Appendix 2

Director-General's Requirements and Coverage of Relevant Requirements in the *Environmental Assessment*

- Correspondence from the Director-General, Department of Planning – 29 June 2010 and 1 September 2010
- Table A2-1: Coverage of Director-General's Requirements in the *Environmental Assessment*
- Table A2-2: Coverage of Requirements nominated by other Government Agencies in the *Environmental Assessment*

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NSW GOVERNMENT | Planning

Major Projects Assessment
Mining and Industry Projects
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Our Ref: S03/03677

Mr Brian Cullen
General Manager - Technical Services
Werris Creek Coal Pty Limited
PO Box 125
WERRIS CREEK NSW 2341

Dear Mr Cullen,

Werris Creek Life of Mine Project (MP 10_0059)
Director-General's Requirements

The Department has received your application for the Werris Creek Life of Mine Project.

The Director-General's requirements for the project are attached. These requirements have been prepared in consultation with relevant agencies, based on the information you have provided to date. I have also attached a copy of the agencies' comments for your information.

Please note that the Director-General may alter these requirements at any time.

If your proposal is likely to have a significant impact on matters of National Environmental Significance, it will require an approval under the Commonwealth *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act). This approval is in addition to any approvals required under NSW legislation. It is your responsibility to contact the Department of Environment, Water, Heritage and the Arts in Canberra (6274 1111 or http://www.environment.gov.au) to determine if the proposal requires an approval under the EPBC Act. If it is subsequently determined that an approval is required under the EPBC Act, please contact the Department of Planning immediately as supplementary Director-General's requirements may need to be issued.

I would appreciate it if you would contact the Department at least two weeks before you propose to submit your EA for the project. This will enable the Department to:

- determine the applicable fee (see Division 1A, Part 15 of the *Environmental Planning and Assessment Regulation 2000*); and
- confirm the number of copies (hard-copy and CD-ROM) of the Environmental Assessment (EA) that will be required for exhibition purposes.

Once it receives the EA, the Department will review it in consultation with the relevant agencies to determine if it adequately addresses the Director-General's requirements, and may require you to revise it prior to public exhibition.

The Department is required to make all the relevant information associated with the project publicly available on its website. Consequently, I would appreciate it if you would ensure that all the documents you subsequently submit to the Department are in a suitable format for the web, and arrange for an electronic version of the EA to be hosted on a suitable website.

If you have any enquiries about these requirements, please contact Paul Freeman.

Yours sincerely

Kitto 29/6/10

David Kitto
Director
Mining and Industry Projects
As delegate for the Director-General

Director-General's Requirements

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

Application Number	MP 10_0059
Project	The Werris Creek Life of Mine project, which includes: • extending the existing open cut pit in a northerly direction; • increasing the maximum coal production rate from 2.0 million tonnes per annum (Mtpa) of run-of-mine (ROM) coal to 2.5 Mtpa; • crushing and screening this coal on-site; • transporting product coal by rail to the Port of Newcastle for export; • increasing the amount of coal able to be transported by road to domestic markets from 50,000 tonnes per annum (tpa) to 100,000 tpa; • relocating existing coal processing infrastructure and administrative facilities to the west of the proposed pit extension; • constructing new coal handling and transportation infrastructure and a rail loop from the Werris Creek Rail Siding; • increasing the storage capacity of both the existing ROM coal pad and the product coal stockpile area; • extending the existing out-of-pit overburden emplacement area and constructing an acoustic and visual amenity bund; • constructing a new entrance to the mine off Escott Road and upgrading the Escott Road/Werris Creek Road intersection; • increasing the hours of operation to 24 hours a day, 7 days a week; and • rehabilitating the site.
Location	Werris Creek, 11 kilometres north of Quirindi.
Proponent	Werris Creek Coal Pty Limited.
Date of Issue	29 June 2010.
General Requirements	The Environmental Assessment of the project must include: • an executive summary; • a detailed description of the project, including: – need for the project; – alternatives considered, including justification for the proposed mine plan; and – various stages of the project; • a risk assessment of the potential environmental impacts of the project, identifying the key issues for further assessment; • a detailed assessment of the key issues specified below, and any other significant issues identified in the risk assessment (see above), which includes: – a description of the existing environment, using sufficient baseline data; – an assessment of the potential impacts of the project, including any cumulative impacts, taking into consideration any relevant guidelines, policies, plans and statutory provisions (see below); and – a description of the measures that would be implemented to avoid, minimise and if necessary, offset the potential impacts of the project, including detailed contingency plans for managing any significant risks to the environment; • a statement of commitments, outlining all the proposed environmental management and monitoring measures; • a conclusion justifying the project on economic, social and environmental

	grounds, taking into consideration whether the project is consistent with the objects of the *Environmental Planning & Assessment Act 1979*; and • a signed statement from the author of the Environmental Assessment, certifying that the information contained within the document is neither false nor misleading.
Key Issues	• **Soil and Water** – including: – a detailed site water balance, including a description of site water demands, water supply and disposal methods; – detailed modelling and assessment of potential impacts on: o the quality and quantity of existing surface water and groundwater resources; o affected licensed water users and basic landholder rights; o the riparian, ecological, geomorphological and hydrological values of watercourses; and o impacts to agricultural lands. – a detailed description of the proposed water management system (including all infrastructure and storages) and water monitoring program; – a detailed description of measures to minimise all water discharges, and – a detailed description of measures to mitigate surface water and groundwater impacts. • **Biodiversity** – including: – an accurate quantification of any vegetation clearing; – a detailed assessment of potential impacts on terrestrial or aquatic threatened species or populations or their habitats, endangered ecological communities and groundwater dependent ecosystems; – a detailed description of the measures that would be implemented to avoid or mitigate impacts on biodiversity; and – an offset strategy to ensure the project maintains or improves the biodiversity values of the region in the medium to long term. • **Noise & Vibration** – including a quantitative assessment of potential construction, operational, blasting and transport noise impacts. • **Air Quality** – including a quantitative assessment of potential air quality impacts, including dust emissions from rail wagons. • **Traffic & Transport** – including a detailed assessment of potential impacts on the safety and performance of the rail and road networks. • **Greenhouse Gases** – including: – a quantitative assessment of the potential scope 1, 2 and 3 greenhouse gas emissions of the project; – a qualitative assessment of the potential impacts of these emissions on the environment; and – an assessment of all reasonable and feasible measures that could be implemented on site to minimise greenhouse gas emissions and ensure the project is energy efficient. • **Rehabilitation & Mine Closure** - a detailed description of the proposed rehabilitation and mine closure strategies for the project, having regard to the key principles in *Strategic Framework for Mine Closure*, including: – rehabilitation objectives, methodology, monitoring programs, performance standards and proposed completion criteria; – decommissioning and management of surface infrastructure; – nominated final land uses, having regard to any relevant strategic land use planning or resource management plans or policies; and – the potential for integrating the rehabilitation strategy with any other offset strategies in the region. • **Heritage** – both Aboriginal and non-Aboriginal. • **Visual** – including a detailed description of the measures that would be implemented to minimise the visual impact of the project.

