 below.

### **LAND ACQUISITION**

4. Within 3 months of receiving a written request from a landowner with acquisition rights, the Proponent shall 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 project, 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 on the land 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 any additional mitigation measures undertaken by the Proponent on the land;
  - (b) the reasonable costs associated with:
    - relocating within the Lake Macquarie local government area, or to any other local government area determined by the Director-General; 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.

If the Proponent and landowner cannot agree on the acquisition price of the land and/or the terms upon which the land is to be acquired within 28 days after the Proponent makes its written offer, then either party may refer the matter to the Director-General for resolution.

Upon receiving such a request, the Director-General 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 Proponent shall 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 Director-General 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 Director-General 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 disputing the independent valuer's determination, and any other relevant submissions.

Within 14 days of this determination, the Proponent shall make a binding written offer to the landowner to purchase the land at a price not less than the Director-General's determination.

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

5. The Proponent shall pay all reasonable costs associated with the land acquisition process described in condition 4 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.

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## **SCHEDULE 6** **ENVIRONMENTAL MANAGEMENT, REPORTING & AUDITING**

### **ENVIRONMENTAL MANAGEMENT**

#### **Environmental Management Strategy**

1. The Proponent shall prepare and implement an Environmental Management Strategy for the project to the satisfaction of the Director-General. This strategy must:
  - (a) be submitted to the Director-General for approval within 6 months of this approval;
  - (b) provide the strategic framework for environmental management of the project;
  - (c) identify the statutory approvals that apply to the project;
  - (d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the project;
  - (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 project;
    - receive, handle, respond to, and record complaints;
    - resolve any disputes that may arise during the course of the project;
    - respond to any non-compliance;
    - respond to emergencies; and
  - (f) be integrated with strategies, plans and programs approved under the conditions of this approval; and
  - (g) include a clear plan depicting all the monitoring required to be carried out under the conditions of this approval.

#### **Management Plan Requirements**

2. The Proponent shall ensure that the management plans required under this approval 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 project 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 project;
    - effectiveness of any management measures (see (c) above);
  - (e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;
  - (f) a program to investigate and implement ways to improve the environmental performance of the project over time;
  - (g) a protocol for managing and reporting any:
    - incidents;
    - complaints;
    - non-compliances with conditions of this approval and 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 Director-General may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.*

#### **Adaptive Management**

3. The Proponent must assess and manage project-related risks to ensure that there are no exceedances of the criteria and/or performance measures in Schedules 3 and 4. Any exceedance of these criteria and/or performance measures constitutes a breach of this approval 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 Proponent 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 Director-General, to the satisfaction of the Director-General.

#### **Annual Review**

4. By the end of March each year (or other such timing as agreed by the Director-General), the Proponent shall submit a review of the environmental performance of the project to the satisfaction of the Director-General. This review must:
  - (a) describe the works (including any rehabilitation) carried out in the past calendar year, and the works proposed to be carried out over the current calendar year;
  - (b) include a comprehensive review of the monitoring results and complaints records of the project over the past 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 EA;
  - (c) identify any non-compliance over the past calendar 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 project;
  - (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and
  - (f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the project.

#### **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; and
  - (d) any modification to the conditions of this approval (unless the conditions require otherwise),
 the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-General.

*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 project.*

#### **Community Consultative Committee**

6. The Proponent shall establish and operate a Community Consultative Committee (CCC) for the project in general accordance with the *Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects* (Department of Planning, 2007, or its latest version), or alternative consultative framework as may be agreed by the Director-General, to the satisfaction of the Director-General. This CCC or alternative framework must be operating within 6 months of this approval.

*Notes:*

- *The CCC is an advisory committee. The Department and other relevant agencies are responsible for ensuring that the Proponent complies with this approval.*
- *The Committee should be comprised of an independent chair and appropriate representation from the Proponent, Council and the local community.*
- *In establishing the CCC, the Department will accept the continued representation from existing CCC members.*

#### **REPORTING**

##### **Incident Reporting**

7. The Proponent shall notify, at the earliest opportunity, the Director-General and any other relevant agencies of any incident that has caused, or has the potential to cause, significant risk of material harm to the environment. For any other incident associated with the project, the Proponent shall notify the Director-General and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Director-General and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

##### **Regular Reporting**

8. The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval.

## INDEPENDENT ENVIRONMENTAL AUDIT

9. By the end of June 2013 (or other such timing as agreed by the Director-General), and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must:
  - (a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General;
  - (b) include consultation with the relevant agencies;
  - (c) assess the environmental performance of the project and assess whether it is complying with the requirements in this approval 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
  - (e) recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals.

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

10. Within 6 weeks of the completion of this audit, or as otherwise agreed by the Director-General, the Proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the audit report.

## ACCESS TO INFORMATION

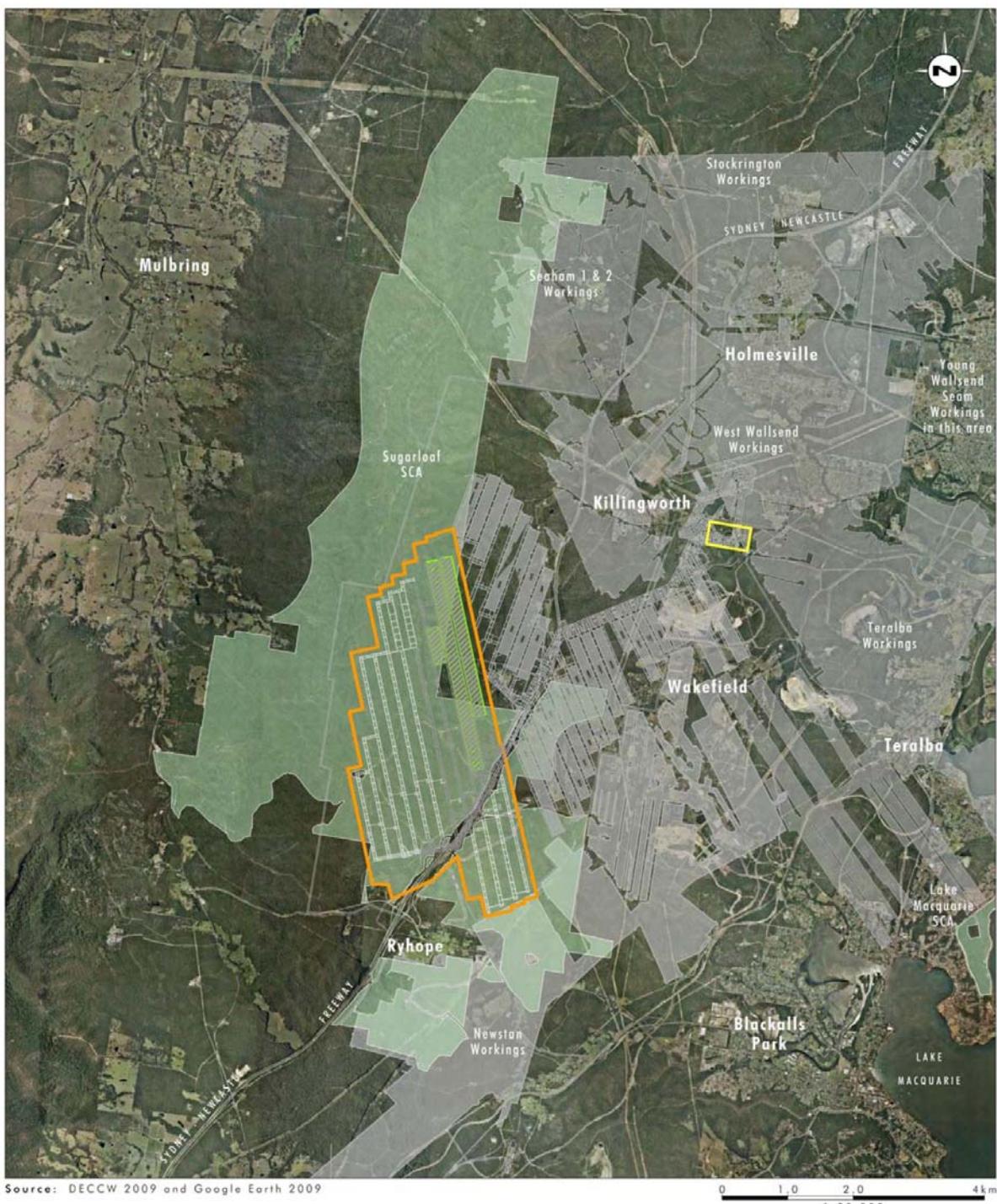
11. From the end of April 2012, the Proponent shall:
  - (a) make copies of the following publicly available on its website:
    - the EA;
    - all current relevant statutory approvals for the project;
    - approved strategies, plans and programs required under the conditions of this approval;
    - a comprehensive summary of the monitoring results of the project, which have been reported in accordance with the various plans and programs approved under the conditions of this approval;
    - a complaints register, which is to be updated on a monthly basis;
    - minutes of CCC meetings;
    - the annual reviews of the project;
    - any independent environmental audit, and the Proponent's response to the recommendations in any audit;
    - any other matter required by the Director-General; and
  - (b) keep this information up-to-date, to the satisfaction of the Director-General.

