Section 3

Issue Identification and Prioritisation

Preamble

This section describes how the environmental issues assessed in this Environmental Impact Statement were identified and prioritised.

In summary, a comprehensive list of all relevant environmental issues was assembled through consultation with the local community and local and State government agencies, completion of background environmental studies and a review of relevant legislation, planning documents and environmental guidelines.

A review of the design of the amended Project and the components of the local environment was undertaken to identify risk sources and potential environmental impacts for each environmental issue to determine its relative priority and provide an order of assessment and depth of coverage within Section 4.

The risk rankings were assembled following the adoption of a suite of standard control measures used throughout the coal mining industry. The risk rankings assembled are presented in **Appendix 6**.

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3.1 INTRODUCTION

In order to undertake a comprehensive assessment of the environmental impacts arising from the amended Project, appropriate emphasis needs to be placed on those issues likely to be of greatest significance to the local environment, surrounding landowners and the local and broader community. To ensure this has occurred, a program of community and government consultation and review of environmental planning documentation has been undertaken to identify relevant environmental issues and potential impacts. This was followed by an assessment of the risk posed by each potential impact in order to prioritise the assessment of the identified environmental issues within the *Environmental Impact Statement* (EIS).

3.2 ISSUE IDENTIFICATION

3.2.1 Introduction

Identification of environmental issues relevant to the amended Project involved a combination of consultation and background investigations and research. This included:

- consultation with surrounding landowners, the local community and surrounding resource companies (Sections 3.2.2.1, 3.2.2.2 and 3.2.2.3 respectively);
- consultation with Commonwealth, State and local government agencies (Section 3.2.2.4); and
- reference to relevant legislation, planning issues, policies and guidelines (Section 3.2.3).

3.2.2 Consultation

The following subsections introduce the methods used by the Applicant throughout the planning for the 2013 Project, and the amended Project, to inform interested stakeholders about the Applicant's plans and to identify issues for coverage in the EIS. Each of the groups, organisations or individuals consulted were nominated in the DGRs or identified during the consultation process (see **Appendix 3**). Consultation was undertaken by one or a combination of GRL, RWC and/or relevant specialist consultancies.

3.2.2.1 Consultation with Surrounding Landowners

The Applicant has engaged with the surrounding landowners since the original grant of its exploration licences and discussed its plans for the 2013 Project and subsequently the amended Project with a number of surrounding landowners. In some cases, those discussions culminated in the purchase of properties whereas, for other landowners, they were informed of the Applicant's general plans and the proximity of the various Site components to their properties and/or residences. The Applicant has maintained an "open-door" policy with the adjoining landowners encouraging contact at any time regarding GRL's plans on all aspects of its development.

3.2.2.2 Community Consultation

Extensive community consultation has been undertaken throughout the design stages and during the preparation for the EISs for the 2013 and amended Projects using a range of forums ranging from one-on-one discussions to Community Consultative Committee meetings. The issues identified throughout each of the consultation processes have been addressed in detail throughout this EIS and the supporting specialist consultant reports.

Under the terms of ELs 6523, 6524 and 6563 administered by the DRE, a community consultative committee, known as the Gloucester Exploration Project Community Consultation Committee (CCC), was established in 2007 to:

> "*provide a forum for open discussion between the company and stakeholder representatives. The process includes exchange of information, proper identification and addressing of potential concerns and conflicts of interest. Of equal importance, it is aimed at facilitating good working relationships amongst committee members and to act as a conduit to assist the company to improve communication, education and notification with the general community.*
>
> *The committee provides an opportunity for the company and stakeholder representatives to identify common ground within the bounds of the exploration project.*"[1]

Throughout the period of baseline investigations which culminated in the Applicant's decision to proceed with the Rocky Hill Coal Project, and the process from requesting the DGRs from the (then) DP&I through to now and the preparation of the EIS for the amended Project, the function of the committee has been expanded to one of a de facto Rocky Hill Coal Project CCC.

Until mid-May 2016 and the formation of the Mid-Coast Council, the CCC comprised representatives of the Applicant, the former Gloucester Shire and Great Lakes Councils, DRE and the public. The Gloucester Shire and Great Lakes Shire representatives have now been replaced with a representative from Mid-Coast Council. The CCC has held more than 40 meetings to date with the key issues raised including, in the more recent years, land purchases, air quality and health impacts, mining in proximity to Gloucester, agricultural property management, environmental data availability, the development of the Applicant's website and need for further information regarding the amended Project.

Since early 2012, the Applicant has also:

- established a website, www.rockyhillproject.com.au. The website has provided a mechanism for members of the community to pose questions and raise any issues/concerns, as well a means to present summaries of meteorological monitoring data, fact and information sheets, news and press releases and the minutes of meetings of the CCC;
- released three newsletters and various press releases to inform the local and broader community within the former Gloucester Local Government Area about the Applicant's activities and other salient information;

[1] Source: Charter of the Gloucester Exploration Project Community Consultative Committee

- engaged in a program of individual landowner and broader community consultation to inform potentially affected persons and the broader community about its proposed activities and its environmental investigations; and
- made a presentation on the amended Project and the changes from the 2013 Project to open public meetings organised by Advance Gloucester and the Gloucester Chamber of Commerce.

Community consultation undertaken to date has enabled the Applicant and/or its specialist consultants to engage with a number of potentially interested stakeholders about their concerns and identify issues to be addressed in the design of both the 2013 Project and the amended Project which have been incorporated into this EIS.

The following list identifies the environmental issues relating to the amended Project that were raised during the ongoing consultation through and within the CCC; meetings that involved the wider community, and discussions with individuals, community groups and Gloucester Shire Councillors and staff.

1. Air quality impacts
2. Groundwater and surface water impacts
3. Ecological impacts
4. Health issues
5. Noise impacts
6. Local traffic impacts
7. Potential employment opportunities
8. Visibility and visual amenity impacts
9. Incompatibility with E3 zoning and the Gloucester Local Environmental Plan 2010 (Gloucester LEP 2010)
10. Impacts on tourism

As part of the wider assessment of potential social impacts, Key Insights undertook a program of research in 2012 which included a Community Perception Survey to gauge the issues and concerns that the community had regarding the 2013 Project as well as extensive consultation with individuals, business owners and operators, service providers, Council and community groups including Forbesdale residents, Gloucester resident and youth focus groups. Following amendment of the Project, Key Insights made contact with a number of 2013 Project consultation participants and undertook additional meetings and interviews to ensure currency of community and stakeholder inputs.

Volume 5 Part 14 of the *Specialist Consultant Studies Compendium* records in detail the 2012 Community Perception Survey's questions and the responses received and the outcomes of the extensive consultation undertaken, with the following issues identified in order of frequency within the survey results.

1. Impacts on the water supply in the local area
2. Dust impacts

3. Visual impacts of the proposed open cut mine
4. Impacts on agriculture
5. Impacts on the local character of the area
6. Noise impacts
7. Flora and fauna impacts
8. Increased traffic associated with workers and deliveries to the Site
9. Coal mining's impact on climate change

The issues arising from the consultation undertaken by the Applicant and the research by Key Insights, together with the matters raised by Barrington-Gloucester-Stroud Preservation Alliance (BGSPA), have been comprehensively addressed in this EIS and the appropriate specialist consultant studies.

3.2.2.3 Other Resource Companies and Infrastructure Owners

Over the period associated with the design of both the 2013 Project and the amended Project, the Applicant participated in discussions with Stratford Coal Pty Ltd (a subsidiary of Yancoal Australia Limited), AGL Upstream Infrastructure Investments Pty Ltd, TransGrid and Essential Energy regarding issues of mutual interest for their respective projects, and areas of interaction.

Stratford Coal Pty Ltd

The Applicant has consulted extensively with senior management of Stratford Coal Pty Ltd and Yancoal Australia Limited, together with their environmental consultants (Resource Strategies Pty Ltd). This consultation resulted in the agreement between GRL and Yancoal Australia Limited facilitating the amended Project, i.e. the use of facilities at the Stratford Mining Complex to process and despatch coal from the amended Rocky Hill Coal Project, the commercial benefits to both companies and reduced impacts to the local community and environment. Non-commercially sensitive information, including background and operational monitoring data, has also been exchanged together with environmental assessment data to aid in consideration of potential cumulative impacts.

AGL Upstream Infrastructure Investments Pty Ltd (AGL)

AGL and the Applicant have engaged in an extensive and free exchange of data and other information which has been utilised in the development of the geological and groundwater models for the amended Project and by various other specialists engaged in the preparation of this EIS.

AGL and the Applicant also worked collaboratively to develop a Petroleum and Coal Co-operation Agreement and Co-operation Plan to provide for safe, efficient and expedited processes to undertake exploration and development activities on the overlapping parts of their tenements (PEL285, EL6523, EL6524 and EL6563). However, in February 2016 AGL announced its withdrawal from all coal seam gas exploration and production activities in NSW negating the need for ongoing consideration of overlapping tenements and extraction activities.

TransGrid

In view of the necessity to re-locate the existing TransGrid 132kV power line which currently traverses the eastern section of the Mine Area to facilitate open cut pit development and out-of-pit overburden emplacement activities, and the currently-preferred option (Option 1) for the construction of the Stroud to Lansdowne 330kV power line, the Applicant has been in consultation with TransGrid personnel in both Newcastle and Sydney. During the process, the requirements and timing for each party's activities were discussed and TransGrid indicated it was satisfied with the proposed corridor shown on **Figure 2.15** for both the re-located 132kV power line and ultimately for the 330kV power line should they proceed with Option 1 for the Stroud to Lansdowne Transmission Line Project. TransGrid subsequently advised GRL that it is unlikely that the Stroud to Lansdowne Transmission Line Project would proceed until at least 2040, i.e. after the projected completion date for the proposed mine.

Discussions have also been held with TransGrid representatives regarding the proposed private haul road and its potential interaction with a section of the 132kV Stroud to Taree power line.

Essential Energy

The Applicant has been in consultation with the local energy supplier (Essential Energy) since 2012 to investigate power supply options for the Rocky Hill Coal Project. Two electricity supply options are available for the amended Project which would be reviewed following the receipt of development consent and the grant of the required mining leases. The two options include utilising current network infrastructure or construction of a new Essential Energy substation located on Applicant-owned land adjacent to Waukivory Road near the intersection with McKinleys Lane. The final supply option would be dependent on the capacity and demand on the network at the time of connection.

3.2.2.4 Consultation with Government Agencies

A Planning Focus Meeting (PFM) was held on site on 14 March 2012. During that meeting, an overview of the 2013 Project, as it was then understood, was presented to the attendees from State and local government agencies. Following a site inspection, the representatives of the various government agencies present verbally outlined the issues from their perspectives that the EIS should address. A number of these issues and others were subsequently provided to the (then) DP&I in writing to assist DP&I in formulating the DGRs for the 2013 Project. The DGRs and the correspondence from the various agencies and the BGSPA were provided to the Applicant on 24 April 2012.

Following the agreement with Yancoal to utilise the processing and rail load-out facilities at the Stratford Mining Complex, DPE acknowledged the Applicant's intentions to amend the 2013 Project. As a result, additional government agency assessment requirements for the amended Project were sought and received between December 2015 and February 2016.