	• **Waste** - including: – accurate estimates of the quantity and nature of the potential waste streams of the project; and – a description of the measures that would be implemented to minimise, handle and dispose of waste on site. • **Social & Economic –** including an assessment of the costs and benefits of the project as a whole, the demand on local infrastructure and services and whether it would result in a net benefit for the NSW community. • **Hazards** - including bushfires.
References	The environmental assessment of the key issues listed above must take into account relevant guidelines, policies, and plans. While not exhaustive, the following attachment contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this project.
Consultation	During the preparation of the Environmental Assessment, you should consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with the: • Department of Environment, Climate Change and Water, including the NSW Office of Water; • Industry and Investment NSW; • Department of Transport and Infrastructure; • Liverpool Plains Shire Council; • Namoi Catchment Management Authority; and • Werris Creek Coal Mine Community Consultative Committee. The consultation process and the issues raised must be described in the Environmental Assessment.
Deemed Refusal Period	90 days

Policies, Guidelines & Plans

Risk Assessment	
	AS/NZS 4360:2004 Risk Management (Standards Australia)
	HB 203: 203:2006 Environmental Risk Management – Principles & Process (Standards Australia)
Soil & Water	
Soil	Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC)
	Rural Land Capability Mapping (DLWC)
	Agricultural Land Classification (DPI)
Surface Water	National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems – Effluent Management (ARMCANZ/ANZECC)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems – Use of Reclaimed Water (ARMCANZ/ANZECC)
	Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC)
	State Water Management Outcomes Plan
	NSW Government Water Quality and River Flow Objectives (DECC)
	Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC)
	Managing Urban Stormwater: Soils & Construction (Landcom)
	Managing Urban Stormwater: Treatment Techniques (DECC)
	Managing Urban Stormwater: Source Control (DECC)
	A Rehabilitation Manual for Australian Streams (LWRRDC and CRCCH)
	Technical Guidelines: Bunding & Spill Management (DECC)
	Environmental Guidelines: Use of Effluent by Irrigation (DECC)
Groundwater	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC)
	NSW State Groundwater Policy Framework Document (DLWC, 1997)
	NSW State Groundwater Quality Protection Policy (DLWC, 1998)
	NSW State Groundwater Quantity Management Policy (DLWC, 1998)
	Guidelines for the Assessment & Management of Groundwater Contamination (DECC, 2007)
	NSW Inland Groundwater Shortage Zones Order No. 2 (2008)
Blasting and Vibration	
	ANZECC Guidelines to Minimise Annoyance Due to Blasting Overpressure & Ground Vibration
	Assessing Vibration – A Technical Guide 2006 (DEC)
	DIN 4150 Part 3 - Structural Vibration: effects of vibration on structures (ISO, 1999)
Noise	
	NSW Industrial Noise Policy (DECC)
	Environmental Criteria for Road Traffic Noise (NSW EPA)
	Interim Construction Noise Guideline (DECC)
Air Quality	
	Protection of the Environment Operations (Clean Air) Regulation 2002

	Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (DEC)
	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC)
Biodiversity	
	Draft Guidelines for Threatened Species Assessment under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (DEC)
	NSW State Groundwater Dependent Ecosystem Policy (DLWC)
	Policy & Guidelines - Aquatic Habitat Management and Fish Conservation (NSW Fisheries)
	Policy & Guidelines - Fish Friendly Waterway Crossings (NSW Fisheries)
	State Environmental Planning Policy No. 44 – Koala Habitat Protection
Rehabilitation	
	Mine Rehabilitation – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth of Australia)
	Mine Closure and Completion – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth of Australia)
	Strategic Framework for Mine Closure (ANZMEC-MCA)
Traffic & Transport	
	Guide to Traffic Generating Development (RTA)
Heritage	
Aboriginal	Draft Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation (DoP and DEC)
	Aboriginal Cultural Heritage Consultation Requirements for Proponents
Non-Aboriginal	NSW Heritage Manual (NSW Heritage Office)
	The Burra Charter (The Australia ICOMOS charter for places of cultural significance)
Greenhouse Gases	
	National Greenhouse Accounts Factors (Australian Department of Climate Change (DCC))
	Guidelines for Energy Savings Action Plans (DEUS)
Hazards	
	State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
	Applying SEPP 33 – Hazardous and Offensive Development Application Guidelines (DUAP)
	Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis
Waste	
	Waste Classification Guidelines (DECC)
Social & Economic	
	Draft Economic Evaluation in Environmental Impact Assessment (DoP)
	Techniques for Effective Social Impact Assessment: A Practical Guide (Office of Social Policy, NSW Government Social Policy Directorate)

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Major Projects Assessment
Mining & Industry
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Mr Brian Cullen
Technical Services Manager
Whitehaven Coal Limited
PO Box 600
GUNNEDAH NSW 2380

Dear Mr Cullen

Werris Creek Life of Mine Project - Supplement to the Director-General's Requirements

I refer to the Director-General's requirements issued for the Werris Creek Life of Mine Project on 29 June 2010.

As you are aware, this project has been declared a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Department of Environment, Water, Heritage and the Arts has accredited the NSW Part 3A assessment process for the project. Accordingly, the Department will undertake an environmental impact assessment of the project to satisfy the requirements of both NSW and Commonwealth legislation.

To ensure that sufficient information is provided to enable an appropriate level of assessment of relevant matters of National Environmental Significance, the Director-General has issued supplementary requirements for the Environmental Assessment under section 75F(3) of the *Environmental Planning and Assessment Act 1979*. A copy of the supplementary requirements is attached.

You must ensure that the Environmental Assessment adequately addresses the Director-General's requirements issued on 29 June 2010, and the supplementary requirements attached to this letter.

If you have any enquiries about these requirements, please contact Paul Freeman.

Yours sincerely

DKitto 1/9/10

David Kitto
Director, Mining & Industry Projects
as delegate for the Director-General

Department of Planning, 23-33 Bridge St Sydney, NSW 2000 GPO Box 39 Sydney, NSW 2001
www.planning.nsw.gov.au

Supplementary Director-General's Requirements

Section 75F(3) of the *Environmental Planning and Assessment Act 1979*

The Commonwealth Minister for Environment Protection, Heritage and the Arts has declared the Werris Creek Life of Mine Project to be a controlled action under section 75 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The controlled action is likely to have a direct and indirect impact on matters of national environment significance, in particular, threatened species and/or threatened ecological communities listed under sections 18 and 18A, and migratory species listed under sections 20 and 20A of the EPBC Act.

In accordance with the one-off accredited assessment process for this project, the environmental assessment of the impacts of the controlled action is to be assessed under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The assessment should include enough information about the controlled action and its relevant impacts to allow the Commonwealth Minister for Environment Protection, Heritage and the Arts to make an informed decision whether or not to approve the controlled action under the EPBC Act.

The following assessment requirements are to be integrated into the assessment required for Part 3A of the EP&A Act. The following matters in the EPBC Act and schedule 4 of the *Environment Protection and Biodiversity Conservation Regulations 2000* should be considered.

General information

1. The background of the action, including:
    a. the title of the action;
    b. the full name and postal address of the designated proponent;
    c. a clear outline of the objective of the action;
    d. the location of the action;
    e. the background to the development of the action;
    f. how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action;
    g. the current status of the action; and
    h. the consequences of not proceeding with the action.

Description of the controlled action

2. A description of the action, including:
    a. all the components of the action;
    b. the precise location of any works to be undertaken, structures to be built or elements of the action that may have relevant impacts;
    c. how the works are to be undertaken and the design parameters for those aspects of the structures or elements of the action that may have relevant impacts;
    d. to an extent reasonably practicable, a description of any feasible alternatives to the controlled action that have been identified through the assessment, and their likely impact, including:
        i. if relevant, the alternative of taking no action;
        ii. a comparative description of the impacts of each alternative on the matters protected by the controlling provisions for the action; and
        iii. sufficient detail to clarify why any alternative is preferred to another.

A description of the relevant impacts of the controlled action

3. An assessment of all relevant impacts[1] with reference to the *EPBC Act Policy Statement 1.1 Significant Impact Guidelines Matters of National Environmental Significance (2009)* that the controlled action would have on:
    a. relevant migratory and threatened species and/or ecological communities listed under sections 18, 18A, 20 and 20A of the EPBC Act, including:
        - White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland;
        - Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland;
        - Regent Honeyeater *(Anthochaera phrygia)*;
        - Swift Parrot *(Lathamus discolor)*;
        - Finger Panic Grass (*Digitaria porrecta)*; and
        - a leek orchid (*Prasophyllum sp. Wybong)*.