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**APPENDIX 1:**  
**SCHEDULE OF LAND**

<b>LOT</b>	<b>DP</b>	<b>Parish</b>	<b>County</b>
50	755262	Teralba	Northumberland
311	539420	Teralba	Northumberland
1	1061644	Teralba	Northumberland
34	755262	Teralba	Northumberland
1,2&3	983839	Teralba	Northumberland
1	1093590	Teralba	Northumberland
84 & 93	755262	Teralba	Northumberland
1	926190	Teralba	Northumberland
5	777014	Teralba	Northumberland
7027	1051359	Teralba	Northumberland
131	755262	Awaba	Northumberland
60, 131, 132, 133, 136, 138, 139, 140, 262, 263 & 269	755207	Awaba	Northumberland
4	788116	Awaba	Northumberland
6	738276	Awaba	Northumberland

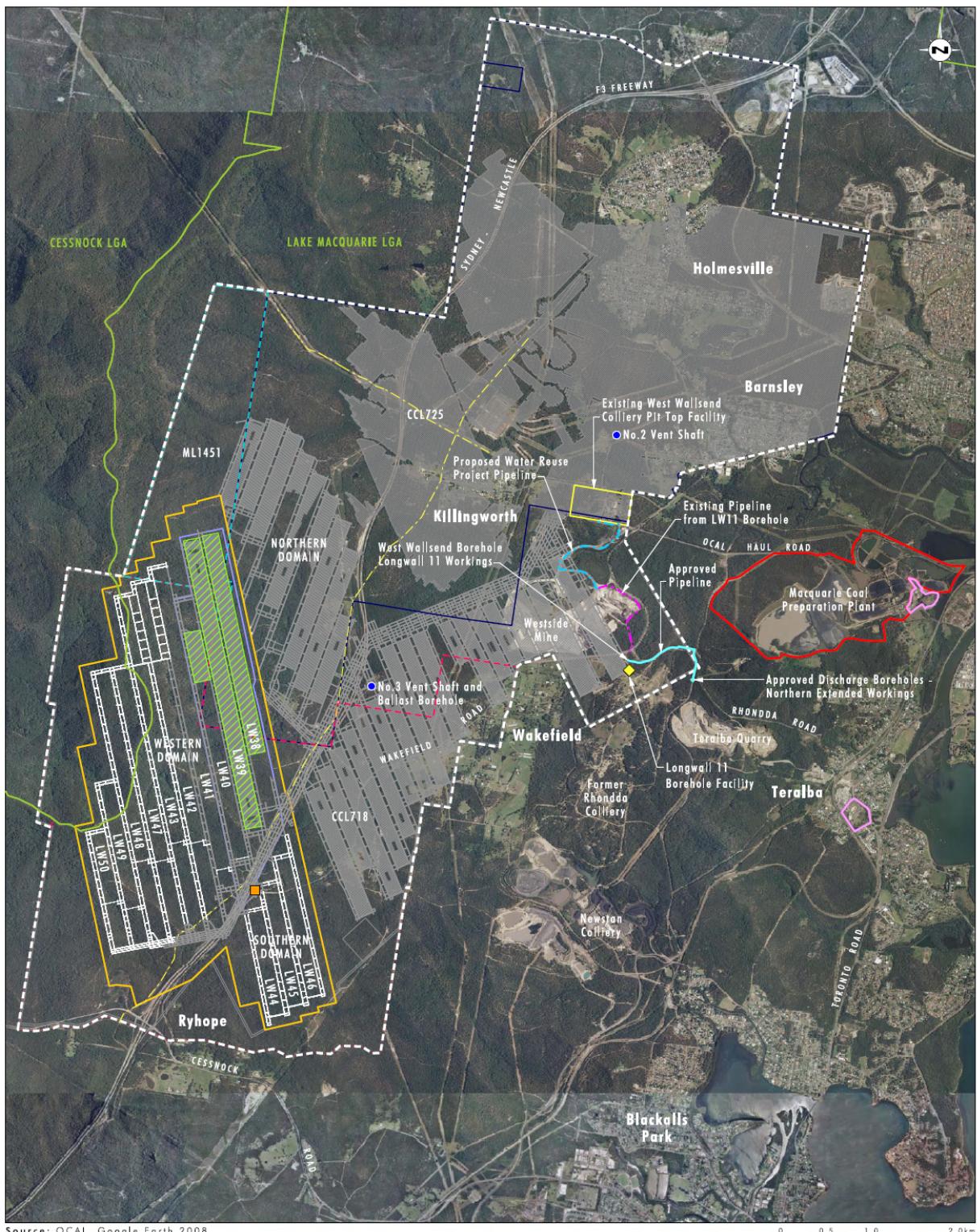
## APPENDIX 2: PROJECT LAYOUT PLANS



### Legend

- Yellow line: Existing West Wallsend Colliery Pit Top Facilities
- Orange line: Continued Underground Mining Area
- Black line: Proposed Underground Workings in the West Borehole Seam
- Green hatched area: Longwall Progression as of 23rd December 2011
- Grey shaded area: Former Underground Workings
- Green area: Sugarloaf State Conservation Area