A full copy of the DGRs is reproduced in **Appendix 3** of this document. A tabulated summary of all requirements raised in the DGRs as well each relevant matter raised by government agencies in 2012 and 2015-2016 and the BGSPA in 2012, with a cross reference to where each relevant issue is addressed in this EIS and/or accompanying documents, is presented in **Appendix 4**.

Further to the above, additional consultation was undertaken with specific agencies, including the following.

- On 1 June 2011, the Applicant presented a Conceptual Project Development Plan to the DRE. An updated presentation relating to the amended Project was provided to DRE representatives on 9 March 2016.
- Representatives of the Applicant, R.W. Corkery & Co Pty Limited, Australasian Groundwater and Environmental Consultants and WRM Water and Environment hosted representatives of the (then) NSW Office of Water on site in February 2011 to discuss the Applicant's plans, existing studies, potential issues and management measures and the planned approach to the groundwater and surface water assessments. Further meetings were also held in April 2012 to seek comment on the documented approach to the groundwater modelling and model development, and in August 2012 to discuss the outcomes of the groundwater and surface water assessments.
- In March 2012, the Applicant hosted an on-site meeting and site visit with a number of the then incumbent Gloucester Shire Councillors and senior Council staff which involved a presentation similar to that provided at the PFM.
- The Applicant consulted the (then) Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) regarding the 2013 Project and lodged a referral to the Department under the provisions of the EPBC Act. The (then) DSEWPaC notified the Applicant on 11 May 2012 that the Rocky Hill Coal Project was not a controlled action.
- On 2 March 2016, personnel from GRL and Constructive Solutions held a teleconference with Gloucester Shire's Manager of Technical Services to discuss general transport and traffic-related aspects of the Applicant's amended Project and its plans for the private haul road crossing of Fairbairns Road.
- On 22 April 2016, personnel from R.W. Corkery & Co. Pty Limited and Australasian Groundwater and Environmental Consultants (AGE) held a teleconference with representatives from DPI - Water to discuss the amended Project, the Draft Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources and licencing matters.
- During 2015 and 2016, GRL and Yancoal have held various meetings with DPE personnel to provide updates on the commercial agreement between the two companies and the plans for the preparation and lodgement of documentation for the amended Project.
- Site inspections and discussions with the Interim General Manager, Mid-Coast Council and the local representative on Council's Implementation advisory group.

In summary, the following government agencies and organisations have been consulted by the Applicant and/or its specialist consultants during the development of the 2013 Project and the amended Project.

- Department of Planning and Infrastructure (DP&I), now Department of Planning and Environment (DPE)*.
- Environment Protection Authority (EPA)*.

- Office of Environment and Heritage (OEH)*.
- NSW Office of Water (NOW), now Department of Primary Industries Water (DPI - Water)*.
- the former Gloucester Shire Council (Council)*[2].
- Division of Resources and Energy (DRE)*.
- Hunter New England Population Health (NSW Health)*.
- Mid-Coast Water (MCW)*.
- Hunter-Central Rivers Catchment Management Authority (HCRCMA)*.
- Roads and Maritime Services (RMS).
- Department of Primary Industries – Catchments and Lands (DPI).
- TransGrid.
- the former Great Lakes Council (GLC)[2].
- Australian Rail and Track Corporation Ltd (ARTC).

Representatives of those government agencies identified with an asterisk (*) attended the PFM held on 14 March 2012.

The DGRs specified that in preparing the EIS, consultation was to be undertaken with nominated agencies, regardless of previous communications. In accordance with this request, in late June and early July 2012, letters initiating formal consultation and requesting matters for consideration in the EIS for the 2013 Project were distributed to each of the individual government agencies that attended the PFM, as well as the following government agencies that either did not attend the PFM or submitted matters to be incorporated into the DGRs.

- Department of Primary Industries – Agriculture (DPI - Agriculture)
- Department of Primary Industries – Fisheries (DPI - Fisheries)
- Department of Primary Industries – Forests (DPI - Forests)
- Hunter Valley Coal Chain Coordinator Limited (HVCCC)
- RailCorp
- Newcastle Ports Corporation

The latter three organisations were not re-consulted in late 2015 given the amended Project no longer involves the despatch of product coal by train from the Rocky Hill Mine Area.

Table 3.1 presents a summary of the environmental issues identified in correspondence from the various State and local government agencies in 2012 and 2015/2016.

[2] On 12 May 2016, the Minister for Local Government announced the merger of Gloucester, Great Lakes and Greater Taree Local Government Areas into a single entity referred to as the "Mid-Coast Council".

Table 3.1
Relevant Government Agency Issue Identification

Agency / Org.	Issue																			
	Groundwater	Surface Water/Erosion & Sediment Control / Flooding	Ecology	Noise/Blasting/Vibration	Air Quality / Greenhouse Gas	Traffic and Transport	Rehabilitation and Final Landform	Cultural Heritage	Socio-economic Impacts	Land Use / Planning / Permissibility	Soil Resources / Management	Consultation	Visual Amenity	Aquatic Ecology	Acid Rock Drainage	Waste Management	Health	Cumulative Impact	Licencing	Bush Fire
DP&I / DPE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓				
EPA @	✓	✓	✓	✓	✓			✓			✓			✓	✓	✓			✓	
OEH* @			✓					✓												
NOW / DPI - Water @	✓	✓					✓							✓					✓	
DPI - Agriculture@									✓	✓	✓		✓							
Gloucester Shire Council	✓	✓		✓	✓	✓		✓	✓	✓	✓		✓				✓	✓		
DRE	✓	✓	✓				✓				✓				✓				✓	
NSW Health	✓	✓		✓	✓	✓		✓	✓			✓	✓				✓			
MCW	✓	✓																		
HCRCMA	✓	✓	✓				✓				✓					✓		✓		
RMS @						✓														
DPI - Fisheries @		✓												✓						
TransGrid @										✓										
Great Lakes Council @			✓																	
Local Lands Services@	Nil issues raised																			
Rural Fire Service@																				✓

* OEH includes the Heritage Council of New South Wales which separately submitted correspondence to aid the formulation of the Director-General's Requirements.

@ Additional requirements provided in 2015/2016.

3.2.3 Relevant Legislation, Planning Issues, Policies and Guidelines

3.2.3.1 Introduction

A range of Commonwealth and NSW legislation applies to the amended Rocky Hill Coal Project. These pieces of legislation and statutory instruments have been reviewed to identify any environmental aspects requiring consideration in this EIS. In addition, the DGRs for the 2013 Project identified a number of guideline documents that would potentially be of assistance during the preparation of the EIS (see **Appendix 3**). Any subsequent amendments to the identified documents and/or any new applicable guidelines or policies were also reviewed during the preparation of this EIS. A brief summary of each relevant piece of legislation and planning instrument is provided in the following subsections. The application and relevance of planning instruments related to specific environmental issues have been addressed in the relevant specialist consultants' assessments.

3.2.3.2 Commonwealth Legislation

Native Title Act 1993

The *Native Title Act 1993* (Cth) (NT Act) provides for the recognition and protection of native title rights and interests of Aboriginal and Torres Strait Islander peoples to land and waters according to their traditional laws and customs. It also establishes a mechanism to determine claims to native title. Native title rights and interests can only exist if they have not been extinguished by a prior valid grant of a right which is inconsistent with the continuation of native title rights and interests (such as the grant of freehold title).

A native title determination application (or native title claim) may be made pursuant to the NT Act. Upon lodgement of a native title claim, the National Native Title Tribunal (NNTT) is required to apply a registration test and either accept the native title claim for registration or reject it. The NNTT maintains a register of native title claims.

Proposed activities that may affect native title, including the grant of a mining lease, are called 'future acts'. A future act will only be valid to the extent that it affects native title if the procedural requirements set out in the NT Act are followed. If a native title claim is accepted for registration, the native title claimant is entitled to negotiate about future acts over the land that is subject to the native title claim.

The Applicant has confirmed that there are no existing native title claims over the Site nor is there any land within the proposed mining leases where native title has not been extinguished under the NT Act. On this basis, it is expected that the mining leases can be granted to the Applicant without the need to follow any procedures under the NT Act.

Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) covers 'matters of national environmental significance'. Matters of national environmental significance (MNES) include:

- world heritage properties;
- a water resource, in relation to coal seam gas development and large coal mining development;
- wetlands listed under the Ramsar Convention;
- listed threatened species and ecological communities;
- listed migratory species protected under international agreements;
- nuclear actions;
- the Commonwealth marine environment;
- the Great Barrier Reef Marine Park; and
- National heritage places.

'Actions' are defined in the EPBC Act to include projects and developments. Actions that have or are likely to have a significant impact on a MNES, or which might significantly impact on the environment or Commonwealth land, are 'controlled actions'. The Federal Minister for

Environment determines whether a proposed action is a controlled action for the purpose of the EPBC Act. The carrying out of controlled actions are prohibited, unless approved by the Minister.

The Applicant has previously referred the 2013 Project to the DSEWPaC (now the Department of the Environment) to establish whether it was a controlled action under the EPBC Act. The Applicant was notified on 11 May 2012 that the 2013 Project was not a controlled action.

The amended Project varies from the original ‘action’ referred to the Minister. However, it does not require a second referral to the Minister as the revised ‘action’ and specifically the additional disturbance area where the private haul road is proposed to be located, is not considered likely to have a significant impact on a MNES.

With respect to ecological issues, Biosis (2016) considered threatened species or ecological communities listed under the EPBC Act that have been identified or likely to occur within the amended Project area of disturbance and concluded that no significant impact was likely to occur for any such threatened species, ecological community or migratory species.

National Greenhouse and Energy Reporting Act 2007

The *National Greenhouse and Energy Reporting Act 2007* (Cth) (NGER Act) was introduced in 2007 with the objective of underpinning the introduction of an emissions trading scheme, informing government policy formulation and enabling Australia to meet its international reporting obligations.

The NGER Act establishes a mandatory corporate reporting system for greenhouse gas emissions, energy consumption and production. Scope 1 and Scope 2 greenhouse gas emissions are required to be reported under the NGER Act.

The Applicant’s exploration activities do not currently trigger the thresholds for reporting under the NGER Act, however it is expected that the amended Project would result in GRL triggering the thresholds for reporting under the NGER Act once it is operational. Once the mine is operational, the Applicant would monitor its Scope 1 and Scope 2 greenhouse gas emissions. If the threshold level is met, the Applicant would report appropriately pursuant to the NGER Act.

3.2.3.3 NSW Legislation

Key Legislation

The key NSW legislation relating to the approvals, leases and licences required for the amended Project and their implications are as follows.

- *Environmental Planning and Assessment Act 1979*
- *Mining Act 1992*
- *Protection of the Environment Operations Act 1997*
- *Water Management Act 2000*
- *Roads Act 1993*
- *Coal Mine Health and Safety Act 2002*
- *Explosives Act 2003*

Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) provides the framework for the assessment and approval of development in NSW and is administered by the DPE.

The EP&A Act aims to protect and conserve the environment through ecologically sustainable development. This is achieved through managing development to conserve resources, including agricultural land, natural areas, forests, minerals, water, and towns with the purpose of promoting social and economic welfare of the community and an enhanced environment.

Development consent is required under the EP&A Act for the purposes of coal mining in NSW. The amended Project has been submitted for approval under Part 4, Division 4.1 of the EP&A Act as a State significant development (SSD).