4. Information must include:
    a. a description of the relevant impacts of the action on matters of national environmental significance;
    b. a detailed assessment of the nature and extent of the likely short term and long term relevant impacts;
    c. a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;
    d. analysis of the significance of the relevant impacts;
    e. any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

5. The description of impacts should include an analysis of the vegetation condition on the site, as well as the methods by which this was determined. It should also include direct, indirect, cumulative and facilitative impacts on the:
    a. extent of the EPBC listed White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland Ecological Community (Box-Gum Woodland), including connectivity with other areas of the ecological community;
    b. quality or integrity of the Box-Gum Woodland (including, but not limited to, assisting invasive species, that are harmful to the ecological communities, to become established; or causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the communities which kill or inhibit the growth of species in the ecological community);
    c. EPBC Act listed species in, or in any way dependent upon, the Box-Gum Woodland;
    d. composition of the Box-Gum Woodland;
    e. habitat present on site critical to the survival of the Box-Gum Woodland[2]; and
    f. abiotic (non-living) factors (such as water, nutrients or soil) necessary for the Box-Gum Woodland's survival, for example increasing groundwater levels or making the site wetter, soil disturbance or substantial alteration of surface water drainage patterns.

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[1] The term "relevant impact" is defined in section 82 of the EPBC Act.

[2] "habitat critical to the survival of a species or ecological community" refers to areas that are necessary:
- for activities such as foraging, breeding, roosting, or dispersal;
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators);
- to maintain genetic diversity and long term evolutionary development; or
- for the reintroduction of population or recovery of the species or ecological community.

Such habitat may be, but is not limited to: habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/or habitat listed on the register of Critical Habitat maintained by the Minister under the EPBC Act.

These impacts should be described for the construction and operation phases of the controlled action.

6. Where there is a potential habitat for EPBC Act listed species, surveys must be undertaken. These surveys must be timed appropriately and undertaken for a suitable period of time by a qualified person[3]. A subsequent description of the relevant impacts on such EPBC Act listed species should include, inter alia, direct, indirect, cumulative and facilitative impacts on the:
   a. population of the species at the site;
   b. area of occupancy of the species;
   c. habitat critical to the survival of the species;
   d. breeding cycle of the population; and
   e. availability or quality of habitat for the species.

Proposed safeguards and mitigation measures

7. A description of feasible mitigation measures, changes to the controlled action or procedures, which have been proposed by the proponent or suggested in public submissions, and which are intended to prevent or minimise relevant impacts. Information must include:
   a. a description, and an assessment of the expected or predicted effectiveness of, the mitigation measures;
   b. any statutory or policy basis for the mitigation measures;
   c. the cost of the mitigation measures;
   d. an outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing;
   e. the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program; and
   f. a consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impacts of the action.

Offsets

8. Should any residual impact exist that cannot be mitigated it may be necessary for offset measures to be considered in order to ensure the protection of matters of national environmental significance in perpetuity.

Other approvals and conditions

9. Any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action. Information must include:
   a. details of any local or State government planning scheme, or plan or policy under any local or State government planning system that deals with the proposed action, including:
      i. what environmental assessment of the proposed action has been, or is being, carried out under the scheme, plan or policy; and
      ii. how the scheme provides for the prevention, minimisation and management of any relevant impacts;
   b. a description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the Act), including any conditions that apply to the action;
   c. a statement identifying any additional approval that is required; and
   d. a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

[3] Where available, species-specific survey guidelines can be obtained on the department's *Species Profile and Threats Database*: http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl

Economic and social matters

10. A description of the short-term and long-term social and economic implications and/or impacts of the project.

Environmental record of person proposing to take the action

11. Details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:
    a. the proponent; and
    b. for an action for which a person has applied for a permit, the person making the application.

12. Details of the proponent's environmental policy and planning framework.

Information sources

13. For information given in an environment assessment, the draft must state:
    a. the source of the information;
    b. how recent the information is;
    c. how the reliability of the information was tested; and
    d. what uncertainties (if any) are in the information.

Consultation

14. Any consultation about the action, including:
    a. any consultation that has already taken place;
    b. proposed consultation about relevant impacts of the action;
    c. if there has been consultation about the proposed action — any documented response to, or result of, the consultation.

15. Identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.

Table A2-1
Director-General's Requirements

Paraphrased Requirement	Relevant EA Section(s)
GENERAL	
The Environmental Assessment of the project must include:	
• an executive summary;	ES-1
• a detailed description of the project, including:	Section 2
- need for the project;	
- alternatives consídered, including justification for the proposed mine plan; and	
- various stages of the project;	
• a risk assessment of the potential environmental impacts of the project, identifying the key issues for further assessment;	Section 3.3
• a detailed assessment of the key issues specified below, and any other significant issues identified in the risk assessment (see above), which	
includes:	
- a description of the existing environment, using sufficient baseline data;	Section 1.5 & Section 4B
- an assessment of the potential impacts of the project, including any cumulative impacts, taking into consideration any relevant guidelines, policies, plans and statutory provisions (see below); and	Section 4B
- a description of the measures that would be implemented to avoid, minimise and if necessary, offset the potential impacts of the project, including detailed contingency plans for managing any significant risks to the environment;	Section 4B
• a statement of commitments, outlining all the proposed environmental management and monitoring measures;	Section 5
• a conclusion justifying the project on economic, social and environmental grounds, taking into consideration whether the project is consistent with the objects of the *Environmental Planning & Assessment Act 1979*; and	Section 6
• a signed statement from the author of the Environmental Assessment, certifying that the information contained within the document is neither false nor misleading.	P.iii
SOIL AND WATER	
including:	
• a detailed site water balance, including a description of site water demands, water supply and disposal methods;	Section 4B.2.7
• detailed modelling and assessment of potential impacts on :	
- the quality and quantity of existing surface water and groundwater resources;	Sections 4B.1 and 4B.2
- affected licenced water users and basic landholder rights;	Sections 4B.1.6.3 & 4B.2.7.5
- the riparian, ecological, geomorphological hydrological values of watercourses: and	Sections 4B.1.6, 4B.6.6.4 & 4B.2.8
- impacts to agricultural lands.	Section 4B.9.3

Table A2-1 (Cont)
Director-General's Requirements

Paraphrased Requirement	Relevant EA Section(s)
SOIL AND WATER (Cont'd)	
• a detailed description of the proposed water management system (including all infrastructure and storages) and water monitoring program;	Sections 4B.2.6 & 4B.2.8
• a detailed description of measures to minimise all water discharges; and	Section 4B.2.5.2
• a detailed description of measures to mitigate surface water and groundwater impacts.	Sections 4B.1 and 4B.2
BIODIVERSITY	
Including: • an accurate quantification of any vegetation clearing;	Section 4B.6.3
• a detailed assessment of potential impacts on terrestrial or aquatic threatened species or populations or their habitats, endangered ecological communities and groundwater dependent ecosystems;	Section 4B.6.6
• a detailed description of the measures that would be implemented to avoid or mitigate impacts on biodiversity; and	Section 4B.6.5
• an offset strategy to ensure the project maintains or improves the biodiversity values of the region in the medium to long term.	Sections 2.14.9 & 4B.6.5.4
NOISE AND VIBRATION	
Including a quantitative assessment of potential construction, operational, blasting and transport noise impacts.	Section 4B.4
AIR QUALITY	
Including a quantitative assessment of potential air quality impacts, including dust emissions from rail wagons.	Section 4B.5
TRAFFIC AND TRANSPORT	
Including a detailed assessment of potential impacts on the safety and performance of the rail and road networks.	Section 4B.11
GREENHOUSE GASES	
• a quantitative assessment of the potential scope 1, 2 and 3 greenhouse gas emissions of the project; • a qualitative assessment of the potential impacts of these emissions I on the environment; and • an assessment of all reasonable and feasible measures that could be implemented on site to minimise greenhouse gas emissions and ensure the project is energy efficient.	Section 4B.5.6.4
REHABILITATION AND MINE CLOSURE	
A detailed description of the proposed rehabilitation and mine closure strategies for the project, having regard to the key principles in Strategic Framework for Mine Closure, including:	Section 2.14
rehabilitation objectives, methodology, monitoring programs, performance standards and proposed completion criteria;	Section 2.14.2 & 2.14.6