### Local Setting



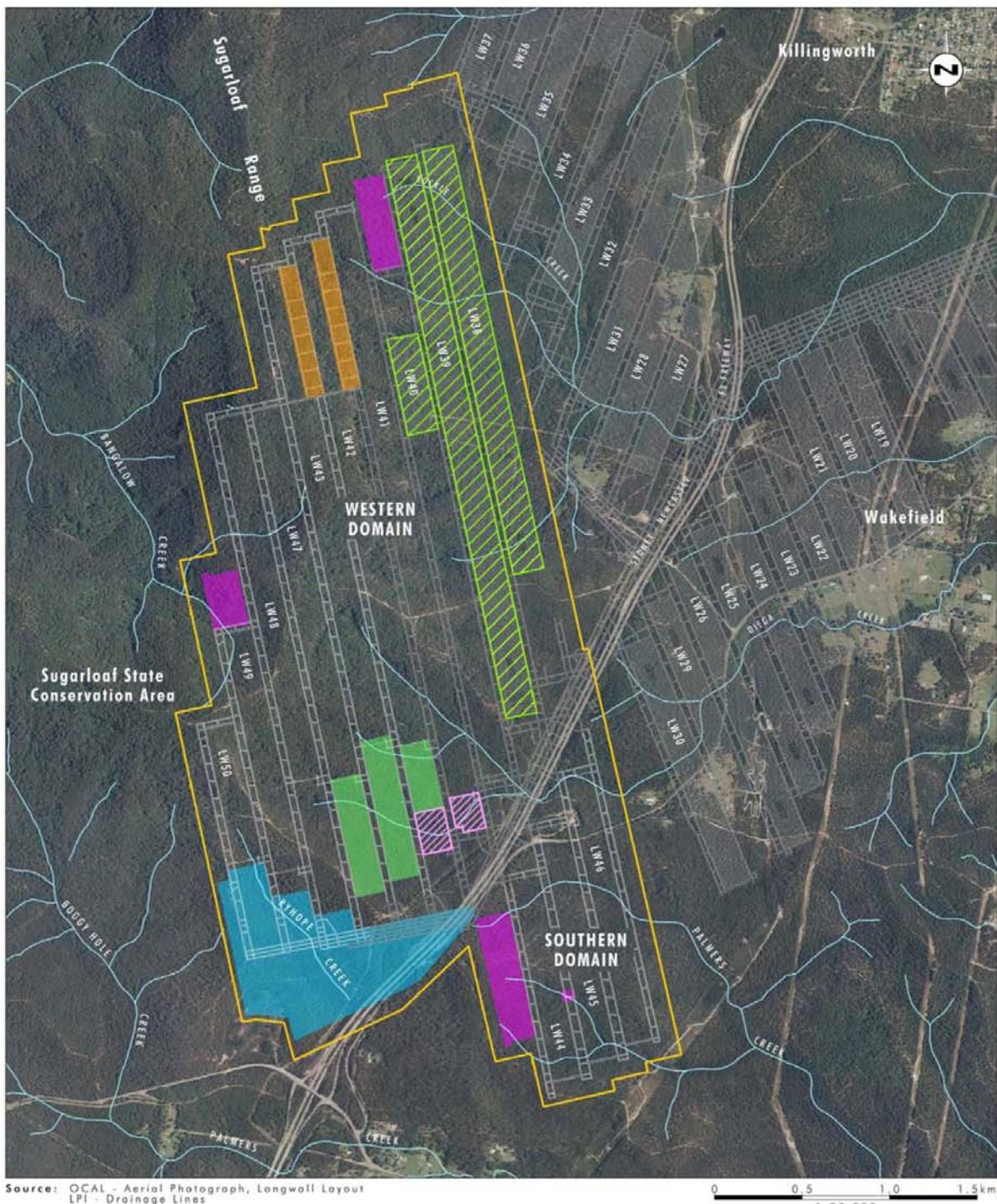
Source: OCAL, Google Earth 2008

0 0.5 1.0 2.0 km  
1:40 000

#### Legend

- CCL725
- CCL718
- ML1451
- Existing West Wallsend Colliery Pit Top Facilities
- Continued Underground Mining Area
- Proposed Underground Workings in the West Borehole Seam
- Longwall Progression as of 23rd December 2011
- Former Underground Workings
- Approved SMP Area
- Teralba Colliery Areas
- Local Government Area
- Project Application Area
- Proposed Mining Services Facility
- Longwall 11 Borehole Facility
- Services Easement

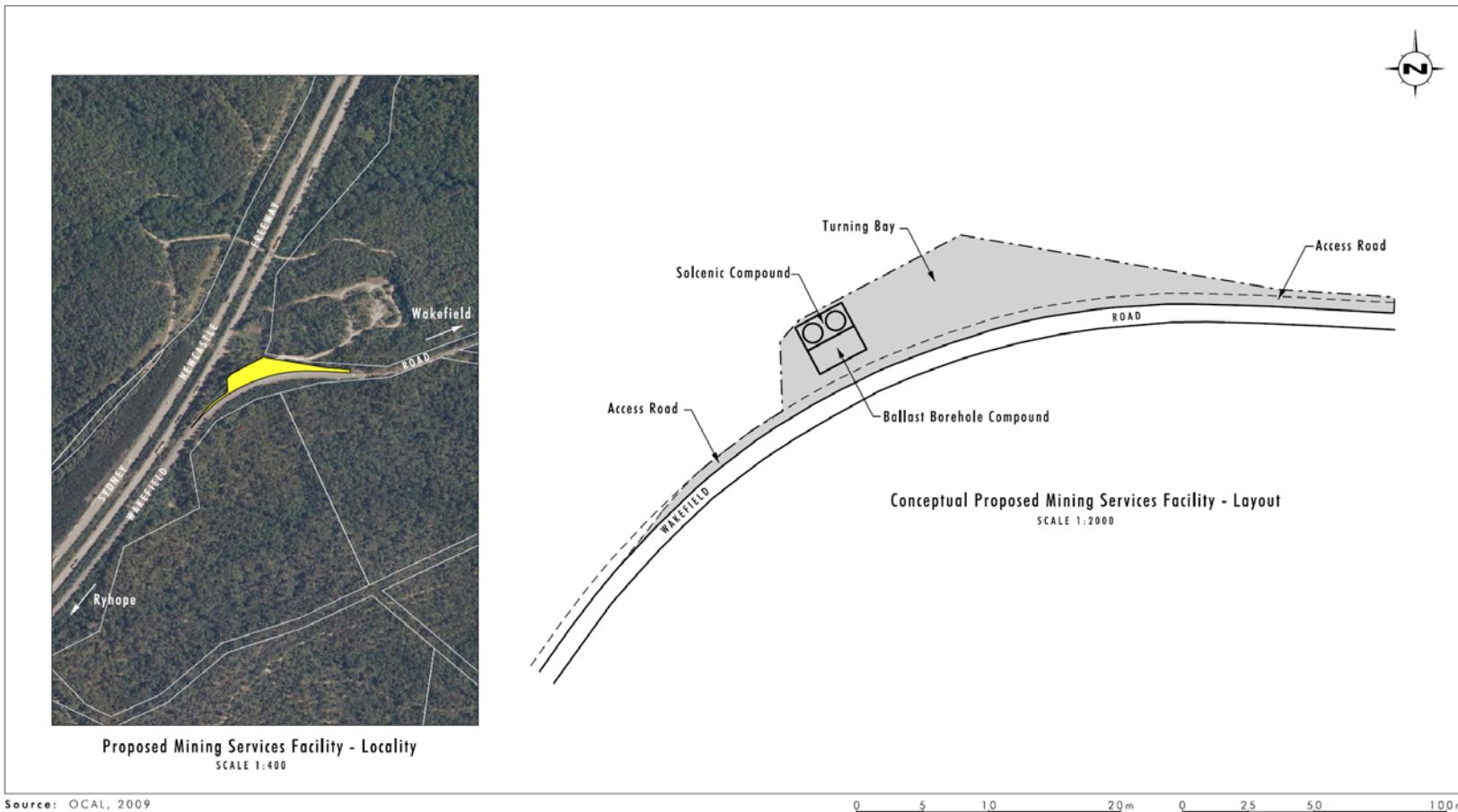
#### West Wallsend Colliery Continued Operations Project Area