The EP&A Act sets out the process for assessment of SSD applications. An EIS is required for all SSD development applications, and must address all of the DGRs (or Secretary's Environmental Assessment Requirements (SEARs)) in adequate detail. The consent authority for the amended Project will be the Minister for Planning and Environment or the Planning Assessment Commission under delegation from the Minister.

Section 89J of the EP&A Act identifies that if development consent is granted for a SSD, the following authorisations are not required.

- A permit under section 201, 205 or 219 of the *Fisheries Management Act 1994*;
- An approval under Part 4, or an excavation permit under section 139, of the *Heritage Act 1977*;
- An Aboriginal heritage impact permit under section 90 of the *National Parks and Wildlife Act 1974*;
- An authorisation referred to in section 12 of the *Native Vegetation Act 2003* (or under any Act repealed by that Act) to clear native vegetation or State protected land;
- A bush fire safety authority under section 100B of the *Rural Fires Act 1997;*
- A water use approval under section 89, a water management work approval under section 90 or an activity approval (other than an aquifer interference approval) under section 91 of the *Water Management Act 2000*.

In addition, there are a number of authorisations that must be granted upon approval of the amended Project (with or without conditions as determined by the relevant authority) including:

- a mining lease under the *Mining Act 1992* (Mining Act);
- an environment protection licence under Chapter 3 the *Protection of the Environment Operations Act 1997* (POEO Act); and
- a consent under section 138 of the *Roads Act 1993* (Roads Act).

Each of the above three authorisations would be required for the Project.

Mining Act 1992

The *Mining Act 1992* (Mining Act) which is administered by DRE within the Department of Industry, aims to encourage and facilitate the discovery and development of mineral resources in NSW. The Mining Act provides the framework for exploration, development, operation and closure of mines, and provides for the management of exploration licences and mining leases to allow access to mineral resources, including coal.

Section 380AA of the Mining Act commenced on 14 May 2014 and prevents an application for development consent for coal being made or determined unless (at the time it is made or determined) the applicant is the holder of an authority that is in force in respect of coal and the land where mining for coal is proposed to be carried out, or the applicant has the written consent of the holder of such an authority to make the application.

The development application for the 2013 Project was made prior to the commencement of section 380AA. However, under clause 145 of Part 19 in Schedule 6 of the Mining Act, section 380AA extends to any application for development consent, or modification of development consent, that was made (but not determined) before the date of assent to the *Mining and Petroleum Legislation Amendment Act 2014* (to which section 380AA formed part). The development application for the amended Project can be both made and determined under section 380AA as all extractive mining activities are proposed to be carried out in an area wholly within EL6523, being an exploration licence held by the Applicant.

The Applicant has lodged an application covering the eastern side of the Mine Area (MLA 446). The Applicant will lodge its mining lease application for the remainder of the Mine Area with the Minister for Resources and Energy in accordance with the Mining Act. Section 89K(1) of the EP&A Act provides that an application for a mining lease cannot be refused if it is necessary for the carrying out of SSD that is authorised by a development consent under Division 4.1 and is substantially consistent with the development consent.

Figure 1.3 displays the indicative areas covered by the existing and proposed mining lease applications relevant to the amended Project.

Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) provides the environmental protection framework for regulation and reduction of pollution and waste in NSW as well as for monitoring of environmental quality. The POEO Act is administered by the Environment Protection Authority (EPA), which issues environment protection licences (EPLs) for wide-ranging scheduled activities, including mining for coal and coal works.

The POEO Act also requires immediate reporting of pollution incidents which cause or threaten to cause material harm to the environment. All holders of EPLs are required to prepare, implement and regularly test pollution incident response management plans. The Applicant would require an EPL under the POEO Act to carry out ‘mining for coal’ and ‘coal works’. The EPL would apply to the entire Site.

Release of water from the Site would only be authorised under the mine’s EPL, which would specify the maximum permissible concentrations of water quality indicators. The EPL would also specify noise and dust limits for the mine.

Water Act 1912

The *Water Act 1912* (Water Act) which is administered by DPI - Water is no longer relevant to the amended Project given the recent introduction on 1 July 2016 of the Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources under the *Water Management Act 2000* (WM Act). All licence holders that held entitlements for water licences under the Water Act will have their entitlements transferred to water access licences under the WM Act.

Water Management Act 2000

The *Water Management Act 2000* (WM Act) which is administered by DPI - Water has an objective of sustainable and integrated management of the State's water for the benefit of both present and future generations. The WM Act provides clear arrangements for controlling land-based activities that affect the quality and quantity of the State's water resources. It provides for three types of approval, namely:

- water use approval – which authorises the use of water at a specified location for a particular purpose, for up to 10 years;
- water management work approval – which authorises the construction and use of specified water supply, drainage and flood works; and
- activity approval – which authorises works carried out within 40m of waterfront land and aquifer interference activities.

An aquifer interference activity approval authorises the holder to carry out specified activities that affect an aquifer such as activities that intersect groundwater or take water from an aquifer in the course of carrying out mining. The aquifer interference activity approval provisions are currently part of the WM Act, however these provisions have not come into effect yet. Until these provisions are proclaimed to commence, an aquifer interference activity approval will not be required.

For controlled activities and aquifer interference activities (once the provisions commence), the WM Act requires that the activities avoid or minimise their impact on the water resource and land degradation, and where possible the land must be rehabilitated.

The WM Act requires that all extraction of surface water or groundwater must be properly accounted for under the rules of any relevant water sharing plans (see Section 4.6.8).

The Water Sharing Plan for the Lower North Coast Unregulated and Alluvial Water Sources (Unregulated and Alluvial WSP) was released in August 2009 to manage surface water and alluvial groundwater in the Lower North Coast alluvial groundwater systems until 2019, including the Avon River Water Source in which the Site is located. Surface waters in the Avon River, Waukivory Creek, Oaky Creek and other tributaries in the vicinity of the Site are allocated under the Unregulated and Alluvial WSP.

The Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources (Groundwater WSP) came into effect on 1 July 2016. Groundwater inflows from the Permian water source are now regulated under the Groundwater WSP and as such one or more water access licences with appropriate entitlements or unit shares under the WM Act will be required for the 'take' of water from this water source.

The Applicant has established that it would need to acquire Groundwater WSP entitlements from existing licence holders through trade or purchase. The Applicant's approach to the acquisition of the required licences is outlined in Section 4.6.8.

Roads Act 1993

The *Roads Act 1993* (Roads Act) applies to public roads in NSW and, depending upon the type of road, is administered by the Roads & Maritime Service or by a local council.

Consent is required under section 138 of the Roads Act for works or structures that disturb the surface of a public road or connect a road to a classified road. However, section 89K(1) of the EP&A Act applies to SSD projects and requires that consent must not be refused, if the works are necessary for carrying out an approved project.

A series of permits under the Roads Act would be required to undertake the proposed road and intersection works and improvements for the amended Project, together with the construction/re-location of power lines across Waukivory Road and construction of the private haul road beneath Fairbairns Lane. Council will be the issuing authority for the required permits.

Following receipt of development consent, the Applicant would also seek the necessary approvals from Council for activities including:

- the closure of the section of McKinleys Lane south of the Mine Area entrance (see **Figure 1.2**);
- the closure of the section of the unformed east-west oriented Faulkland Road extension road reserve east of Waukivory Creek and adjacent to Lot 129 DP979859 and the north-south road reserve adjacent to Lot 21 DP1048749 within the Site (see **Figure 1.2**);
- the construction of the private haul road underpass at Fairbairns Road[3]; and
- the construction of the private haul road across a Council Road Reserve adjacent to the Stratford Mining Complex.

Work Health and Safety (Mines and Petroleum Sites) Act 2013

The *Work Health and Safety (Mines and Petroleum Sites) Act 2013* (WHS Mines Act) applies to all mines sites in NSW. The WHS Mines Act supports the *Work Health and Safety Act 2011* and provides additional provisions for work health and safety issues unique to mines and petroleum sites.

The WHS Mines Act is administered by DRE within the Department of Industry and the *Work Health and Safety Act 2011* is administered by SafeWork NSW.

The WHS Mines Act aims to ensure that effective provisions for emergencies are developed and maintained in coal operations and at related places.

[3] It is noted that the construction of the intersection of the private haul road and Wenham Cox Road would form part of the modification of SSD 4966 as this intersection lies within the Stratford Mining Complex.

Explosives Act 2003

The *Explosives Act 2003* (Explosives Act) requires a person to hold a licence to handle, transport, store or use explosives and explosive precursors.

A Dangerous Goods Licence would be required for the storage of explosives under the Explosives Act and the bulk storage of Class 3 Combustible Liquid (diesel).

Other Legislation

The following NSW legislation (presented alphabetically) is outlined given its potential to apply to the amended Project at some stage(s) throughout its life.

- *Aboriginal Land Rights Act 1983*
- *Contaminated Land Management Act 1997*
- *Crown Lands Act 1989*
- *Dam Safety Act 1978*
- *Dangerous Goods (Road and Rail Transport) Act 2008*
- *Fisheries Management Act 1994*
- *Heritage Act 1977*
- *National Parks and Wildlife Act 1974*
- *Native Vegetation Act 2003*
- *Noxious Weeds Act 1993*
- *Pipelines Act 1967*
- *Rural Fires Act 1997*
- *Threatened Species Conservation Act 1995*
- *Waste Avoidance and Resource Recovery Act 2001*

Aboriginal Land Rights Act 1983

The *Aboriginal Land Rights Act 1983,* administered by Office of Aboriginal Affairs NSW, applies to claimable Crown land in NSW. Searches have identified that there are no Aboriginal land claims over the Site.

Contaminated Land Management Act 1997

The *Contaminated Land Management Act 1997* (CLM Act), administered by the EPA, establishes a process for investigating and remediating land that the EPA considers significantly contaminated.

Based upon a review of previous land uses within the Site, the Applicant understands that there is no known contaminated land present within the Site.

Crown Lands Act 1989

The *Crown Lands Act 1989* (Crown Lands Act), administered by the Department of Lands, applies to any Crown lands, Crown roads or Crown road reserves. The Crown Lands Act also works in conjunction with the *Crown Lands (Continued Tenures) Act 1989*.

No Crown land or Crown roads have been identified on Site and, as such, the Crown Lands Act will not apply to the amended Project.

Dams Safety Act 1978

The *Dams Safety Act 1978* (Dams Safety Act), administered by the Department of Primary Industries, established the Dams Safety Committee. One of the roles of the Dams Safety Committee is to determine the type and the extent of coal mining which is allowed in the vicinity of a prescribed dam. A holder of a mining lease may be required to seek Ministerial approval to mine near a prescribed dam.

The Dams Safety Committee monitors coal mines in the vicinity of a prescribed dam, as well as monitor subsidence, and measure water inflows and outflows. The Dams Safety Committee may require the owner of a prescribed dam to make observations, keep records and provide books, plans or other records by a notice in writing. The Dams Safety Committee may authorise a person, in writing, to carry out inspections of any dam.

There are no prescribed dams in the vicinity of the Site and, due to the size and nature (i.e. in-ground) of the proposed dams on Site, it is unlikely that any dams related to the amended Project will be prescribed under the Dams Safety Act.