Table A2-1 (Cont)
Director-General's Requirements

Paraphrased Requirement	Relevant EA Section(s)
REHABILITATION AND MINE CLOSURE (Cont'd)	
• decommissioning and management of surface infrastructure;	Section 2.14.6.2
• nominated final land uses, having regard to any relevant strategic land use planning or resource management plans or policies: and	Section 2.14.5
• the potential for integrating the rehabilitation strategy with any other offset strategies in the region.	Section 2.14.5
HERITAGE	
Both Aboriginal and non-Aboriginal	Sections 4B.7 & 4B.8
VISUAL	
Including a detailed description of the measures that would be implemented to minimise the visual impact of the project.	Section 4B.10
WASTE	
Including: • accurate estimates of the quantity and nature of the potential waste streams of the project; and • a description of the measures that would be implemented to minimise, handle and dispose of waste on site.	Sections 2.10 & 4B.12
SOCIAL & ECONOMIC	
Including an assessment of the costs and benefits of the project as a whole, the demand on local infrastructure and services and whether it would result in a net benefit for the NSW community.	Section 4B.14 & 6
HAZARDS	
Including bushfires.	Section 4B.13
CONSULTATION	
During the preparation of the Environmental Assessment, you should consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with the: • Department of Environment, Climate Change and Water, including the NSW Office of Water; • Industry and Investment NSW; • Department of Transport and Infrastructure; • Liverpool Plains Shire Council; • Namoi Catchment Management Authority; and • Werris Creek Coal Mine Community Consultative Committee. The consultation process and the issues raised must be described in the Environmental Assessment.	Section 3.2.2

Table A2-2
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Traffic		
Liverpool Plains Shire Council	**Road network impacts**	
	The proposed road works in the vicinity of the Escott Road - Werris Creek Road intersection will require careful planning given the topography of the locality which already dictates double centre lines in this area.	Sections 2.7.2 & 4B.11
	Council's expectation in this regard would be: • Clear data on all vehicle movements and a current best practice proposal covering royalties payable to Council for-product movements by road. Two aspects require attention; the first being an upper limit for the amount of product to be moved by road and secondly an increase in the current royalty ($0.85/tonne plus CPI) paid to Council as it is not addressing the wear and tear on the roads (as current designated routes) in the Shire. The negotiated royalty (calculated primarily on the impact to Taylors Lane) is insufficient to meet the cost of maintaining the deteriorating state of these routes and will need to cover other proposed transport routes within the Shire as discussed in the PEA.	Section 4B.11.4.4
	• A comprehensive traffic safety study from the project site to the surrounding road network especially detailing design improvements proposed to be undertaken by the proponent to the new entrance off Escott Road, the upgrade of Escott Road and the upgrade of the Escott Road - Werris Creek Road intersection.	Section 4B.11 (See also Part 8 of the SCSC)
	• A comprehensive assessment of the impact of two new road / rail crossings on Escott Road. Council's concerned that with the increased length of coal trains the potential exists for Escott Road to be blocked for long periods of time and seriously inconveniencing the neighbouring property.	Section 4B.11.5 (See also Part 8 of the SCSC)
	Rail activity impacts	
	The increased rail movements generated by the project will have a cumulative effect on the following problems already being experienced by Shire residents:	Section 4B.11.5.5 (See also Part 8 of the SCSC)
	• <u>Prolonged obstructions of the road network by trains at level crossings</u> Council is aware that proposals are being considered to permit longer coal trains to utilise the rail network. ln some locations near level crossings the trains must also climb inclines that slow their progress The two crossings in Quirindi effectively cut the town in half and the two crossings ln Werris Creek isolate the southern part of the Shire from the major medical service centre of Tamworth. Clearly any emergency services are compromised by this situation. Council would be pleased to see this issue addressed in the final PEA and what contribution the proponent will be making toward an expedient solution……..	Section 4B.11.5.5 (See also Part 8 of the SCSC)

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Air Quality and Greenhouse Gases		
Liverpool Plains Shire Council	• Dust generated from loaded coal carriages especially as they move through urbanised areas. ……Council would like to see an undertaking from the proponent that only rail coal carriers will be utilised that have covers fitted to the carriages similar to the road carriers described at the bottom of page 11 of the PEA.	Section 4B.5.6
	Council proposes that the final PEA should address the monitoring of finer dust particles than proposed in view of the public health implications for the residents of Werris Creek, Quirindi and Willow Tree. Council's information on this matter suggests that particle sizes from PM_1 to $PM_{2.5}$ (as a minimum) should be monitored with monitoring to commence as soon as possible.	Section 4B.5.7
	……Council's expectation would be that the final PEA will address these impacts as generated by this proposal and any mitigation activities proposed.	Sections 4B.5.6 & 4B.5.5.2
Environment Climate Change & Water	In summary the Department's key information requirements for the project are:	
	• the impact on ***air quality***, noise amenity, water quality and quantity for all operations proposed for the mine and associated infrastructure;	Section 4B.5 (see also Part 4 of the SCSC)
	Impacts on air quality	
	The goal is to maintain existing rural air quality and protect sensitive receptors, both on and off site, from adverse impacts of dust and odour.	Section 4B.5.6
	Dust ($PM_{2.5}$, PM_{10} and TSP) is the primary concern with potential emissions from construction activity, clearing and open cut mining operations, heavy equipment movement, crushing equipment and conveyors, transfer points, loading facilities and from coal, topsoils and overburden stockpiles.	Section 4B.5.6
	The air quality impacts from the proposed development will need to be assessed using the methodology detailed in the DEC document "*Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales*"……	Section 4B.5.1
	all assumptions used in modelling impacts will need to be clearly identified and justified…….	Section 4B.5.6
	If the modelling and proposed management incorporates dust suppression using water then the volume requirements and source of the water must be identified, particularly for drier periods where water availability for dust suppression may be problematic.	*Section 7.2 (of Part 4 of the SCSC*)
	Contingencies to modify operations during high wind periods and as a result of water availability may need to be considered to minimise dust impacts.	Section 4B.5.5.2
	Any assumptions made in relation to wind borne dust sources from disturbed/ undisturbed land, particularly the progressive/ maximum area of disturbance against realistic rehabilitation objectives must be clearly established.	Table 4B.24

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Air Quality and Greenhouse Gases (Cont)		
Environment Climate Change & Water	…….Any assumptions in the air quality modelling made in relation to rate of progressive rehabilitation to minimise dust sources from wind borne erosion be a clear commitment by the proponent.	*Section 7.1.3 (of Part 4 of the SCSC)*
	Air quality impacts from movement of coal in uncovered wagons by rail should also be assessed…….	Section 4B.5.6
	The proponent should liaise with ARTC regarding any outcomes from Pollution Reduction Program on the ARTC rail network licence (EPL 3142) to evaluate coal dust issues from rail transport and implement a work program to reduce dust emissions	Section 4B.5.6.5
Environment Climate Change & Water	**Greenhouse gas emissions**	
	The EA should include a comprehensive assessment of, and report on, the project's predicted greenhouse gas emissions (tCO2e).	Section 4B.5.6.4
	Emissions should be reported broken down by:	
	a. direct emissions (scope 1 as defined by the Greenhouse Gas Protocol- see reference below), b. indirect emissions from electricity (scope 2), and c. upstream and downstream emissions (scope 3).	Table 4B.34
	Before and after implementation of the project, including annual emissions for each year of the project (construction, operation and decommissioning).	Table 4B.35
	The emissions should be estimated using an appropriate methodology, in accordance with NSW, Australian and international guidelines……..	Section 4B.5.6.4
	……. evaluate and report on the feasibility of measures to reduce greenhouse gas emissions associated with the project. This could include a consideration of energy efficiency opportunities or undertaking an energy use audit for the site.	*Section 11.4 (of Part 4 of the SCSC)*
	The proponent should also identify if there are any cost-effective opportunities to reduce scope 3 emissions (eg by using different methods of supply or distribution)	*Section 11.4 (of Part 4 of the SCSC)*
Noise and Vibration		
Liverpool Plains Shire Council	• <u>Increasing noise from trains passing through urban areas</u> Council would be pleased to see in the noise assessment section of the final PEA, a series of noise mitigation initiatives that could be undertaken by the proponent. In the event that the proponent has contractual arrangements with the product carrier, Council proposes that they include provisions for the slower movement of trains through urbanised areas. ……..Council has fielded enquiries in the past regarding the need for trains to sound horns at all hours of the right prior to level crossings where boom gates and bells are installed.	Section 4B.3.6.4
	In view of the growth of the mine toward Werris Creek the noise assessment (and closely associated blasting assessment) will need to demonstrate that there will at least be no increase in these impacts on nearby residents.	Section 4B.3.6