#### Legend

Continued Underground Mining Area	Previous area removed for Low Depth of Cover Constraints
Proposed Underground Working in the West Borehole Seam	Previous area removed from Mine Plan - EEC's/Diego Creek
Longwall Progression as of 23rd December 2011	Proposed Revised Layout for Steep Slopes
Former Underground Workings	
Drainage Line	
Proposed Additional Revised layout for Depth of Cover (<80m) in Diego Creek	
Previous Revised Layout for Aboriginal Cultural Heritage Constraints	

#### Proposed Additional Mine Plan Modifications



## Conceptual Proposed Mining Services Facility Location and Layout

## **APPENDIX 3: STATEMENT OF COMMITMENTS**

**The Statement of Commitments included in the EA has been revised to consider the issued raised in the response to submissions. The revised Statement of Commitments details the measures proposed by West Wallsend Colliery (WWC) for environmental mitigation, management and monitoring of the Project.**

**If approval is granted under Part 3A of the EP&A Act Project, WWC will commit to the following controls.**

### **6.1 Compliance with the EA**

- 6.1.1 To carry out the development for the Project generally in accordance with the project approval conditions, Project Application and EA report.

### **Surrender of Redundant Development Consents**

- 6.1.2 WWC will surrender all other development consents that relate to activities that are adequately covered in the new project approval, in accordance with the new project approval conditions.

### **Lease Arrangements**

- 6.1.3 WWC will obtain all necessary licence/lease arrangements from Lake Macquarie City Council prior to the construction of the Mining Services Facility.

### **6.2 Life of Mine Operations, Production and Concept Mine Plan**

#### **Project Life**

- 6.2.1 The project approval life will be for 15 years from Project Approval. Closure and rehabilitation activities will be undertaken in accordance with an approved Mining Operations Plan, or other relevant approval under the Mining Act or equivalent, at the time of closure. These works may extend beyond the 15 year operations approval life.

#### **Production Limits**

- 6.2.2 The Project will produce up to 5.5 Mtpa of ROM coal.

#### **Hours of Operation**

- 6.2.3 Mining and associated activities for the Project may be undertaken 24 hours a day, seven days a week.
- 6.2.4 Construction of the Mining Surfaces Facility will generally be undertaken between 7.00 am and 6.00 pm daily. Construction activities may occur outside these hours when WWC is satisfied that such activities are inaudible at nearest private residences.

#### **Mine Plan Modifications**

- 6.2.5 WWC has committed to modifying the mine plan to avoid secondary extraction in the lower reaches of Diega Creek that are in areas with a depth of cover less than 80 metres and contain Alluvial Tall Moist Forest within Longwall 41 and 42 (refer to Appendix 2 of Project Approval).
- 6.2.6 WWC will remove areas less than 80 metres depth of cover from the mine plan within Longwalls 42, 43 and 47 in the Diega Creek catchment (refer to Appendix 2 of Project Approval).

6.2.7 WWC will reduce the longwall void width within the northern extents of Longwalls 42 and 43 to approximately 115 metres (refer to Appendix 2 of Project Approval).

### **Refinement of Mine Plan**

6.2.8 WWC will install an extensometer in Longwall 40 to provide further information in relation to the height of fracturing above Longwall 40. WCC will consider the outcomes of this monitoring prior to commencement of longwall mining in areas less than 100 metres depth of cover within Longwalls 42, 43 and 47.

6.2.9 WWC will establish an Independent Review Committee, in consultation with DP&I and OEH to monitor the progress of mining operations within the Diega Creek catchment. This Committee would include representatives from relevant government agencies, WWC and include involvement and review by appropriate subsidence experts.

### **6.3 Subsidence**

6.3.1 A comprehensive Extraction Plan will be developed for the Project in accordance with the project approval

6.3.2 Remediation and rehabilitation of mining related subsidence impacts will be carried out, as detailed in Section 5.2.4 of the EA, as soon as practicable following subsidence.

6.3.3 A detailed Subsidence Survey Monitoring Program has been developed for the Project and is outlined in Appendix 5 of the EA. The monitoring program will be implemented and the results used to refine the ongoing management of subsidence as the Project progresses.

### **6.4 Ecology**

6.4.1 In the event that significant impacts on identified ecological values are identified and cannot be adequately remediated, WWC will engage a suitably qualified and experienced ecologist to prepare a Biodiversity Offset Strategy in consultation with OEH and DP&I. Given that such areas are likely to be minor in area, it is proposed that rather than focussing on land base offsetting, this strategy could focus on 'in kind' offsetting by remediation or rehabilitation of equivalent areas of disturbed or poor condition vegetation within the Sugarloaf State Conservation Area (SSCA).

6.4.2 WWC will undertake remediation works within the SSCA to a value of \$50,000 per annum over the life of the Project, in consultation with OEH.

6.4.3 The results of the ecological monitoring and management measures will be reviewed annually and reported in the AEMR. Management measures will be adapted, as required, on the basis of monitoring outcomes.

### **6.5 Groundwater**

6.5.1 WWC will continue to maintain the existing groundwater monitoring network and also undertake regular analysis of groundwater monitoring data to compare predicted and actual groundwater impacts. This will include groundwater make in the underground operations.

6.5.2 Prior to commencement of longwall mining in Longwall 46, WWC will review the need for establishment of alluvial monitoring in Diega Creek and Central Creek in consultation with NOW and to the satisfaction of DP&I.

6.5.3 The monitoring network and monitoring program will be reviewed on an annual basis to determine ongoing suitability and any proposed changes will be discussed in the Annual Review.

## 6.6 Surface Water

6.6.1 WWC will submit an updated Surface Water Management Plan for the Project, as outlined in the approval conditions.

6.6.2 The existing Water Management System will continue to be used to control and treat runoff from the WWC pit top site with surface runoff directed to the water management system dams for use as dust suppression or discharge.

6.6.3 WWC will complete a series of investigations within 12 months of Project Approval, including:

- a more detailed desktop investigation of the various salt concentrations at other Xstrata operations and relevance to WWC;
- trailing shandying percentages based on the more detailed investigations of salts; and
- determining the most appropriate shandying percentage taking into consideration potential water quality impacts on the life and maintenance of the underground mining equipment.