Dangerous Goods (Road and Rail Transport) Act 2008

The *Dangerous Goods (Road and Rail Transport) Act 2008*, administered by the EPA, applies to transport of dangerous goods, including explosives, over land, and the handling, unloading, receipt, transfer and storage of those dangerous goods.

The amended Project would comply with any relevant requirements of this Act.

Fisheries Management Act 1994

The *Fisheries Management Act 1994* (Fisheries Management Act), administered by DPI - Fisheries, aims to conserve, develop and share fisheries resources through the management of habitats, threatened species, populations and ecological communities of fish and marine vegetation, in conjunction with promoting viable commercial fishing and aquaculture industries.

Permits under sections 201, 205 and 219 of the Fisheries Management Act may be required for dredging and reclamation work; harm to marine vegetation; or to construct a dam or otherwise create an obstruction across a watercourse.

Once development consent is granted, pursuant to section 89J(1) of the EP&A Act, a permit under the Fisheries Management Act is not required for the private haul road which is proposed to cross Waukivory Creek and the construction of a replacement Jacks Road bridge over the Avon River.

Heritage Act 1977

The *Heritage Act 1977* (Heritage Act), administered by OEH, aims to promote and protect the State's heritage, by preventing harm to buildings, relics or places that are on the State Heritage Register.

Under the Heritage Act, approval is required to carry out development on land on which an item listed on the State Heritage Register is located or that is subject to an interim heritage order. A conservation management plan may be entered into with respect to conserving an item listed on the State Heritage Register.

Once development consent is granted, pursuant to section 89J(1) of the EP&A Act, an excavation permit under the Heritage Act is not required for any impact to an item of heritage significance resulting from the amended Project.

National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NP&W Act) aims to manage and conserve nature, objects, places and features that have ecological and cultural value. The NP&W Act is administered and enforced by the OEH.

Aboriginal places and objects are protected under the NP&W Act. The Director-General has a database of information and records regarding Aboriginal objects, the existence and location of which have been reported, known as the Aboriginal Heritage Information Management System (AHIMS).

An Aboriginal Heritage Impact Permit (AHIP) is generally required for consent to destroy, deface or damage Aboriginal object or Aboriginal place. Pursuant to section 89J(1) of the EP&A Act, an AHIP under the NP&W Act would not be required for the carrying out of the amended Project, if approved.

Native Vegetation Act 2003

The *Native Vegetation Act 2003* (NV Act), administered by OEH, prohibits broadscale clearing of native vegetation without Ministerial consent unless it improves or maintains environmental outcomes, and aims to encourage revegetation of land and rehabilitation of land with appropriate native vegetation. Broadscale clearing is defined as the clearing of any remnant native vegetation or protected regrowth.

Once development consent is granted, section 89J(1) of the EP&A Act provides that authorisation under the NV Act is not required to carry out native vegetation clearing.

Noxious Weeds Act 1993

The objective of the *Noxious Weeds Act 1993* (NW Act), which is administered by the OEH, is to reduce the negative impacts of weeds on the environment by establishing mechanisms to prevent, eliminate or restrict the spread of new or significant weeds.

The NW Act aims to effectively manage widespread weeds through weed control orders, requiring occupiers to control noxious weeds on land and to prohibit the entry of noxious weeds into the NSW. This is enforced by inspectors appointed under the NW Act, who are granted wide powers of entry and inspection in relation to the control of noxious weeds.

Five weeds declared under the NW Act and listed in the former Gloucester Local Government Area (LGA) were observed within the Site, albeit at low densities. There are also a number of other agricultural and environmental weed species that have been identified on the Site.

Pipelines Act 1967

The *Pipelines Act 1967* (Pipelines Act) is administered by the NSW Department of Industry. Under the Pipelines Act, a pipeline licence may be sought to construct and operate a pipeline for the transmission of any substance.

A pipeline licence is not required for the purpose of the supply of water (including for irrigation); the drainage of land, or the conveyance of waste water, mine water, aqueous slurries of minerals, mineral concentrates or mineral tailings. A pipeline licence would not be required for any pipeline used to transmit treated water from the water treatment plant to water storages on the adjacent Speldon Dairy property or adjacent lands owned by the Applicant or for any purpose within the Mine Area.

Rural Fires Act 1997

The aims of the *Rural Fires Act 1997* (Rural Fires Act), administered by the NSW Rural Fire Service, are to prevent, mitigate and suppress bush and other fires in rural fire districts, to coordinate fire fighting; to protect persons from injury and death, and to limit property damage arising from fires.

Pursuant to section 89J(1) of the EP&A Act, separate approval is not required under Section 100B of the Rural Fires Act, however the DGRs require that the EIS detail potential hazards, including bush fire.

Threatened Species Conservation Act 1995

The *Threatened Species Conservation Act 1995* (TSC Act), administered by OEH, aims to conserve biodiversity and promote ecologically sustainable development by preventing extinction and promoting recovery of threatened species, populations, ecological communities and their habitats. This is done through eliminating and managing threats to the survival or evolutionary development of species, populations and ecological communities, such as the impacts of development.

The Lower Hunter Valley Dry Rainforest is a threatened ecological community that has been identified on the Site. There have been nine threatened fauna species identified on the Site. Design features, operational controls and management measures have been proposed to avoid, minimise and offset impacts on local flora and fauna (see Section 4.12.4).

Waste Avoidance and Resource Recovery Act 2001

The *Waste Avoidance and Resource Recovery Act 2001*, administered by the EPA, works in conjunction with the POEO Act and aims to minimise the consumption of natural resources by encouraging efficient use of resources and reducing environmental harm. The Applicant would comply with any relevant requirements of this Act.

3.2.3.4 State Planning Policies

The following six State Environmental Planning Policies (SEPPs) are relevant to the amended Project.

- SEPP (State and Regional Development) 2011 (SRD SEPP).
- SEPP (Infrastructure) 2007 (Infrastructure SEPP).

- SEPP (Mining, Petroleum Production and Extractive Industries) 2007 (Mining SEPP).
- SEPP 33 – Hazardous and Offensive Development (SEPP 33).
- SEPP 44 – Koala Habitat Protection (SEPP 44).
- SEPP 55 – Remediation of Land (SEPP 55).

State Environmental Planning Policy (State and Regional Development) 2011

The SRD SEPP was gazetted on 28 September 2011 and applies to all projects satisfying nominated criteria made following that date. One of the purposes of this SEPP is to define those developments of State significance and therefore require Ministerial approval under the provisions of the EP&A Act 1979. The SRD SEPP and Part 4 – Division 4.1 of the EP&A Act 1979, establish a system to specifically deal with major projects.

As a coal mine, the amended Project is identified under Schedule 1 of the SEPP and hence is designated as 'State significant development' (SSD) to which Part 4, Division 4.1 of the EP&A Act 1979 applies.

State Environmental Planning Policy (Infrastructure) 2007

The Infrastructure SEPP identifies, amongst other things, the matters to be considered in the assessment of development adjacent to particular types of infrastructure.

Clause 45 of the Infrastructure SEPP identifies that where development would be carried out within or immediately adjacent to an easement for electricity purposes, the determining authority must give written notice to the electricity supply authority, inviting comments about potential safety risks and take into consideration any response received. The Applicant notes that the amended Project would require the relocation of a 132kV power line that traverses the Mine Area (**Figure 3.1**). The proposed private haul road would be constructed generally parallel to the 132kV power line for approximately 1.5km of its length. A 250m section of the haul road would be constructed close to the power line approximately 2.3km south of the Mine Area. The Applicant would consult with TransGrid throughout the design and construction stages to ensure the road does not adversely affect the access to or operation of the power line. The determining authority has consulted with TransGrid since 2012 in relation to the relocation of the power line and TransGrid provided additional matters to be addressed within this EIS.

TransGrid

As noted in Section 3.2.2.3, the Applicant has held discussions with TransGrid in relation to the re-location of the existing 132kV distribution line (Line 96P) and the potential interaction of the amended Project with the proposed private haul road and proposed Stroud to Lansdowne 330kV Transmission Line Project, should it proceed. TransGrid has advised the Applicant that the Corridor 1 option is the preferred option (see Section 4.15 for further details) but that the proposed Stroud to Lansdowne Project is unlikely to proceed until at least 2040, i.e. beyond the planned life of the amended Project.

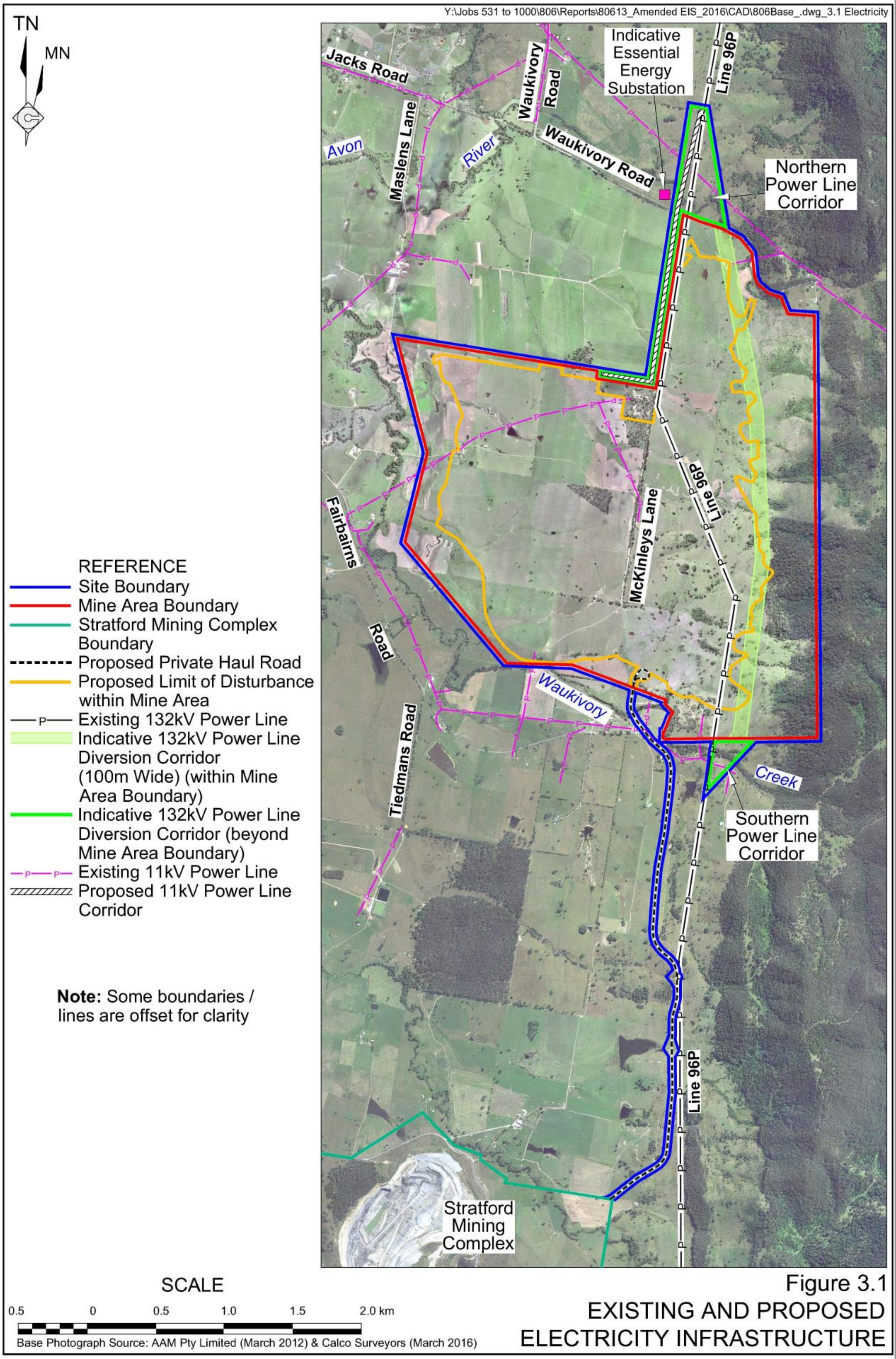

Figure 3.1
EXISTING AND PROPOSED ELECTRICITY INFRASTRUCTURE

Essential Energy

The Applicant lodged a power connection enquiry with Essential Energy in 2012 to finalise the power supply options for the then proposed Rocky Hill Coal Project. During this process, the Essential Energy network capabilities and capacities were discussed and at the time of the initial connection enquiry, Essential Energy were almost at full capacity on the network which is supplied from Stroud via a “Ring Main” circuit. It was this level of power demand on the Essential Energy network that led to the option of installing a new substation on the Applicant’s land that can be utilised for both mine power supply and a direct feed to Gloucester township. The Essential Energy network capacity and demand at the time of Rocky Hill project construction would dictate the requirement for a new substation or utilisation of current infrastructure, approval for which would be the responsibility of Essential Energy.