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Noise and Vibration (Cont)		
Environment Climate Change & Water	In summary the Department's key information requirements for the project are:	
	• the impact on air quality, ***noise amenity***, water quality and quantity for all operations proposed for the mine and associated infrastructure;	Section 4B.3
	• impact assessment and protection of Aboriginal heritage, including blasting and vibration from operations and potential instability as a result of open pit operations and layout;	N/A
	Impacts of noise and vibration	
	The development should be designed so that the mine premises and associated activities comply with the NSW Government's *Industrial Noise Policy* (INP) and the Australia and New Zealand Environmental Council's *Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration*. Please note that the recently released publication *"Interim Construction Noise Guideline, DECC 2009*" has advised that construction noise from mining and quarrying needs to be assessed and considered as operational noise under the INP.	Section 4B.3.5
	Noise impacts associated with road haulage off the defined premises will need to be assessed against the DEC's guidance document '*NSW Environmental Criteria for Road Traffic Noise (EPA, 1999)*'.	Section 4B.3.6.3
	Sleep disturbance as a result of mine activities, including road/ rail movements on the private premises needs to be fully assessed.	Section 4B.3.6.2
	Modifying factor adjustments as outlined in section 4 of the INP need to be fully considered, particularly low frequency noise from locomotive operation, impulsive and tonal noise sources.	Section 4B.3.4
	……..adequate assessment of impact of inversions be undertaken, using if available, real temperature lapse rate data as outlined in section E of the INP. Anecdotal evidence from existing mining operations suggests that inversions greater than the default of 3°C/100m are a feature of the area exacerbating noise impacts. This issue needs to be fully evaluated in the EA.	Sections 4B.3.4 & 4B.3.6
Water Resources (General)		
Liverpool Plains Shire Council	**Water management**	
	…….The proposed mining shown in the PEA will have impacts on both surface and ground water catchments, and, given the sensitivity of this issue in the Namoi Valley it is Council's view that this issue be comprehensively addressed. Clearly, all stakeholders will be seeking assurances that no degradation of this precious resource will occur.	Sections 4B.1 & 4B.2 (see also Parts 1 & 2 of the SCSC)
	The detail of the proposed water treatment facilities (including proposed sewage and sullage waste water which may require s68 Local Government Act approval) are of interest to Council.	Section 2.8.5

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Water Resources (General) (Cont)		
Environment Climate Change & Water	In summary the Department's key information requirements for the project are:	
	• the impact on air quality, noise amenity, ***water quality and quantity*** for all operations proposed for the mine and associated infrastructure;	Section 4B.2
	Impacts on water quality and quantity	
	The Department recommends that a water balance be prepared to model water management through the life cycle of the mine.	Section 4B.2.7
	A detailed water management plan will be required for control of clean water, sediment laden water from disturbed areas and potentially saline/ contaminated water from mining operations and groundwater seepage into the mining void.	Section 4B.2.4
	Any modifications to existing discharge points will need to be identified with estimates of the frequency and volume of discharges and likely water quality discharges for key pollutants (but not limited to):	Section 4B.2.5
	• Total dissolved and suspended solids; • Heavy metals; • Grease and oil; • Nutrients; • pH • Total organic carbon; and • Conductivity (salts).	Section 4B.2.5
	The EA should consider any proposed discharge in terms of NSW Water quality and river flow objectives and utilising the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000).	Section 4B.2.5
	…….. the Namoi Catchment Action Plan (CAP) objectives should be used to guide discharges including reference to the' NSW Salinity Strategy end of catchment salt concentration and load targets.	Section 4B.2.5
	Discharges of salt to the Namoi River, including potential lateral seepage and inputs to deep drainage, from land application, need to consider green offsets with an objective of no net impact from the development.	Section 4B.2.5
	An assessment of potential water quality impacts on groundwater resources must also be undertaken	Section 4B.1.4
	An assessment of likely water quality and frequency of discharges from the final mining void following rehabilitation must also be undertaken.	*Section 10.3.5 (of Part 1 of the SCSC)*
	The proponent must demonstrate that options for minimising the final mine void have been identified and that discharges from the mining void will meet ambient water quality targets and stored mine void water quality will meet requirements for proposed future land-use on the premises. An objective of no final mine void Should also be fully evaluated.	Section 4B.1.6.4

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Water Resources (General) (Cont)		
Industry & Investment	The planned implementation of appropriate erosion control structures and practises.	Sections 4B.2.4 & 4B.2.6
	Key environmental management and rehabilitation strategies including; - the protection of alluvial areas and groundwater resources - wastewater and salinity management strategies	*Section 10.3.5 (of Part 1 of the SCSC)*
NSW Office of Water	The EA will need to outline all water requirements for the project. The proponent must ensure they have an adequate water supply for the development.	Section 4B.2.7
Water Resources (Groundwater)		
NSW Office of Water	NOW supports a full hydro-geological assessment for the mine site. This includes further modelling and work to quantify predictions of impact associated with groundwater levels in the three aquifers, groundwater levels and availability within bores surrounding the project site and groundwater in-flow, mine dewatering and surface management of groundwater captured within the open cut.	Section 4B.1
	The current monitoring bore network will need to be expanded for the Life of Mine project. Monitoring bores will need to penetrate the full aquifer sequences to the base of the coal measures, At present, there are no monitoring bore sites where there are multiple aquifer installations at each site. They do not have fully penetrating bores both up gradient and down gradient of the aquifer flow direction. It is important the EA outlines all monitoring bores on site and includes all information associated with these monitoring bores, including water quality data and all Form A's are submitted to NOW.	*Section 10.3.5 (of Part 1 of the SCSC)*
	Attention to detail should occur in the EA, in particular to mine cross-sections showing geological layers and hydrogeological layers in the area. It is important from a review perspective that the same colour is utilised for a particular aquifer when representing these on a cross-section or diagram, and the colour does not vary between diagrams and cross-sections.	*Section 10.3.5 (of Part 1 of the SCSC)*
NSW Office of Water	The assessment is required to identify groundwater issues and potential degradation to the groundwater source and provide the following: • Details of the predicted highest groundwater table at the development site. • Details of any works likely to intercept, connect with or infiltrate the groundwater sources. • Details of any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes. • Describe the flow directions and rates and the physical and chemical characteristics of the groundwater source.	Section 4B.1.2.4 Section 4B.1 (see also Part 1 of the SCSC) Section 4B.1.7 Section 4B.1.2

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Water Resources (Groundwater) (Cont)		
NSW Office of Water	• Details of the predicted impacts of any final landform on the groundwater regime	*Section 10.3.5 (of Part 1 of the SCSC)*
	• Details of the existing groundwater users within the area (including the environment) and include details of any potential impacts on these users.	Figure 4B.2
	• Assessment of the quality of the groundwater for the local groundwater catchment.	Section 4B.1.2.5
	• Details of how the proposed development will not potentially diminish the current quality of groundwater, both in the short and long term.	Section 4B.1.6.3
	• Details on preventing groundwater pollution so that remediation is not required.	Section 4B.1.5.1
	• Details on protective measures for any groundwater dependent ecosystems (GDEs).	Section 4B.1.6.4
	• Details of proposed methods of the disposal of waste water and approval from the relevant authority.	Section 4B.2.5
	• Assessment of the need for an Acid Sulfate Management Plan (prepared in accordance with ASSMAC guidelines).	N/A
	• Assessment of the potential for saline intrusion of the groundwater and measures to prevent such intrusion into the groundwater aquifer.	Section 4B.1.6
	• Details of the results of any models or predictive tools used.	Section 4B.1.3
	Where potential impacts are identified the assessment will need to identify limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to the existing groundwater resource and any dependent groundwater environment or water users, including information on:	
	• Details of any proposed monitoring programs, including water levels and quality data.	Section 4B.1.8
	• Reporting procedures for any monitoring program including mechanism for transfer of information.	Section 4B.1.8
	• An assessment of any groundwater source/aquifer that may be sterilised as a consequence of the proposal.	Section 4B.1.6
	• Identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (this may entail water level triggers or a beneficial use category).	*Section 10.3.5 (of Part 1 of the SCSC)*
	• Description of the remedial measures or contingency plans proposed.	Section 4B.1.8.2
	• Any funding assurances covering the anticipated post development maintenance cost, for example on-going groundwater monitoring for the nominated period.	Section 4B.1.8