6.6.4 The optimal water re-use strategy confirmed by the investigations will be implemented within two years of Project Approval. If the investigations indicate that shandying potable water with mine water for re-use on site is not viable, WWC will investigate the feasibility of other options for mine water treatment and re-use e.g. reverse osmosis.

6.6.5 A comprehensive monitoring regime will be implemented to monitor drainage lines and the locations identified in Figure 5.12 of the EA for potential subsidence impacts. Monitoring procedures will include:

- monitoring of vertical and horizontal subsidence along order drainage lines as determined in consultation with the DRE;
- monitoring, measuring and recording (e.g. photographic records) of the extent and magnitude of any surface cracking along the second order drainage line and first order drainage lines in depths of cover less than 100 metres that may occur during and post mining operations. If works are required (sealing of cracks), methods approved by the OEH and DRE would be adopted;
- visual inspection and recording of stream bed and bank condition and riparian vegetation along the second order drainage line, including collection of baseline data and monitoring during and post mining operations;
- monitoring of geomorphological response of each watercourse to the predicted subsidence, as follows:
  - prior to mining review the potential geomorphological response of each watercourse to the predicted subsidence using the guidelines included in River Hydrology and Energy Relationships – Design Notes for the Mining Industry published by Department of Water and Energy (November 2007) and the methods described below;
  - for each watercourse within the continued underground mining area:
    - describe the existing (i.e. pre-mining) watercourse characteristics including bed controls using approaches outlined in AUSRIVAS (Australian River Assessment System);
    - calculate the stream power for the existing and predicted subsidence conditions;
    - determine threshold limits of stream power for incision and bed load deflation, taking into consideration existing stream stability, surface and substrate soil conditions and stream grades;

- refine the monitoring program, including monitoring of:
  - o any bed control points;
  - o areas where subsidence may increase the stream power above the determined threshold limits potentially causing channel erosion/instability;
  - o monitoring may include long section and cross section surveys, photographic records and/or methods outlined in AUSRIVAS;
- investigate and implement any remediation required to mitigate potential impacts of changes in stream power as a result of underground mining activities;
- during and post mining, monitor watercourses, in accordance with the developed monitoring program;
- ongoing monitoring and maintenance will be necessary for any areas requiring surface mitigation works to facilitate effective rehabilitation.

## **6.7 Air Quality**

6.7.1 WWC will continue to implement existing dust controls, including:

- the use of manually-operated water sprays for unpaved areas and for the paved ring road at the WWC pit top, used by trucks transporting coal to MCPP via the private haul road;
- periodic sweeping of the haul road and other paved areas to reduce road surface silt loadings; and
- use of loading flaps during truck loading at the surface bin to restrict dust.

## **6.8 Noise**

6.8.1 Noise emissions from the Project, when measured within 30 metres of a private residence, will not exceed the criteria outlined in the project approval, unless a specific agreement is reached with the landholder in regard to noise impacts at that residence.

6.8.2 WWC will undertake mitigation of the breaker and No. 2 ventilation shaft to improve existing noise impacts associated with its operation. WWC will also investigate whether there are any feasible opportunities for further noise reduction at Killingworth.

6.8.3 WWC will submit a Noise Management Plan for the Project, in accordance with the approval conditions. The Plan will:

- (a) describe the noise mitigation measures that would be implemented to ensure compliance with relevant conditions of approval; and
- (b) will include a Noise Monitoring Program that:
  - includes attended monitoring to assess compliance with the Project Specific Noise Levels; and
  - includes a protocol for determining exceedances of the relevant conditions of approval.

## **6.9 Greenhouse Gases**

6.9.1 WWC will report its greenhouse and energy performance via legislative reporting requirements.

## **6.10 Aboriginal Archaeology**

6.10.1 WWC has committed to modify the mine plan to protect the following sites of Aboriginal cultural and archaeological significance:

- the stone arch;
- one rockshelter in the Bangalow Creek catchment;
- two rockshelter sites in the Cockle Creek catchment;
- Palmers Creek Grinding Grooves 1 and 2;
- the Western Domain 5 (#38-4-0993 - wet soak with artefact scatter site);
- modification of the mine plan to lessen the probability of impact to the Palmers Creek Grinding Grooves 3 site.

6.10.2 WWC has committed to providing \$200,000.00 over the life of the project to assist with the management of Aboriginal cultural and archaeological sites/values within the SSCA.

6.10.3 WWC has committed to fund a program of monitoring and reporting of subsidence impacts on landscape features of Aboriginal cultural value and Aboriginal archaeological sites recorded within the proposed continued underground mining area.

6.10.4 If monitoring finds that at least three of the Diega Creek Grinding Groove sites 2 through 6 do not suffer from impacts that cause cracking of the sandstone within the area of the sandstone platform containing the grooves and within 1 metre of any groove, WWC will proceed with subsidence of Diega Creek Grinding Grooves 1. If this is not possible because 3 or more of the Diega Creek Grinding Grooves 2 to 6 sites have cracked within the specified site area, WWC will commit to protecting Diega Creek Grinding Grooves 1 from damage related to subsidence.

6.10.5 WWC has committed to funding a program of further survey within the SSCA in consultation with the Aboriginal stakeholders and the NPWS/OEH, the purpose of the survey is to meet the requirements of Intergenerational Equity in relation to the potential subsidence impacts to Bangalow Creek 1, 2, 3, 4, 5, 6 and #38-4-0461 Grinding Grooves.

6.10.6 WWC will commit to the provision of funding for further Aboriginal Cultural Heritage values investigations. The specific nature of the investigation will be subject of further consultation with the registered Aboriginal stakeholders and endorsement by the OEH.

6.10.7 WWC will prepare an ACHMP for the project that is consistent with the Aboriginal cultural and archaeological management commitments made in this report and includes the following matters:

- details of the proposed implementation of, and methodology for, the conservation offset strategy;
- a detailed salvage program for Aboriginal archaeological sites within the proposed continued underground mining area including isolated finds, artefact scatters (if subsidence remediation works are required in the site areas) and the Cockle Creek Rockshelter with Artefacts and PAD;
- a detailed description of the mitigation measures that would be undertaken for all Aboriginal archaeological sites and landscape features of Aboriginal cultural value within the proposed continued underground mining area prior to and/or following subsidence;

- a detailed description of the measures that would be implemented to protect Aboriginal archaeological sites and landscape features of Aboriginal cultural value for the life of the project;
- a detailed methodology for inspection of locations proposed for surface ventilation infrastructure construction and future exploration boreholes;
- a description of the measures that would be implemented if any new Aboriginal sites/artefacts or skeletal remains are discovered during works associated with the Project;
- the provision of Aboriginal cultural awareness training for relevant WWC personnel and contractors as part of the induction process; and
- a protocol for the ongoing consultation and involvement of the Aboriginal stakeholder groups and NPWS/OEH in the conservation and management of Aboriginal cultural heritage within the proposed continued underground mining area.

## **6.11 Historic Heritage**

6.11.1 WWC will map the recorded historic heritage sites on relevant project drawings and plans used during subsidence remediation works to provide that their presence is considered in planning such works. Impacts to such sites will be avoided during subsidence remediation works.