The amended Project would have minimal impact on the current Essential Energy network other than the removal of a small portion of the power lines that run adjacent to McKinleys Lane which supply Applicant-owned houses. Discussions have been carried out to analyse the implications of the removal of the infrastructure but have been deemed minor by Essential Energy and plans would be finalised during the project construction period.

Road Infrastructure

The amended Project includes the upgrading of sections of the surrounding road network including the replacement of the Jacks Road bridge across the Avon River which is currently load limited to 15t due to structural issues. The Applicant and its traffic consultant have discussed the general extent of road works required with the former Gloucester Shire Council – see Sections 2.6.5 and 4.9.

Telecommunication Infrastructure

The Applicant would arrange for the necessary telecommunications for the entire Project with a reputable communications provider.

State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

The Mining SEPP specifies matters requiring consideration in the assessment of any mining, petroleum production and extractive industry development as defined in NSW legislation. **Table 3.2** presents a summary of the matters that the Minister or his/her delegate needs to consider when assessing a new or modified proposal (Part 3 – Clauses 12AB to 17 of the SEPP) and a reference to the section(s) in this EIS where each relevant element of the SEPP is addressed.

It is noted that Gloucester LEP 2010 identifies that mining is permissible with consent in the Zone RU1 but prohibits it in Zone E3. The Mining SEPP provides that mining is permissible on land over which the relevant LEP permits agriculture to be carried out. Notwithstanding that the Gloucester LEP 2010 prohibits mining in Zone E3, the amended Project is permissible under the Mining SEPP as “extensive agriculture” is permissible on land within the Site.

Table 3.2
Application of SEPP (Mining, Petroleum Production and Extractive Industries) 2007

Page 1 of 2

Relevant SEPP Clause	Description	EIS Section
12: Compatibility with other land uses	Consideration is given to: - the existing uses and approved uses of land in the vicinity of the development;	4.1.4
	- the potential impact on the preferred land uses (as considered by the consent authority) in the vicinity of the development; and	Section 4
	- any ways in which the development may be incompatible with any of those existing, approved or preferred land uses.	Section 4 and 6
	The respective public benefits of the development and the existing, approved or preferred land uses are evaluated and compared.	4.16.5, 4.17 and Section 6
	Measures proposed to avoid or minimise any incompatibility are considered.	Section 4
12A Voluntary land acquisition and mitigation policy	Before determining an application for consent for State significant development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider any applicable provisions of the voluntary land acquisition and mitigation policy and, in particular: a) any applicable provisions of the policy for the mitigation or avoidance of noise or particulate matter impacts outside the land on which the development is to be carried out, and b) any applicable provisions of the policy relating to the developer making an offer to acquire land affected by those impacts.	4.2.4.3, 4.4.6 and 4.4.9.3
13: Compatibility with mining, petroleum production or extractive industry	Consideration is given to whether the development is likely to have a significant impact on current or future mining, petroleum production or extractive industry and ways in which the development may be incompatible.	Section 6
	Measures taken by the Applicant to avoid or minimise any incompatibility are considered.	Section 4
	The public benefits of the development and any existing or approved mining, petroleum production or extractive industry must be evaluated and compared.	3.2.2.3 and Section 6
14: Natural resource and environmental management	Consideration is given to ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure: - impacts on significant water resources, including surface and groundwater resources, are avoided or minimised;	4.6 and 4.7
	- impacts on threatened species and biodiversity are avoided or minimised;	4.12 and 4.13
	- greenhouse gas emissions are minimised and an assessment of the greenhouse gas emissions (including downstream emissions) of the development is provided; and	4.4.7.6
	Consideration is given to an assessment of greenhouse gas emissions (including downstream emissions)	4.4.7.6
	Consideration is given to any certification by the Office of Environment and Heritage or the Director-General of the Department of Primary Industries that measures to mitigate or offset the biodiversity impact of the proposed development will be adequate.	4.12.4.1

Table 3.2 (Cont'd)
Application of SEPP (Mining, Petroleum Production and Extractive Industries) 2007

Page 2 of 2

Relevant SEPP Clause	Description	EIS Section
15: Resource recovery	The efficiency of resource recovery, including the reuse or recycling of material and minimisation of the creation of waste, is considered.	2.2, 2.3, and 2.11
16: Transportation	The following transport-related issues are considered. - The transport of some or all of the materials from the site by means other than public road.	2.9
	- Limitation of the number of truck movements that occur on roads within residential areas or roads near to schools.	2.9
	- The preparation of a code of conduct for the transportation of materials on public roads.	4.9.3
17: Rehabilitation	The rehabilitation of the land affected by the development is considered including: - the preparation of a plan that identifies the proposed end use and landform of the land once rehabilitated;	2.16
	- the appropriate management of development generated waste;	2.11
	- remediation of any soil contaminated by the development; and	2.16.6.63
	- the steps to be taken to ensure that the state of the land does not jeopardize public safety, while being rehabilitated or at the completion of rehabilitation.	2.15 and 2.16.6.6

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33)

Hazardous and offensive industries, and potentially hazardous and offensive industries, relate to industries that, without the implementation of appropriate impact minimisation measures, would, or potentially would, pose a significant risk in relation to the locality, to human health, life or property, or to the biophysical environment.

The hazardous substances and dangerous goods to be held or used on the Site are required to be identified and classified in accordance with the risk screening method contained within the document entitled Applying SEPP 33 Final (DP&I, 2011) (**Appendix 5**). Hazardous materials are defined within that document as substances falling within the classification of the *Australian Code for Transportation of Dangerous Goods by Road and Rail* (Dangerous Goods Code), (National Transport Commission, 2011).

The amended Project would involve on-site storage of up to 350 000L of diesel fuel, a Class 3 C1 combustible liquid, and small amounts of other hydrocarbons including lubricating oils and grease, defined as Class 3 C2 combustible liquids. As the diesel fuel and lubricating oils and greases would not be stored adjacent to any other hazardous materials of the same class, SEPP 33 does not require these to be considered further.

As identified in *Applying SEPP 33 Final* (DP&I, 2011), Class 1.1 dangerous goods are assessed by the required storage of the explosives (measured in tonnes) on a logarithmic scale in comparison to the proximity of the closest public or privately-owned land. The anticipated maximum quantity of explosives required on site at any one time for the proposed mine has been determined to be 200t. As such, a minimum safe distance to store the explosives from the nearest public or privately-owned land would be no less than 750m. While the specific location of an explosives storage facility is yet to be finalised, the Applicant would locate the explosive storage facility in an appropriate location within the Site, ensuring that all minimum proximity requirements are met. Neither the storage nor transportation of the hazardous materials to be stored on the Site would result in the amended Project being considered potentially hazardous under SEPP 33.

State Environmental Planning Policy No. 44 – Koala Habitat Protection

The Gloucester LGA is identified in Schedule 1 of this policy as an area that could provide habitat for Koalas. As required by the policy, an investigation has been carried out to determine if any Koala feed trees are present within the Site. Schedule 2 of this policy also provides a list of tree species that are favoured feed tree species of Koalas. "Potential Koala Habitat" is defined as areas of vegetation where the trees listed in Schedule 2 constitute at least 15% of the total number of trees in the upper or lower strata of the tree component. Studies completed by Biosis (2016) have established that the Site contains three of the listed feed tree species, namely, red gum (*Eucalyptus tereticornis*), grey gum (*E. punctata*) and tallowwood (*E. microcorys*). These species have been identified within the few areas of remnant vegetation that remain in parts of the Site and constitute at least 15% of these areas. However, these areas represent less than 5% of the total area to be disturbed throughout the life of the amended Project.

No Koalas or evidence of Koalas were found during the survey of the Site and its surrounds and there have only been 10 previous recorded sightings of Koalas within the 10km radius of the fauna Study Area over the last 50 years (as described in Volume 4 Part 7 of the *Specialist Consultant Studies Compendium*). Hence, there is no core Koala habitat present on the Site. However, as some areas of remnant vegetation contain greater than 15% of Koala favoured feed tree species, these areas are considered to be "potential Koala habitat". A plan of management would not need to be prepared given the absence of core Koala habitat.

State Environmental Planning Policy No. 55 – Remediation of Land

SEPP 55 aims to promote the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. This policy requires consideration of whether a development requires a consent for remediation works or not and, where warranted, requires that remediation works meet certain standards and notification requirements.

Based upon a review of previous land uses within the Site, the Applicant understands that there is no known contaminated land present within the Site.

3.2.3.5 Regional Planning Issues

Strategic Regional Land Use Plan – Upper Hunter

The Strategic Regional Land Use Plan – Upper Hunter (SRLUP-UH) was developed as one component of the Strategic Land Use Policy prepared by the NSW State Government in conjunction with various government agencies and private sectors to act as a key policy response for resolving land use conflict between mining and coal seam gas activities within areas designated as strategic agricultural land. The final revised 'Strategic Regional Land Use Plan – Upper Hunter' was released on 11 September 2012.

Any new SSD proposal that lies either on biophysical strategic agricultural land (BSAL) or within an area identified as a critical industry cluster, will now undergo a gateway process where a 'Gateway Certificate' application must be made and determined before a development application can be submitted.

The applicant of any State significant mining or coal seam gas proposal within the area covered by the Strategic Regional Land Use Plan – Upper Hunter that is not located on mapped BSAL must verify whether the land to which their application applies meets the criteria for BSAL and, if so, proceed through the gateway process.

As the Applicant had received the DGRs applicable to the amended Project prior to 3 October 2013, pursuant to clause 50A of the EP&A Regulation, a Gateway Certificate is not required for the amended Project and the transitional arrangements of the SRLUP apply. Under the transitional arrangements, such projects will still be subject to a comprehensive assessment of the potential agricultural impacts at the development application stage through:

- the requirement for an Agricultural Impact Statement;
- assessment against the Aquifer Interference Policy; and
- referral to the Commonwealth Independent Expert Scientific Committee for advice, where the project will impact on highly productive groundwater as defined in the Aquifer Interference Policy.