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Water Resources (Groundwater) (Cont)		
NSW Office of Water	**Regulations and Legislative Requirements**	
	The assessment is required to take into account the requirements of the following legislation (administered by NOW), as applicable: • Water Act 1912 • Water Management Act 2000 (WMA) In particular, proposals and management plans should be consistent with the Objects (s.3) and Water Management Principles (s.5) of the WMA.	*Section 10.3.5 (of Part 1 of the SCSC)*
	If the proposal is within a gazetted WSP area the assessment is required to demonstrate consistency with the rules of the WSP.	*Section 10.3.5 (of Part 1 of the SCSC)*
	The assessment is required to take into account the following NSW Government policies, as applicable: • NSW Groundwater Policy Framework Document – General • NSW Groundwater Quantity Management Policy • NSW Groundwater Quality Protection Policy • NSW State Groundwater Dependent Ecosystem Policy • NSW Safe Rivers and Estuaries Policy • NSW Sand and Gravel Extraction Policy for Non-Tidal Rivers • NSW Wetlands Management Policy • NSW Farm Dams Policy • NSW Weirs Policy • NSW Coastal Policy in addition assessments should consider the following strategies: • NSW Salinity Strategy • NSW Water Conservation Strategy	*Section 10.3.5 (of Part 1 of the SCSC)*
	The mine is located in the Gunnedah Basin in an area administered by the *Water Act 1912*. The area is also embargoed for any further applications for Part 5 water licences under the NSW Inland Groundwater shortage Zones order No. 2 2008 (22 December 2008).	Section 4B.1.7
	A licence under Part 5 of the Water Act 1912 is required to authorise any works which intercept and take groundwater and for any monitoring bores. Licences must be obtained under Part 5 for incidental water (i.e. seepage into underground or open-cut works), dewatering bores, mining extraction works, production and monitoring piezometers prior to their installation.	Section 4B.1.7
	A licence for the extraction, and use for industrial purposes of groundwater, generated through the mining operations will be required for the period of the mining operations, including incidental water and underground void dewatering in addition to the current licence for 50ML/year already owned by the mine. The entitlement of any licence issued will be consistent with the maximum volume of water predicted as inflows as a volumetric entitlement. The company is required to obtain the appropriate licencing for the predicted amount of water inflowing into the pit.	Section 4B.1.7

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Water Resources (Groundwater) (Cont)		
NSW Office of Water	All current water licencing issues must be finalised by Werris Creek Coal Pty Limited in a timely manner including obtaining a water licence for impacts on the Quipolly Creek Alluvium aquifer as a result of mining activities.	Section 4B.1.7
	There is currently an embargo on any further applications for Part 5 Water Licences for the 'New South Wales lnland Groundwater Shortage Zones Order No. 2 2008' for areas not covered by a water sharing plan.	Section 4B.1.7
Water Resources (Surface Water)		
NSW Office of Water	The EA must include a detailed Site Water Balance for the site including a detailed description of the proposed water management measures for the site, including all dams, sediment basins, diversion banks etc. A plan should be included showing the location of all structures.	Section 4B.2.7
	The EA must identify the location of all drainage lines and watercourses on and adjacent to the site and include options for the management of these areas.	Sections 4B.2.2 & 4B.2.4
	The NSW Farm Dams Policy must be addressed in the environmental assessment and the proposal needs to satisfy the Harvestable Right Order published in accordance 'with section 54 of the Water Management Act (WMA) 2400. Any current or additional dams, storages, detention basins constructed as part of the development will need to be in accordance with this policy.	*Section 10.3.5 (of Part 1 of the SCSC)*
	The EA must address erosion and sediment control measures on the site during operations.	Section 4B.2.4
	Riparian Zones	
	The assessment is required to consider the impact of the proposal on the watercourses an associated riparian vegetation within the site and provide the following: • Identify the sources of surface water. • Details of stream order (using the Strahler System). • Details of any proposed surface water extraction, including purpose, location of existing pumps, dams, diversions, cuttings and levees. • Detailed description of any proposed development or diversion works including all construction, clearing, draining, excavation and filling. • An evaluation of the proposed methods of excavation, construction and material placement.	N/A
	• A detailed description of all potential environmental impacts of any proposed development in terms of vegetation, sediment movement, water quality and hydraulic regime.	Section 4B.2.8

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
	Water Resources (Surface Water) (Cont)	
NSW Office of Water	• A description of the design features and measures to be incorporated into any proposed development to guard against long term actual and potential environmental disturbances, particularly in respect of maintaining the natural hydrological regime and sediment movement patterns and the identification of riparian buffers. • Details of the impact on water quality and remedial measures proposed to address any possible adverse effects.	Section 4B.2.8 Section 4B.2.8
	Although Part 3A Major Projects are exempt from requiring a controlled activity approval (s91 of WMA'), the assessment is required to take into account the objectives and provisions of relevant legislation and guidelines.	*Section 10.3.5 (of Part 1 of the SCSC)*
	Dams	
	If the proposal includes existing or proposed water management structures/dams, the assessment is required to provide information on the following: • Date of construction (for existing structure/s). • Details of the legal status/approval for existing structure/s. • Details of any proposal to change the purpose of existing structure/s. • Details if any remedial work is required to maintain the integrity of the existing structure/s. • Clarification if the structure/s is on a watercourse. • Details of the purpose, location and design specifications for the structure/s. • Size and storage capacity of the structure/s. • Calculation of the Maximum Harvestable Right Dam capacity (MHRDC). • Details if the structure/s is affected by flood flows. • Details of any proposal for shared use, rights and entitlement of the structure/s. • Details if the proposed development/subdivision has the potential to bisect the structure/s.	*Section 10.3.5 (of Part 1 of the SCSC)*
	Sustainable Water Supply	
	Many gazetted WSPs to-date have identified particular surface and groundwater systems that are currently over-allocated. In the case of over allocation the systems have subsequently been embargoed and no new water licences are to be issued within these catchments. Any new or expanded development within such catchments will therefore be unable to obtain any new water entitlements directly and will have to enter the water trading market to seek additional water.	Section 4B.1.7
	The assessment is required to address the issue of provision of a sustainable water supply for any project proposal. The assessment should include Water Management Plans detailing how a sustainable and efficient water supply can be sourced and implemented with minimal reliance on accessing valuable surface and groundwater resources.	Section 4B.2.7