6.11.2 WWC personnel involved in subsidence remediation works will be briefed about the location of the recorded heritage items and their heritage status in an induction prior to conducting work in the continued underground mining area.

6.11.3 WWC will undertake inspections of historical heritage sites following the completion of undermining the recorded historic heritage sites. If subsidence cracks are identified in the vicinity of the identified sites they will be remediated as soon as practicable, except where any remediation works may result in further adverse impacts.

## **6.12 Traffic and Transport**

6.12.1 WWC will consult with LMCC on the final design of the new intersection associated with the proposed Mining Services Facility. This intersection will require LMCC approval under the Roads Act prior to commencement of these works. The intersection design will include appropriate deceleration and merge lanes, and signage.

6.12.2 Prior to the commencement of construction activities associated with the Mining Services Facility, WWC will prepare a construction traffic management plan in consultation with LMCC and the CCC.

6.12.3 WWC will consult with LMCC to determine relevant funding to have the road markings at the intersection of Wakefield Road and The Broadway repainted to appropriately delineate control and lane lines.

6.12.4 No haulage of coal will be undertaken on public roads, except in the case of emergency and as approved by the Director General.

## **6.13 Visual**

6.13.1 WWC will maintain and implement a range of visual controls to screen views of the Mining Services Facility and minimise the visual impacts, including:

- where possible, trees will be retained to maintain visual amenity;

- planting of vegetation screening, where necessary, to shield the proposed Mining Services Facility; and
- all buildings and infrastructure potentially visible to the public, including the proposed Mining Services Facility, will be coloured in suitably natural tones, where practicable.

#### **6.14 Waste**

6.14.1 The management of waste materials generated by the construction and operation of the Project will be managed through the design; procurement of materials and purchasing; identification and segregation of reusable and recyclable materials; processing materials for recycling; and considering environmental impacts for waste removal processes, as outlined in the existing Waste Management Plan.

#### **6.15 Community**

6.15.1 WWC will continue to prepare and distribute a community newsletter to surrounding residences every six months.

6.15.2 WWC will continue to engage the community regarding the Project and operations in general through a Community Consultative Committee, as considered appropriate by Department of Planning and Infrastructure.

#### **6.16 Decommissioning and Mine Closure**

6.16.1 A detailed closure planning process will be undertaken for the Project five years prior to cessation of mining.

6.16.2 Decommissioning of the mining operations and surface facilities associated with the Project will occur progressively throughout the life of the Project, in accordance with conditions of the relevant mining titles and existing closure plan. This will include progressive decommissioning of mine entries, ventilation fans, ventilation shafts, borehole facilities and associated surface facilities, where no longer required.

#### **6.17 Environmental Management, Monitoring, Auditing and Reporting**

##### **Annual Environmental Management Report**

6.17.1 WWC will prepare an Annual Review, in accordance with project approval requirements.

##### **Independent Environmental Audit**

6.17.2 WWC will commission and pay the full cost of an Independent Environmental Audit of the Project in accordance with the project approval.

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**APPENDIX 4:**  
**ABORIGINAL HERITAGE TABLES**

*Table 1: Negligible Impact*

AHIMS	Site Name	Site Type	Aboriginal Significance	Archaeological Significance
<b>Aboriginal heritage items</b>				
38-4-1240*	Bangalow Creek Grinding Grooves 7	Grinding Grooves	Extremely high	Moderate to high
38-4-0462*	Grinding Grooves and Associated Rockshelter	Grinding Grooves	Extremely High	High
38-4-1007	Palmers Creek Grinding Groove 1	Grinding Grooves	Extremely high	High
38-4-1279	Palmers Creek Grinding Groove 2	Grinding Grooves	Extremely high	High
38-4-0993	Western Domain 5	Artefact Scatter associated with wet soak	Very high to extremely high	Low to moderate
38-4-1278	Diega Creek ST4	Scarred Tree	Very high	Moderate
38-4-1227	AS4	Artefact Scatter	High	-
38-4-1230	IF3	Isolated Find	High	-
<b>Aboriginal cultural features</b>				
-	Stone Arch	Cultural feature/landmark	Extremely high	-
-	Kangaroo Rock	Landscape feature/marker	Extremely high	-
-	Rockshelters 1, 2 and 8	Rockshelters	Extremely high	
* Sites located outside the mining area and subsidence impact zone, but in an area where indirect impact from sedimentation may occur.				

*Table 2: Potential Avoidance*

AHIMS	Site Name	Site Type	Aboriginal Significance	Archaeological Significance
38-4-1234	Bangalow Creek Grinding Grooves 1	Grinding Grooves	Very high to extremely high	High
38-4-1235	Bangalow Creek Grinding Grooves 2	Grinding Grooves	Extremely high	Moderate to high
38-4-1236	Bangalow Creek Grinding Grooves 3	Grinding Grooves	Very high to extremely high	Moderate to high
38-4-1237	Bangalow Creek Grinding Grooves 4	Grinding Grooves	Extremely high	Moderate to high
38-4-1238	Bangalow Creek Grinding Grooves 5	Grinding Grooves	Extremely high	High
38-4-1239	Bangalow Creek Grinding Grooves 6	Grinding Grooves	Extremely high	Moderate to high
38-4-0461	Grinding Grooves	Grinding Grooves	Extremely high	Moderate

**Table 3(a): Minimisation**

AHIMS	Site Name	Site Type	Aboriginal Significance	Archaeological Significance
38-4-1264	Diega Creek Grinding Grooves 1	Grinding Grooves	Extremely high	Moderate

**Table 3(b): Minimisation**

AHIMS	Site Name	Site Type	Aboriginal Significance	Archaeological Significance
38-4-1265	Diega Creek Grinding Grooves 2	Grinding Grooves	Very high to extremely high	Low to moderate
38-4-1266	Diega Creek Grinding Grooves 3	Grinding Grooves	Very high to extremely high	Low to moderate
38-4-1267	Diega Creek Grinding Grooves 4	Grinding Grooves	Very high to extremely high	Low to moderate
38-4-1268	Diega Creek Grinding Grooves 5	Grinding Grooves	Very high to extremely high	Low to moderate
38-4-1269	Diega Creek Grinding Grooves 6	Grinding Grooves	Very high to extremely high	Low to moderate