The location of the Site places it within the region covered by the SRLUP-UH as shown on **Figure 3.2**, with the Site also identified as occurring within the following areas.

- SRLUP-UH Coal Resource area (Map 2)
- SRLUP-UH Coal Seam Gas Resource area (Map 3)
- SRLUP-UH Tier 2 Aquatic Biodiversity area (Map 8)
- SRLUP-UH State Heritage Listed Sites (Map 10)

It is noteworthy, as shown in **Figure 3.3**, that the location of the Site does **not** fall on BSAL or within a critical industry cluster.

Notwithstanding the transitional provisions, the Applicant has not only examined the amended Project in light of the mapped strategic agricultural land in the SRLUP-UH which showed that the Site does not lie on mapped BSAL, but also has undertaken a verification process as would otherwise have been required.

This verification process confirmed that the Site is not located on BSAL as the following criteria (SRLUP-UH, 2012) that would define the land occurring within the Site as BSAL were not met.

- "Land that falls under soil fertility classes 'high' or 'moderately high' under the Draft Inherent General Fertility of NSW (OEH[4]).
- Land capability classes 1, 2 or 3 under the Land and Soil Capability Mapping of NSW (OEH[5]).

[4] The fertility of the land to be disturbed within the Site would not be classed as either high or moderately high.
[5] The land to be disturbed within the Site occurs within land and soil capability classes 4, 5 and 7.

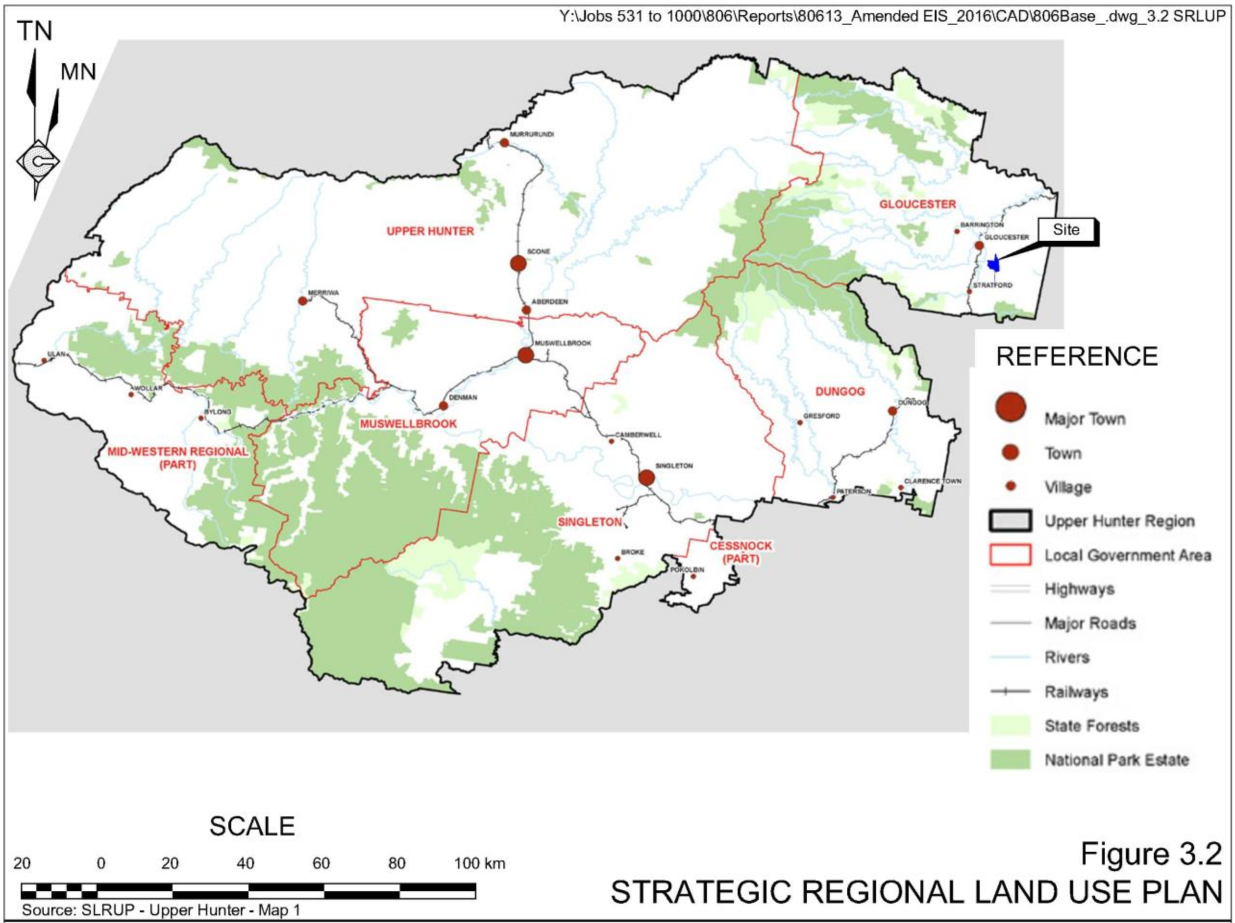

Figure 3.2
STRATEGIC REGIONAL LAND USE PLAN

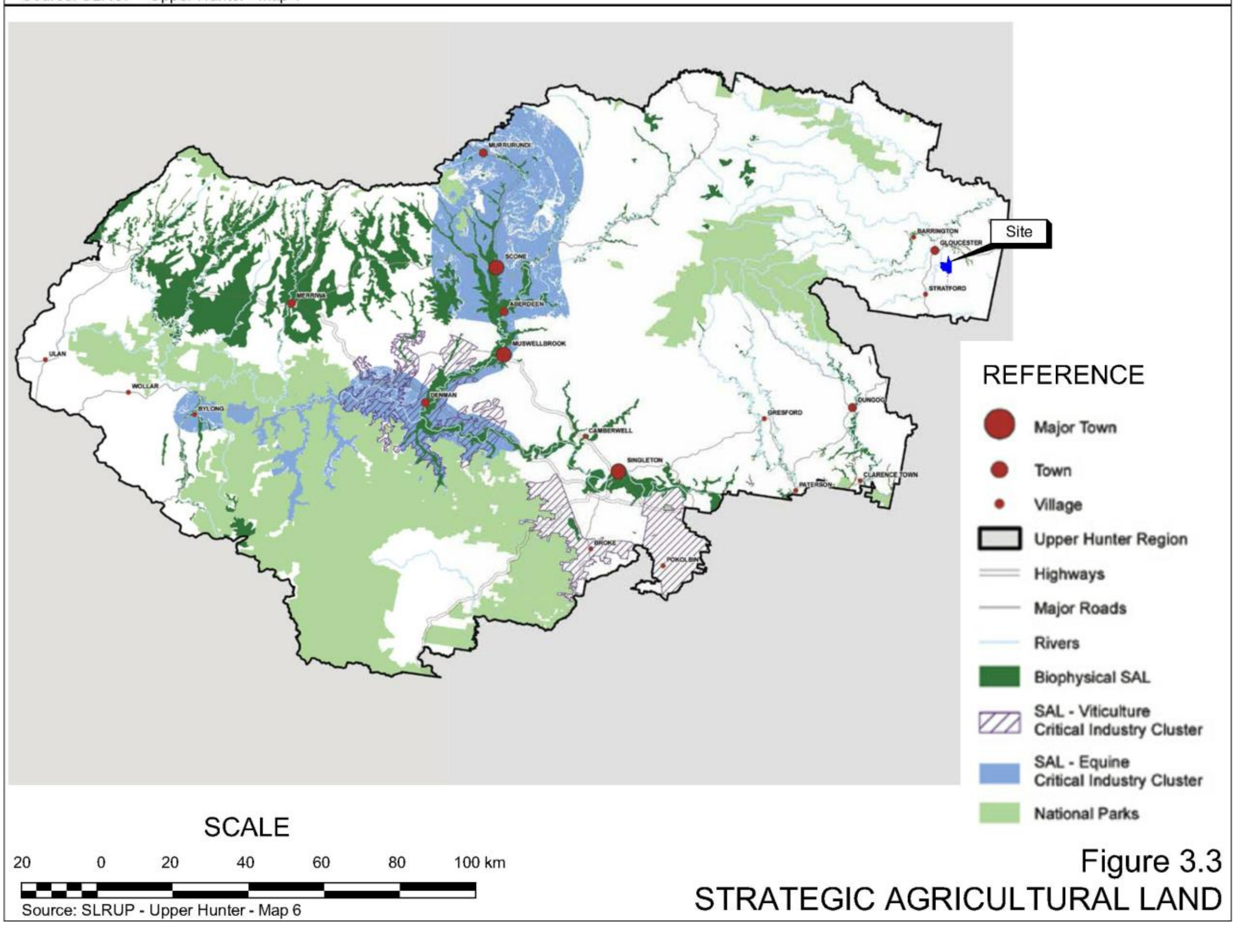

Figure 3.3
STRATEGIC AGRICULTURAL LAND

- Reliable water of suitable quality, characterised by having rainfall of 350mm or more per annum (9 out of 10 years); or properties within 150m of a regulated river, or unregulated rivers where there are flows for at least 95% of the time (i.e. the 95th percentile flow of each month of the year is greater than zero) or 5th order and higher rivers; or groundwater aquifers (excluding miscellaneous alluvial aquifers, also known as small storage aquifers) which have a yield rate greater than 5L/s and total dissolved solids of less than 1 500mg/L.

The above process undertaken for the amended Project established that the Site is not located on BSAL as none of the Site lies within the land capability classes 1, 2 or 3 as defined under the OEH mapping. Furthermore, the detailed soil testing undertaken by GCNRC confirms the soils have only a low-moderate fertility (summarised in the Agricultural Impact Statement).

Agricultural Impact Statement

In accordance with the 'transitional arrangements' section of the SRLUP-UH, the amended Project requires an Agricultural Impact Statement be submitted in conjunction with the EIS for the amended Rocky Hill Coal Project. This document has been prepared reflecting the guidelines released in September 2012 regarding their content. A copy of the Statement is located within Volume 5 Part 13 of the *Specialist Consultant Studies Compendium* and a summary of its contents is included in Section 4.16 of this document.

Aquifer Interference Policy

On 12 September 2012, the NSW Government released the final *Aquifer Interference Policy* which sets out the water licensing and assessment processes for aquifer interference activities under the WM Act.

The WM Act defines an aquifer interference activity as that which involves any of the following:

- penetration of an aquifer;
- interference with water in an aquifer;
- obstruction of the flow of water in an aquifer;
- taking of water from an aquifer in the course of carrying out mining or any other activity prescribed by the regulations; and
- disposal of water taken from an aquifer in the course of carrying out mining or any other activity prescribed by the regulations.

Examples of aquifer interference activities include mining, coal seam gas extraction, injection of water, and commercial, industrial, agricultural and residential activities that intercept the water table or interfere with aquifers. The amended Project would involve aquifer interference activities, through the development of open cut pits.