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Operating Conditions		
Liverpool Plains Shire Council	**Hours of Operation**	
	The PEA indicates that an increase in work hours and coal processing (crushing) activities is proposed allowing activities 24 hours per day 7 days per week. ln view of the close proximity to the nearby town of Werris Creek (2.5km) Council raises the issue that all potential impacts (on-site and off-site) will need to be identified and mitigation measures addressed.	Throughout Section 4B (in particular Section 4B.3)
Environment Climate Change & Water	In summary the Department's key information requirements for the project are:	Section 4B.10.3
	• the design and layout of facilities to minimise potential impact and achieve ambient goals; and.	Section 4B.10.3
	• the actions that will be taken to avoid or mitigate environmental impacts, or compensatory measures to minimise unavoidable impacts.	Section 5
Industry & Investment	• Solid Waste Management Plan The management of waste is important, ensuring that the operations don't impact on surrounding land holders. Livestock have been known to chew and swallow plastic bags, rope etc. which blocks the digestive track leading to poor weight gain, wasting and even death in severe cases.	Section 4B.12
Visual Amenity		
Liverpool Plains Shire Council	**Buffer**	
	As the area between the mine site and Werris Creek is primarily open country and the mine site has a higher elevation than the town, Council is confident that residents will seek substantial assurances and proof that they will not be adversely impacted or their local amenity reduced by environmental impacts such as dust, noise, visual (aesthetic / lighting) and storm water drainage. The early bunding of northern and eastern extremities of the proposed pit along with early plantings of fast growing vegetation is seen as advantageous as is the use of the proposed conveyor…….	Section 4B.10
Cultural Heritage		
Liverpool Plains Shire Council	**Aboriginal relics and heritage conservation**	
	……..Council is of the view that the proponent should be fairly thorough about the remnants of the former coal mine…….There is for example one of the original colliery wagons at Werris Creek and there may be other artefacts that should be preserved even if that preservation occurs off-site.	Sections 4B.7 & 4B.8
Environment Climate Change & Water	In summary the Department's key information requirements for the project are:	
	• impact assessment and protection of Aboriginal heritage, including blasting and vibration from operations and potential instability as a result of open pit operations and layout;	Section 4B.4

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Cultural Heritage (Cont)		
Environment Climate Change & Water	**Impacts on Aboriginal cultural heritage values**	
	1. The EA should address and document the information requirements set out in the draft *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* involving surveys and consultation with the Aboriginal community.	Section 4B.7.4 (see also Part 6 of the SCSC)
	2. Identify the nature and extent of impacts on Aboriginal cultural heritage values across the project area.	Section 4B.7.7
	3. Describe the actions that will be taken to avoid or mitigate impacts or compensate to prevent unavoidable impacts of the project on Aboriginal cultural heritage values. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.	Section 4B.7.7
	4. The EA needs to clearly demonstrate that effective community consultation with Aboriginal communities has been undertaken in determining and assessing impacts, developing options and making final recommendations.	Section 4B.7.4
Socio-economic Impacts		
Liverpool Plains Shire Council	**Social impact**	
	Some brief attention has been given in the PEA to social impacts which historically impact on Council's operations. Council is aware that Community Development Funds are mechanisms designed to alleviate these impacts and is interested in both short-term and long term proposals in this regard. In addition, the proponent should indicate the results of their investigations into Liverpool Plains Shire Council's s94A Contributions Policy.	Section 4B.14
	The 24 hour complaints line	
	Council would be pleased to see a strengthening of these provisions with a direct link to both the Community Consultative Committee and the local press. Once addressed by the site manager the complaint must be registered, further investigated if necessary and followed up by the appropriate regulator (in most cases not council)……..	Section 3.2.2
Rehabilitation and Mine Closure		
Liverpool Plains Shire Council	**Post-operation measures**	
	Council has recognised the need to clearly identify and outline ongoing and new issues that will arise in the post-operation phase..... From the information provided it appears that the resultant void will be significant and should either be filled in terms of the agricultural / biodiversity conservation objectives or further enhanced as a nature reserve / arboretum in the long term care and control of, say, a landcare group.	Section 2.14.4.1

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Rehabilitation and Mine Closure (Cont)		
Industry & Investment	**Rehabilitation**	
	The proponent should include a Rehabilitation section in the EA which addresses the following aspects:	Section 2.14
	Post Mining Land Use - the proponent must identify and assess post mining land use options and provide a statement of the preferred post mining land use outcome in the EA. This should include a discussion of the benefits of the post mining land use to a subsequent landowner, the local community and the state of NSW.	Section 2.14.5
	Rehabilitation Objectives and Domains - a set of project rehabilitation objectives must be included that clearly define the environmental ' outcomes required to achieve the post mining land use. Identify each rehabilitation domain and describe rehabilitation objectives for each domain.	Sections 2.14.2 & 2.14.3
	Rehabilitation Methodology - outline general rehabilitation methods and procedures that will be employed by the project to ensure the rehabilitation objectives are met.	Section 2.14.6
	Strategic Rehabilitation Completion Criteria - nominate strategic completion criteria for the five phases of the rehabilitation process, namely (1) Decommissioning; (2) Landform Establishment; (3) Growth Media Development; (4) Ecosystem Establishment; and (5) Ecosystem Development. lf necessary, objective criteria may be presented as ranges rather than finite indicator levels. Subjective criteria may also apply where a gap in technical knowledge is experienced. lt is expected that further refinement of these criteria will be undertaken and included in the Rehabilitation and Environmental Management Plan (REMP).	Section 2.14.3.3
	Conceptual Final Landform Design - a drawing at an appropriate scale with final landform contours should be provided. This drawing should identify, but not be limited to, the following attributes of the final landform: vegetation types; habitat features; contaminated areas; final voids; access and internal roads; fencing design; and other remaining infrastructure such as sheds, dams, bores and pipelines.	Section 2.14.4.1
	Weed Management Plan	
	Weed suppression is important in undisturbed areas and should be actively addressed to avoid weed invasion. The biology of weeds is that they are prolific seeders and once they seed they can persist, Given this, active weed suppression is critical and more economical in the long-term.	Section 2.14.8
	Key environmental management and rehabilitation strategies including; - the protection of alluvial areas and groundwater resources - wastewater and salinity management strategies - topsoil management and re use strategies and prevention of subsoil constants such as compaction, saline contamination and other forms of contamination	Section 2.14

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Rehabilitation and Mine Closure (Cont)		
Industry & Investment 21/06/10	**Post Mining**	
	• A description of the proposed end land-use and justification for the end land-use of the site and how it will fit in with the landscape.	Section 2.14.5
	• A description of the rehabilitation that is to occur being of a standard that will not impact on the future use of the site for agricultural purposes unless otherwise justified. The proponent should plan for the final landform to reinstate the pre-mining Land Capability classes without sub soil constraints. The landscape units should be clearly identified in the EA final rehabilitation plans.	Section 4B.9.3.2
	• Objective criteria, performance indicators and monitoring strategy for rehabilitation and land management for a sustainable post mining use of land, over all disturbed areas and how the proposed rehabilitation practices, landform, vegetation patterns and water storages would contribute to the realisation of rehabilitation and land use goals. - the criteria for the successful rehabilitation describing the final land form (i.e. slope, topsoil depth, absence of sub soil constraints, site stability, vegetation and post mining land capability).	Section 2.14.3.3
	• Future land forms, including: - proposals to effectively re-establish pastures, water storages and connectivity of drainage and vegetation patterns - proportion / area of the mining site to be retained as grazing lands - the indicative size and location of voids and high walls. - any proposals to improve or modify existing 'rehabilitated' areas.	Sections 2.14.4 & 2.14.5
	• Options for integrating land forms, vegetation and water management with adjoining lands including potential regional / local conservation corridors.	Sections 2.14.4, 2.14.5 & 4B.6.5
Biodiversity		
Liverpool Plains Shire Council	**Biodiversity conservation**	
	As part of the proponent's work in this area, Council would be pleased to see a reference to the objectives and findings of its adopted Shire-wide biodiversity conservation strategy.	Section 4B.6.5.4
Environment Climate Change & Water	In summary the Department's key information requirements for the project are:	
	• the impact on threatened species and native vegetation;	Section 4B.6