**Table 4: Management**

AHIMS	Site Name	Site Type	Aboriginal Significance	Archaeological Significance
<b>Aboriginal heritage items</b>				
38-4-1252	Cockle Creek Grinding Grooves 1	Grinding Grooves	Very high to extremely high	Low to moderate
38-4-1232	Bangalow Creek AS1	Artefact Scatter	Moderate	Low
38-4-1233	Bangalow Creek AS2	Artefact Scatter	Moderate to high	Low
38-4-1243	Brunkerville Trail AS1	Artefact Scatter	High to very high	Low to moderate
38-4-1246	Cockle Creek AS1	Artefact Scatter	Moderate to high	Low
38-4-1250	Cockle Creek AS5	Artefact Scatter	Moderate to high	Low
38-4-1251	Cockle Creek AS6	Artefact Scatter	Moderate to high	Low
38-4-1257	Cockle Creek IF3	Isolated Find	Moderate to high	Low
38-4-1258	Cockle Creek IF4	Isolated Find	Moderate to high	Low
45-7-0289	Diega Creek AS1	Artefact Scatter	Moderate to high	Low
38-4-1262	Diega Creek AS2	Artefact Scatter	Moderate to high	Low
38-4-1263	Diega Creek AS3	Artefact Scatter	Moderate to high	Low
38-4-1270	Diega Creek IF1	Isolated Find	Moderate to high	Low
38-4-1271	Diega Creek IF2	Isolated Find	Moderate to high	Low
38-4-1272	Diega Creek IF3	Isolated Find	Moderate to high	Low
38-4-1273	Diega Creek IF4	Isolated Find	Moderate to high	Low
38-4-1274	Diega Creek IF5	Isolated Find	Moderate to high	Low
38-4-1275	Diega Creek IF6	Isolated Find	Moderate to high	Low
38-4-1280	Palmers Creek Grinding Groove 3	Grinding Grooves	Extremely high	High
38-4-0995	GNW1	Artefact Scatter	High to very high	Low to moderate
38-4-1000	Western Domain 6	Artefact Scatter	Moderate	Moderate
38-4-1001	Western Domain 7	Artefact Scatter	Moderate	Moderate
38-4-1002	Western Domain 8	Artefact Scatter	Moderate to high	Low

38-4-0098	AS	Artifact Scatter	Moderate	Low
38-4-1259	Cockle Creek SA1	Stone Arrangement	Extremely high	Moderate to high
38-4-1276	Diega Creek SA1	Stone Arrangement	Extremely high	Moderate to high
38-4-1260	Cockle Creek Rockshelter with Artefacts and PAD	Rockshelter with Artefacts and PAD	Very high to extremely high	High
38-4-1261	Cockle Creek ST2	Scarred Tree	Very high	Moderate
38-4-1277	Diega Creek ST1	Scarred Tree	Very high	Moderate
38-4-1224	AS1	Artifact Scatter	High	Low*
38-4-1225	AS2	Artifact Scatter	High	Low*
38-4-1226	AS3	Artifact Scatter	High	Low*
38-4-1228	IF1	Isolated Find	High	Low*
38-4-1229	IF2	Isolated Find	High	Low*
38-4-1231	IF4	Isolated Find	High	Low*
-	Potential Aboriginal Scarred Tree**	Potential Scarred Tree	High if it is a scarred tree	Moderate if it is a scarred tree

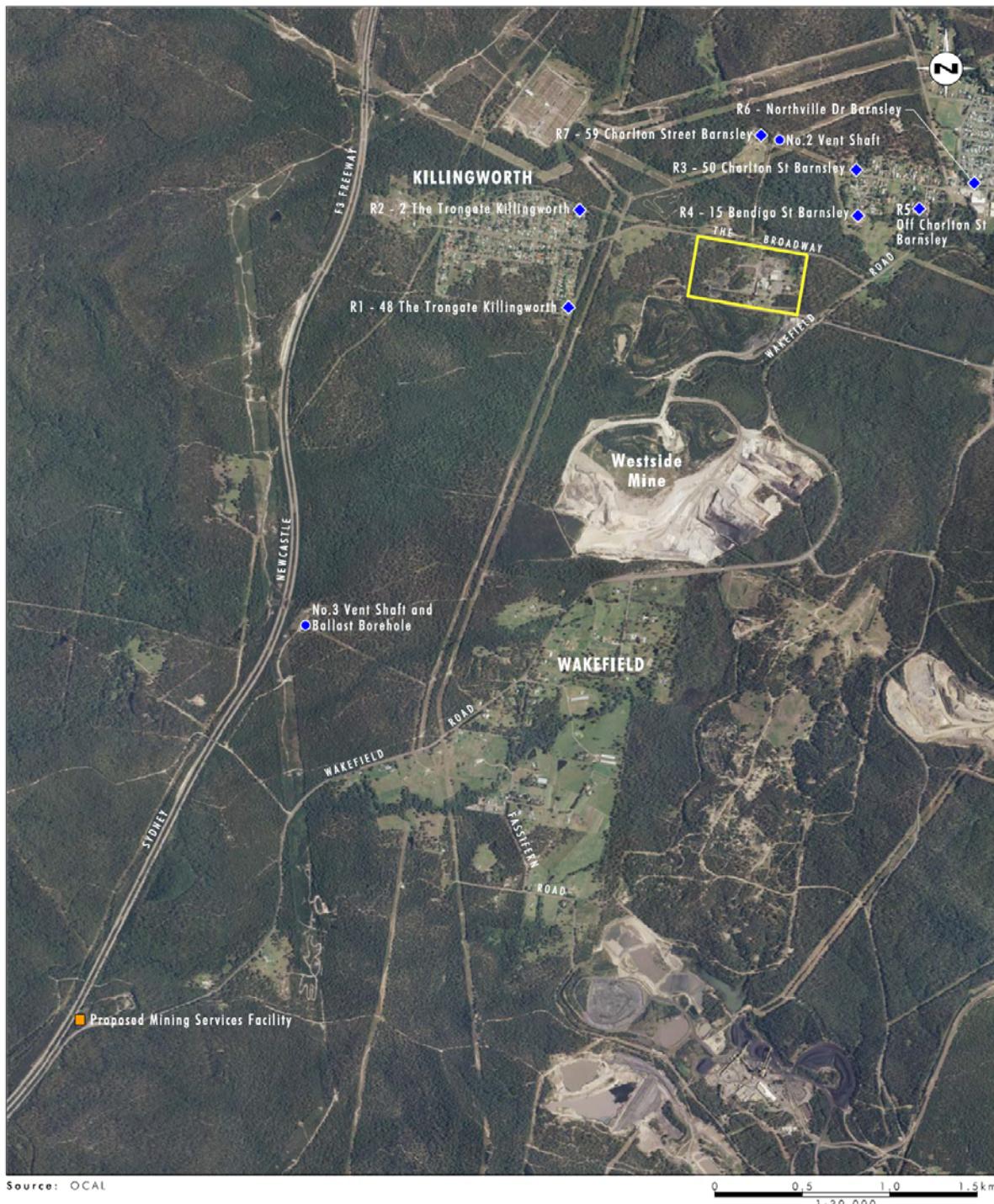
***Aboriginal cultural features***

-	Wet Soak (#2)	Resource - wet soak or perch wetland in Diega Creek catchment	Extremely high	-
-	Pigment Site	Resource - pigment located in creek bed along Bangalow Creek	Extremely high	-
-	Stone cairns/ stacks	Landscape marker	Moderate to high	-
-	Rock Shelters 3, 4, 7, 10, 11	Rock shelters	Extremely high	-

\* Not assessed by Virtus Heritage, however based on small number of artefacts and degree of disturbance is assessed by Umwelt as low

\*\* It is noted that Virtus Heritage did not register this possible scarred tree on the AHIMS and suggested that it should be inspected by an arboriculturalist to identify if the scar was natural, historic or Aboriginal cultural in origin.