The Aquifer Interference Policy defines an agreed set of 'minimal impact' considerations that need to be taken into account when assessing a project and the potential for harm to occur to an aquifer and its dependent ecosystems, culturally significant sites, connected surface water sources and to existing water users. The Policy indicates that the aquifer impact assessment will include consideration of potential impacts on water table levels, water pressure, and water quality in different types of groundwater systems. The amended Project has been assessed against the Aquifer Interference Policy (see Section 4.6.7.7) and it was determined that it satisfies the three key components of the Policy's minimal impact considerations for aquifer interference activities. It is similarly noted that the groundwater impacted by the amended Project generally has a total dissolved solids concentration of greater than 1 500mg/L and would not impact any bores with a yield greater than 5L/s.

Hunter Regional Environmental Plan – Heritage

The Hunter Regional Environmental Plan – Heritage applies to the amended Project, and has the objectives to:

a) conserve the environmental heritage (including the historic, scientific, cultural, social, archaeological, architectural, natural and aesthetic heritage) of the Hunter Region;

b) promote the appreciation and understanding of the Hunter Region's distinctive variety of cultural heritage items and areas including significant buildings, structures, works, relics, towns, precincts and landscapes; and

c) encourage the conservation of the Region's historic townscapes which contain one or more buildings or places of heritage significance or which have a character and appearance that is desirable to conserve.

Schedule 2 of the Plan lists three items in Gloucester township of regional environmental heritage, which under the State Heritage System, are of local heritage significance as they are also listed under the Gloucester Local Environmental Plan 2010. These items include:

- "Gloucester Cottage" – The Bucketts Way;
- Court House Group – Church Street; and
- Court House (No. 19) – Church Street.

Schedule 3 of the Plan lists one item of local environmental heritage in Gloucester, namely the Former Council Chambers at the corner of Church and Tyrell Streets. This item is also listed under the Gloucester Local Environmental Plan 2010.

Schedule 4 of the Plan lists two items in Gloucester township requiring further investigation, namely:

- Former Bank of NSW (No. 23) – Church Street; and
- Sisters of St Joseph Convent – Denison Street.

None of the above items are located within or close to the Site and hence none would be adversely affected by the amended Project. These items are not considered any further.

Hunter-Central Rivers Catchment Action Plan 2013-2023

The Hunter-Central Rivers Catchment Action Plan (CAP) is a whole of government and whole of community strategic plan that aims to capture the full range of issues, roles and responsibilities of all the key organisations involved in natural resource management and decision making.

The Applicant accepts it has a responsibility to participate with the surrounding industries and community to aim to achieve the relevant goals and targets in the CAP.

Table 3.3 lists relevant goals from the CAP and a commentary on how the Applicant would address the goals.

Table 3.3
Hunter-Central Rivers Catchment Action Plan 2013-2023 – Catchment Goals

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Goal	Requirement	Applicant's Approach
1.	**Governance and Planning** There is a shared vision and goals for natural resources and ecosystem services within the region. • Planning and land use decisions contribute positively to natural resource management. • Knowledge and evidence informs decision making. • Decision making is coordinated and collaborative.	The Applicant, in planning for and designing the amended Project, has actively considered the future use of the Site post mining operations by returning the disturbed land to a similar or improved quality and effectively providing a positive net benefit to natural resources within the immediate area, i.e. from both an agricultural and ecological perspective. This is made possible by the Applicant engaging with local and broader government and non-government agencies to determine the most effective way to design the amended Project to protect the natural resources and ecosystems within the region.
2.	**Knowledge and Research** Natural resources, ecosystem function and ecosystem services in our region are well understood. • Natural resource management is continually improved and informed by research, monitoring and evaluation. • Research, monitoring, evaluation and reporting is collaborative, coordinated.	The Applicant and its specialist consultant team have undertaken extensive baseline environmental monitoring of a variety of environmental attributes to understand the local and surrounding environment. The proposed continuation of this environmental monitoring, in conjunction with the proposed additional operational environmental monitoring, would continue to expand the Applicant's knowledge of the surrounding environment, allowing a tailored approach and plan to be implemented to reduce the overall impact on the surrounding environment as a result of the amended Project.
3.	**Empowerment and Capacity Building** Individuals, organisations, communities and industries able to effectively protect, improve, maintain and manage the natural resources of the region. • All stakeholders understand the reasons for natural resource management and have the capacity to contribute to natural resource management and decision making.	The Applicant recognises that, as a substantial landholder in the catchment, it has a responsibility to fully understand the attributes of the natural resources on its properties. The EIS and its supporting documents would assist the Applicant to responsibly manage the natural resources on both the land proposed to be disturbed and the land beyond the proposed area of disturbance.
4.	**Estuaries and Marine** Improve or maintain the ability of oceans, estuaries, beaches and shorelines to provide ecosystem functions and services: • to support biodiversity and regionally significant habitats and species; • to support sustainable economic and recreational opportunities; and • to contribute to human health and well-being.	While it is recognised that the Site is not within an estuarine or marine environment, the Applicant is committed to preventing any off-site discharge that could potentially affect downstream estuarine or marine environments associated with the Manning River estuary and ultimately the Pacific Ocean.
5.	**Land and Soils** Improve or maintain the ability of land and soils to provide ecosystem functions to support: • biodiversity; • sustainable and viable agriculture; and community amenity and infrastructure	Throughout the compilation of the EIS, baseline conditions have been established and mitigation measures proposed within the fields of biodiversity, agriculture and community amenity and infrastructure and are discussed in detail in Sections 4.8, 4.12, 4.16 and 4.17 of the EIS respectively. Furthermore, the Agricultural Impact Statement (Volume 5 Part 13 of the Specialist Consultant Studies Compendium) discusses in detail the predicted impacts and the proposed mitigation measures to be implemented on agricultural lands and enterprises. The rehabilitation of the area disturbed by the amended Project represents a balance by involving both agricultural land and nature conservation.

Table 3.3 (Cont'd)
Hunter-Central Rivers Catchment Action Plan 2013-2023 – Catchment Goals

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Goal	Requirement	Applicant's Approach
6.	**Fresh Water** Improve or maintain the ability of catchments to provide ecosystem functions and secure fresh water to support: • biodiversity; • human health and community well-being; and • economic opportunities.	Both groundwater and surface water systems have been studied in depth (Sections 4.6 and 4.7 of the EIS respectively) to define the potential impacts that the amended Project may have on the biodiversity, human health and economic opportunities, with the studies concluding that there would be minimal impacts upon fresh water as a result of the proposed and implemented mitigation measures such as retention of saline water on site, and compliant water discharges, if required or the treatment of saline water within an on-site treatment plant. The proposed segregation of clean, dirty and saline water streams, along with the implementation of the Water Management Plan, would contribute to maintaining the fresh water qualities throughout the region. The use of the on-site water treatment plant would assist to increase the area of land irrigated whilst potentially maintaining environmental flows within the Avon River or Waukivory Creek.
7.	**Biodiversity** Improve or maintain the ability of our catchments to provide ecosystem functions and services which sustain biodiversity and regionally significant habitats and species to: • conserve terrestrial and aquatic biodiversity and the habitats it depends on; • support community well-being; and • support economic opportunities.	Terrestrial and aquatic biodiversity have both been studied in depth (Section 4.12 and 4.13 of the EIS respectively) with baseline conditions determined and appropriate mitigation measures proposed. These suggested measures have been determined to adequately maintain the biodiversity of the area during the life of the mine and, post mining operations, improve the biodiversity of the area through rehabilitation and the permanent conservation of the Biodiversity Offset Area.
8.	**Air** Improve or maintain regional air quality to provide ecosystem functions to support: • biodiversity; • human health and community well-being; and • agriculture and other economic opportunities.	Background air quality information has been sourced throughout the preparation of the EIS with a full air quality assessment undertaken to determine the potential impacts on air quality as a result of the amended Project (see EIS Section 4.4). As a result of the modelling and proposed mitigation measures, impacts upon biodiversity, human health, community well-being and agricultural and economic opportunities are likely to be minimal.
9.	**Community Well-being** Manage natural resources to support human health and community well-being.	The Applicant currently participates pro-actively in the Gloucester Exploration Project Community Consultation Committee which has acted as a Community Consultation Committee (CCC) for the 2013 Project and amended Project, allowing open discussions to be undertaken between the community and the Applicant. It is proposed that if development consent is granted, a separate, project specific CCC be created in accordance with the current guidelines to continue to provide an open forum for discussions with the community.
10.	**Economic Prosperity** Maintain and improve the ability of our catchments to provide ecosystem services to support: • long-term economic opportunities; • community prosperity; and • community well-being.	Comprehensive social and economic impact assessments were undertaken for the EIS (Section 4.17 and 4.18) to provide information on the background economic setting and the proposed impacts on the regional economy as a result of the amended Project, with the results of this assessment determining that there would be a positive net economic benefit on the long-term economy and community prosperity and well-being within the region.

3.2.3.6 Local Planning Issues

Gloucester Local Environment Plan 2010

The Site is located in the recently formed Mid-Coast Local Government Area (LGA). Local planning within and in the vicinity of the Site will, however, continue in accordance with the Gloucester LEP 2010 until the plan is replaced. The Gloucester LEP 2010 incorporates the following introductory note to the Land Use Table.

> *"A type of development referred to in the Land Use Table is a reference to that type of development only to the extent it is not regulated by an applicable State environmental planning policy. The following State environmental planning policies in particular may be relevant to development on land to which this Plan applies. State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007" (the Mining SEPP).*

Notwithstanding the provisions of the Mining SEPP (discussed in Section 3.2.3.4) which prevail over provisions of the Gloucester LEP 2010 in the event there is an inconsistency between the two environmental planning instruments, the remainder of this subsection reviews the relevant clauses of the Gloucester LEP 2010 and the background to the strategic planning within and in the vicinity of the Site, as well as how the objectives of the relevant land use zones have been incorporated to the extent possible into the design of the amended Project.

Under the Gloucester LEP 2010, mining is permissible with consent in the RU1 Zone but is not permissible in the E3 Zone. Notwithstanding the non-permissibility of mining in the E3 Zone, the Minister (or delegate) can determine the development application for the amended Project, as it is not wholly prohibited by the Gloucester LEP 2010. Furthermore, since the LEP permits "extensive agriculture" within land zoned E3 within the Site, the amended Project is permissible given the provisions of the *State Environmental Planning Policy* (SEPP) *(Mining, Petroleum Production and Extractive Industry) 2007*.

Figure 3.4 displays the section of the Gloucester LEP 2010 relevant to the Site and its surrounds.

The Mine Area is located within an area covered by the E3 – Environmental Management Zone (77%) and RU1 – Primary Production Zone (23%). The private haul road corridor is located wholly within land covered by the RU1 Zone.

Planning Objectives

The planning objectives of the E3 Zone (Environmental Management) and RU1 Zone (Primary Production) are as follows.

Zone E3 – Environmental Management

The three objectives of the E3 Zone are as follows.

i) To protect, manage and restore areas with special ecological, scientific, cultural or aesthetic values.

ii) To provide for a limited range of development that does not have an adverse effect on those values.

iii) To conserve the biological diversity and native vegetation corridors, and their scenic qualities, in a rural setting.