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
	Biodiversity (Cont)	
Environment Climate Change & Water	**Impacts on biodiversity and specifically threatened species and their habitat**	
	Generally, steps in the assessment in accordance with the Part 3A threatened species guidelines includes:	Section 4B.6
	1. A field survey of the site should be conducted and documented in accordance with the gazetted draft *Guideline for Threatened Species Assessment* and the document "Threatened Biodiversity Assessment - Guidelines for Developments and Activities" (Working Draft) (DEC 2004)	Section 4B.6.2.2
	2. Likely impacts on threatened species and their habitat need to be assessed, evaluated and reported on. The assessment should specifically report on the considerations listed in Step 3 of the draft guideline.	Section 4B.6.6.3
	3. Describe the actions that will be taken to avoid or mitigate impacts or compensate for unavoidable impacts of the project on threatened species and their habitat. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.	Section 4B.6.5
	4. Describe the extent of loss of any native vegetation and a strategy to offset any losses to ensure maintenance of, or improved outcome for biodiversity.	Section 4B.6.5.4
	5. The EA needs to clearly state whether it meets each of the key thresholds set out in Step 5 of the guideline.	Section 4B.6
	The EA must consider the corridor values or connective importance of any vegetation on the subject land. The Department prefers that vegetation on adjoining land that exhibits these corridor values should be retained and, where necessary, rehabilitated. The final rehabilitation objectives, with appropriate performance monitoring against rehabilitation objectives, should be clearly defined in the EA.	Section 4B.6.5
	Impacts of the project on Native Vegetation	
	The EA needs to address the potential impact on native vegetation, specifically:	Section 4B.6.6
	1. The hectares of native vegetation that will have to be cleared to accommodate mining for the extension project;	Section 4B.6.3
	2. The floristics of the botanical communities of native vegetation that will need to be cleared;	Section 4B.6.3
	3. The extent of native vegetation on the site which may be remnant vegetation, protection regrowth or non-protected regrowth as defined by the Native Vegetation Act 2003;	Section 4B.6.3
	4. The requirement to develop suitable offset(s) to improve or maintain environmental outcomes for the lawful clearing of native vegetation, in relation to four environmental values: water quality, soils, salinity and biodiversity (including threatened species).	Section 4B.6.5.4

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Biodiversity (Cont)		
NSW Office of Water	The EA must identify the location of all drainage lines and watercourses on and adjacent to the site and include options for the management of these areas.	Section 4B.6.3.4
	The assessment is required to identify any impacts on GDEs. GDEs are ecosystems which have processes wholly or partially determined by groundwater.	Section 4B.6.3.4
	The NSW Groundwater Dependent Ecosystem Policy provides guidance on the protection and management of GDEs. It sets out management objectives and principles to: • Ensure the most vulnerable and valuable ecosystems are protected. • Manage groundwater extraction within defined limits thereby providing flow sufficient to sustain ecological processes and maintain biodiversity. • Ensure sufficient groundwater of suitable quality is available to ecosystems when needed. • Ensure the precautionary principle is applied to protect GDEs, particularly the dynamics of flow and availability and the species reliant on these attributes.	Section 4B.6.3.4
Approvals, Leases and Licences		
Environment Climate Change & Water	Based on the information provided to the Department, the applicant will be required to vary its existing environment protection licence (EPL) 12290……..	Section 2.1.3
Industry & Investment	**MINING TITLES**	
	As coal is a prescribed mineral under the *Mining Act 1992*, the proponent is required to hold appropriate mining titles from I&I NSW In order to mine this mineral.	Section 2.1.3
	……..based on Figure 1.1, they will also require the Minister's consent to apply for those' areas within the project boundary that are outside their existing exploration licences.	Section 2.1.3
	The proponent will also be required to comply with the *Commonwealth Native Title Act 1993* for any potential native title land within the extension area.	Section 4B.7
NSW Office of Water	The mine is located in the Gunnedah Basin in an area administered by the *Water Act 1912*. The area is also embargoed for any further applications for Part 5 water licences under the NSW Inland Groundwater shortage Zones order No. 2 2008 (22 December 2008).	Section 4B.1.7
	A licence under Part 5 of the Water Act 1912 is required to authorise any works which intercept and take groundwater and for any monitoring bores. Licences must be obtained under Part 5 for incidental water (i.e. seepage into underground or open-cut works), dewatering bores, mining extraction works, production and monitoring piezometers prior to their installation.	Section 4B.1.7

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Approvals, Leases and Licences		
NSW Office of Water	A licence for the extraction, and use for industrial purposes of groundwater, generated through the mining operations will be required for the period of the mining operations, including incidental water and underground void dewatering in addition to the current licence for 50ML/year already owned by the mine. The entitlement of any licence issued will be consistent with the maximum volume of water predicted as inflows as a volumetric entitlement. The company is required to obtain the appropriate licencing for the predicted amount of water inflowing into the pit.	Section 4B.1.7
	All current water licencing issues must be finalised by Werris Creek Coal Pty Limited in a timely manner including obtaining a water licence for impacts on the Quipolly Creek Alluvium aquifer as a result of mining activities.	Section 4B.1.7
	There is currently an embargo on any further applications for Part 5 Water Licences for the 'New South Wales lnland Groundwater Shortage Zones Order No. 2 2008' for areas not covered by a water sharing plan.	Section 4B.1.7
	The assessment is required to take into account the requirements of the following legislation (administered by NOW), as applicable: • Water Act 1912 • Water Management Act 2000 (WMA) In particular, proposals and management plans should be consistent with the Objects (s.3) and Water Management Principles (s.5) of the WMA.	Sections 4B.1 & 4B.2
	If the proposal is within a gazetted WSP area the assessment is required to demonstrate consistency with the rules of the WSP.	Section 4B.1.7
Soils, Land Capability And Land Use		
Industry & Investment	**Agriculture**	
	From an agricultural perspective the EA should assess and document potential impacts on agricultural enterprises, future productivity and how any adverse impacts would be mitigated.	Section 4B.9.3
	I&I NSW recommend ËA complete the following table:	
	<table><tr><th>Agricultural Land Suitability Class</th><th>Area Before Mining (ha)</th><th>Area After Mining (ha)</th><th>Amount lossed or gained +/-....(ha)</th></tr><tr><td>Class 1</td><td></td><td></td><td></td></tr><tr><td>Class 2</td><td></td><td></td><td></td></tr><tr><td>Class 3</td><td></td><td></td><td></td></tr><tr><td>Class 4</td><td></td><td></td><td></td></tr><tr><td>Class 5</td><td></td><td></td><td></td></tr></table>	*Section 10.3.5 (of Part 1 of the SCSC)*
	Pre Mining	
	• Comprehensive description of the pre-existing land use and productive capacity of the site providing an objective bench mark of rehabilitation. This should be done using the Department of Natural Resources (DLWD) Land Capability assessment and the former Department of Primary Industries (NSW Agriculture) Agricultural Suitability.	*Section 10.3.5 (of Part 1 of the SCSC)*

Table A2-2 (Cont)
Coverage of Environmental Issues

Government Agency	Paraphrased Requirement	Relevant EA Section(s)
Soils, Land Capability And Land Use		
Industry & Investment	• An assessment of land use and agricultural operations within the surrounding area and how the operations will fit In the given landscape.	Section 4B.9.3
	• Natural resources of significance for agricultural development, including soils, ground and surface waters and any alluvial lands.	Section 4B.9
	Predicted potential and cumulative environmental and socio-economic impacts on agricultural activities. This should include:	
	- Impacts on surface and ground waters, (flow regime, flow rates, quality and pressure) that might affect other water users (down stream and contiguous aquifer users) and the environment.	Sections 4B.1 & 4B.2
	- predicted and possible changes to water use requirements (surface and ground waters).	Sections 4B.1 & 4B.2
	- noise, dust, blasting impacts	Sections 4B.3, 4B.5 and 4B.4
	- changes to infrastructure and local roads affecting other users.	Section 4B.11.3
	- The total area to be disturbed, future land capability and the size of all final voids within the combined leases.	Section 4B.9
	- Possible social impact of mining employment on rural labour force	Section 4B.14.3
	• Potential opportunities for sustainable agricultural production on land under the control of the mining company during and post mining. The productive use of pasture lands is encouraged.	Section 4B.9.3
	• The general approaches that would be adopted to ensure the sustainable management of cleared pasture areas and to retain / enhance productivity. Short term, piecemeal grazing leases or merely excluding cattle will not sustain the productive capacity and agricultural potential of the site, or ensure sustainable environmental outcomes.	Section 4B.9.3
	• What management plans will be developed (& when) for pasture / grazing management.	N/A
	Key environmental management and rehabilitation strategies including; ……. - topsoil management and re use strategies and prevention of subsoil constants such as compaction, saline contamination and other forms of contamination	Section 2.5.4

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