**APPENDIX 5:  
RECEIVER LOCATIONS PLAN AND LIST**



**Legend**

- Yellow box: West Wallsend Colliery Pit Top Facility
- Blue diamond: Receiver Location
- Orange square: Proposed Mining Services Facility

**West Wallsend Colliery Operations  
Noise Monitoring and Receiver Locations**

**Residential Receivers**

Receiver Area	Address	Suburb
R2	7 Brooks Street	Killingworth
	9 Brooks Street	Killingworth
	11 Brooks Street	Killingworth
	13 Brooks Street	Killingworth
	15 Brooks Street	Killingworth
	17 Brooks Street	Killingworth
	2 The Broadway	Killingworth
	3 The Broadway	Killingworth
	4 The Broadway	Killingworth
	5 The Broadway	Killingworth
	6 The Broadway	Killingworth
	7 The Broadway	Killingworth
	8 The Broadway	Killingworth
	9 The Broadway	Killingworth
	10 The Broadway	Killingworth
	11 The Broadway	Killingworth
	12 The Broadway	Killingworth
	13 The Broadway	Killingworth
	14 The Broadway	Killingworth
	15 The Broadway	Killingworth
	16 The Broadway	Killingworth
	17 The Broadway	Killingworth
	18 The Broadway	Killingworth
	18A The Broadway	Killingworth
	20 The Broadway	Killingworth
	22 The Broadway	Killingworth
	1 Geordie Street	Killingworth
	3 Geordie Street	Killingworth
	4 Geordie Street	Killingworth
	5 Geordie Street	Killingworth
	6 Geordie Street	Killingworth
	7 Geordie Street	Killingworth
	8 Geordie Street	Killingworth
	9 Geordie Street	Killingworth
	10 Geordie Street	Killingworth
	11 Geordie Street	Killingworth
	12 Geordie Street	Killingworth
	13 Geordie Street	Killingworth
	14 Geordie Street	Killingworth
	15 Geordie Street	Killingworth
	16 Geordie Street	Killingworth
	17 Geordie Street	Killingworth
	18 Geordie Street	Killingworth
	20 Geordie Street	Killingworth
	1 Killingworth Road	Killingworth
	3 Killingworth Road	Killingworth
	5 Killingworth Road	Killingworth
	9 Killingworth Road	Killingworth
	11 Killingworth Road	Killingworth
	13 Killingworth Road	Killingworth
	1 Throckmorton Street	Killingworth
	3 Throckmorton Street	Killingworth
	4 Throckmorton Street	Killingworth
	5 Throckmorton Street	Killingworth
	6 Throckmorton Street	Killingworth
	7 Throckmorton Street	Killingworth
	8 Throckmorton Street	Killingworth
	9 Throckmorton Street	Killingworth
	10 Throckmorton Street	Killingworth
	11 Throckmorton Street	Killingworth

Receiver Area	Address	Suburb
	12 Throckmorton Street	Killingworth
	13 Throckmorton Street	Killingworth
	14 Throckmorton Street	Killingworth
	15 Throckmorton Street	Killingworth
	16 Throckmorton Street	Killingworth
	18 Throckmorton Street	Killingworth
	4 The Trongate	Killingworth
	6 The Trongate	Killingworth
	8 The Trongate	Killingworth
	10 The Trongate	Killingworth
	12 The Trongate	Killingworth
	14 The Trongate	Killingworth
	2 Brooks Street	Killingworth
	3 Brooks Street	Killingworth
	4 Brooks Street	Killingworth
	5 Brooks Street	Killingworth
	6 Brooks Street	Killingworth
	8 Brooks Street	Killingworth
	10 Brooks Street	Killingworth
	12 Brooks Street	Killingworth
	14 Brooks Street	Killingworth
	16 Brooks Street	Killingworth
	1 The Broadway	Killingworth
	19 The Broadway	Killingworth
	21 The Broadway	Killingworth
	23 The Broadway	Killingworth
	24 The Broadway	Killingworth
	25 The Broadway	Killingworth
	26 The Broadway	Killingworth
	27 The Broadway	Killingworth
	28 The Broadway	Killingworth
	29 The Broadway	Killingworth
	31 The Broadway	Killingworth
	33 The Broadway	Killingworth
	2 Geordie Street	Killingworth
	23 Geordie Street	Killingworth
	24 Geordie Street	Killingworth
	25 Geordie Street	Killingworth
	26 Geordie Street	Killingworth
	27 Geordie Street	Killingworth
	21 Killingworth Road	Killingworth
	23 Killingworth Road	Killingworth
	3 Park Street	Killingworth
	8 Park Street	Killingworth
	10 Park Street	Killingworth
	12 Park Street	Killingworth
	14 Park Street	Killingworth
	16 Park Street	Killingworth
	18 Park Street	Killingworth
	20 Park Street	Killingworth
	21 Throckmorton Street	Killingworth
	23 Throckmorton Street	Killingworth
	24 Throckmorton Street	Killingworth
	25 Throckmorton Street	Killingworth
	26 Throckmorton Street	Killingworth
	27 Throckmorton Street	Killingworth
	28 Throckmorton Street	Killingworth
	29 Throckmorton Street	Killingworth
	20 The Trongate	Killingworth
	22 The Trongate	Killingworth
	24 The Trongate	Killingworth
	26 The Trongate	Killingworth

Receiver Area	Address	Suburb
R3	31 Charlton Street	Barnsley
	33 Charlton Street	Barnsley
	35 Charlton Street	Barnsley
	37-39 Charlton Street	Barnsley
	40 Charlton Street	Barnsley
	41 Charlton Street	Barnsley
	42 Charlton Street	Barnsley
	44 Charlton Street	Barnsley
	46 Charlton Street	Barnsley
	48A Charlton Street	Barnsley
	48 Charlton Street	Barnsley
	50 Charlton Street	Barnsley
	5 Bendigo Street	Barnsley
R4	2 Bendigo Street	Barnsley
	4 Bendigo Street	Barnsley
	6 Bendigo Street	Barnsley
	7 Bendigo Street	Barnsley
	8 Bendigo Street	Barnsley
	9 Bendigo Street	Barnsley
	10 Bendigo Street	Barnsley
	11 Bendigo Street	Barnsley
	12 Bendigo Street	Barnsley
	13 Bendigo Street	Barnsley
	14 Bendigo Street	Barnsley
	15 Bendigo Street	Barnsley
	16 Bendigo Street	Barnsley
	18 Bendigo Street	Barnsley
	32 Bendigo Street	Barnsley
	43 Charlton Street	Barnsley
	45 Charlton Street	Barnsley
	47 Charlton Street	Barnsley
	49 Charlton Street	Barnsley
	52 Charlton Street	Barnsley
R5	14 Charlton Street	Barnsley
	15 Charlton Street	Barnsley
	16 Charlton Street	Barnsley
	16A Charlton Street	Barnsley
	18 Charlton Street	Barnsley
	19 Charlton Street	Barnsley
	20 Charlton Street	Barnsley
	22 Charlton Street	Barnsley
	23 Charlton Street	Barnsley
	22 Charlton Street	Barnsley
	24 Charlton Street	Barnsley
	25 Charlton Street	Barnsley
	26 Charlton Street	Barnsley
	28 Charlton Street	Barnsley
	30 Charlton Street	Barnsley
	32 Charlton Street	Barnsley
	34 Charlton Street	Barnsley
	36 Charlton Street	Barnsley
	38 Charlton Street	Barnsley
R6	All residences not included within either R3, R4, R5 or R7	Barnsley
R7	59 Charlton Street	Barnsley