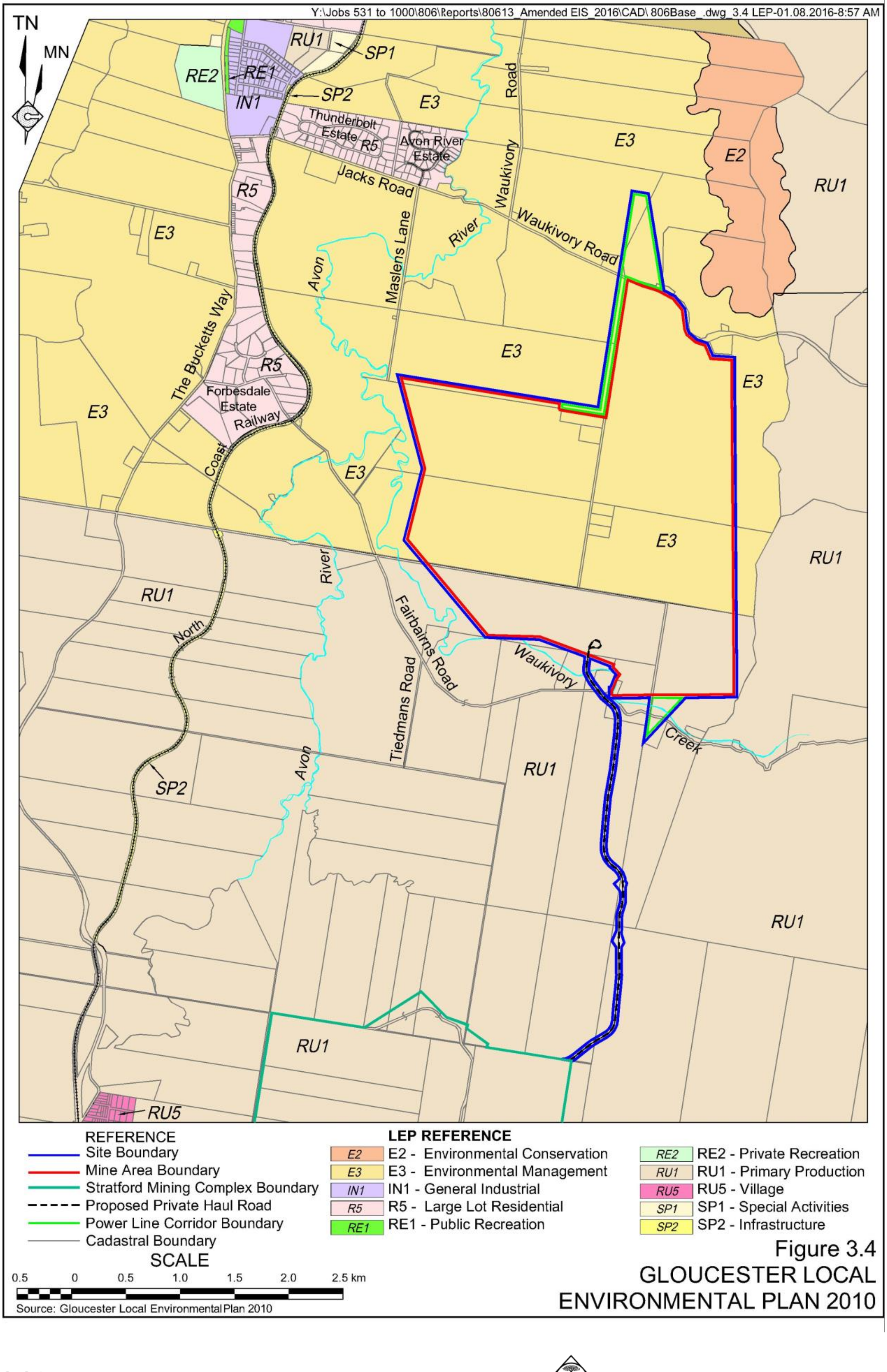

Figure 3.4
GLOUCESTER LOCAL ENVIRONMENTAL PLAN 2010

Zone RU1 – Primary Production

The five objectives of the RU1 Zone are as follows.

i) To encourage sustainable primary industry production by maintaining and enhancing the natural resources base.

ii) To encourage diversity in primary industry enterprises and systems appropriate for the area.

iii) To minimise the fragmentation and alienation of resource lands.

iv) To minimise conflict between land uses within this zone and land uses within adjoining zones.

v) To encourage eco tourism enterprises that minimise any adverse effect on primary industry production and the scenic amenity of the area.

Strategic Planning Background

Prior to assessing how the above objectives have been accommodated in the design of the amended Project, the following background information is provided with respect to the strategic planning reflected in the Gloucester LEP 2010, particularly with respect to the E3 Zone.

When providing guidance to Councils preparing LEPs in accordance with the Standard Instrument (Local Environmental Plans) Order 2006, the then DP&I identified that an E3 Zone *'is generally not intended for cleared lands including lands used for intensive agriculture'* (LEP Practice Note *PN 09-002* 30 April 2009). The land within the Site that is mapped as an E3 Zone has historically been used for agricultural purposes, principally grazing for beef and dairy cattle. Both of these agricultural uses continue to operate within and adjacent to the Site, and extensive agriculture is permitted on land in Zone E3 without consent from Council.

Notwithstanding the above, it is understood the E3 Zone in the Gloucester LEP 2010 was intended to secure and retain the agricultural setting and clear unfettered views to the west and the Gloucester Bucketts, an iconic landmark in the northern section of the Stroud-Gloucester Valley (see Section 4 and specifically **Figures 4.2**).

The views eastwards towards the Mograni Range were seen as requiring some security, however existing development, such as the rural residential subdivisions and the former Fennings timber mill/Boral timber processing plant, received development consent from the GSC. GSC has also approved the residential subdivisions along Jacks Road, and some rezoning that occurred in the 2010 LEP has increased potential development opportunities around Jacks Road. It is also noted that in the 2006 Housing Development Strategy for Gloucester (last modified February 2015), the area east of the North Coast Railway Line identified for post 2030 land releases lies wholly within the E3 Zone. As such, it can be determined that historically GSC had not been adverse to granting permission or planning for substantial developments on land in Zone E3.

Assessment of the amended Project and the LEP 2010 Objectives and Strategic Planning Intentions

Zone E3 – Environmental Management

The Site lies on the eastern side of the Stroud-Gloucester Valley, i.e. the opposite side to the Bucketts Range, with the areas of planned operations confined to predominantly cleared agricultural lands on the lower eastern slopes. Visitors approaching Gloucester from the south would not have their view of the Gloucester Bucketts compromised in any way by the proposed activities on the Site. The proposed vegetated amenity barriers would be a key component in ensuring that views towards the Mograni Range are not compromised during the operation of the mine and that any impacts to the area's aesthetic value during its construction and operation would be short term.

In recognition of the emphasis placed upon the scenic qualities of the land in Zone E3 and the identification of visual impacts by numerous government agencies and the BGSPA, the Applicant engaged Richard Lamb & Associates to undertake a visual impacts assessment to analyse the visual effects, recommend appropriate mitigation measures and assess residual impacts of the amended Project. A total of 59 viewing places were identified and assessed for their scenic values and potential to be affected by activities within the Site. A number of these viewing places were suggested by the BGSPA.

On the whole, visibility of the mining-related activities within the Site would be limited by topography, settlement pattern, the location of roads, and by other intervening landscape and vegetation features. However, as the Site is of rural character and has largely been cleared for cattle grazing (for many years), there are areas of exposure where views of the activity areas within the Site would be possible, albeit for short periods of time. The Site would be shielded from the main urban areas of Gloucester township, although it is likely to be visible from the Kia Ora lookout (8.0km to 10.5km) and the Lions Lookout (4.5km to 6.5km). On limited sections of The Bucketts Way, there are areas where the activities within the Site would be visible at some stages of the operations. The proposed construction of the amenity barriers would substantially shield the activities within the Mine Area when viewed from The Bucketts Way and the rural-residential properties to the west and northwest of the Mine Area.

It is acknowledged that during the site establishment and construction stage, activities involved with construction of the western and northern amenity barrier would not be able to be shielded at all times from these rural-residential areas, due to their proximity or elevation. However, the method of construction and progressive rehabilitation (as described in Sections 2.7.2.4 and 4.5.4.3) would ensure that activities within the active open cut pits would not be visible from these rural-residential areas. Similarly, there would not be significant visibility of overburden emplacement activities or coal stockpiling, sizing or transportation of the coal. By the end of Year 7, the majority of the permanent out-of-pit overburden emplacement would be constructed to its final landform and rehabilitated along the eastern side of the Mine Area. The construction and progressive temporary rehabilitation of the interim overburden emplacement would be completed by the end of Year 8, after which mining activity would be confined to the Main Pit, and visibility of the on-site activities from any location would be very limited.

The activities associated with the re-contouring of the final landform and backfilling of the Main Pit would periodically be visible, although all efforts would be made to ensure that items of mobile earthmoving equipment operate behind the remaining features of the temporary landform, albeit they would be progressively reducing in height.

Based upon the above description, the Applicant considers that the amended Project is consistent with the strategic intent of the Zone E3 for the Site and surrounding area which is to secure and retain the agricultural setting and to preserve the aesthetic value of the views towards the Bucketts Range.

Although partially located within the Zone E3, the Site itself currently has minimal areas of ecological significance that warrant protection and management due to its historical use for extensive agriculture, specifically, dairying and cattle grazing. Following mine closure, the rehabilitated final landform would enhance the existing ecological value of the area, as sections of the cleared grazing land would be rehabilitated to improve its biological diversity and promote native vegetation corridors, improving the aesthetics of the rural setting, while enabling existing agricultural pursuits to continue.

The amended Project would have a limited impact on the biological diversity of the Site. Any impacts on biological diversity would be offset through the Biodiversity Offset Strategy which would protect and enhance the native vegetation corridor to the east of the Site to ensure its long-term protection. All areas within the Mine Area and the private haul road corridor that are disturbed throughout the life of the mine, other than the Mine Area access road and private haul road formations would be progressively rehabilitated. A series of native vegetation corridors would be established on the land, enhancing the existing ecological and aesthetic value of the area.

The biological diversity and existing native vegetation and fauna corridors within Zone E3 would be increased as a result of the proposed rehabilitation and long-term protection of the existing remnant vegetation within the proposed Biodiversity Offset Area. As noted in Objective (ii) for land in Zone RU1, defined areas would be returned to viable agricultural land with the remaining land rehabilitated in a manner that would provide agricultural or ecological benefits. Specific vegetation corridors created within the final landform would aid in increasing the biological diversity within the local area.

Overall, the amended Project is considered to be consistent with the Zone E3 objectives because, as described throughout this document, management and mitigation measures would be implemented where practicable, to minimise the potential impacts of the on-site activities on the ecological and aesthetic values of the area.

Zone RU1 – Primary Production

The land within the majority of the Mine Area and the entire haul road corridor, whilst being progressively removed from agricultural production during the life of the amended Project, would be largely re-established for grazing purposes after rehabilitation activities have been completed.

The Biodiversity Offset Area is proposed to be established over land that is Zoned E3 and RU1, in areas of existing low agricultural productivity. This would provide improved ecological values with negligible change in the agricultural productivity of the area.

Justification of why mining should be allowed in the E3 Zone

Notwithstanding whether mining is permissible within the E3 Zone over the northern section of the Site, the Minister (or delegate) can determine the development application for the amended Project, as it is not wholly prohibited by the LEP 2010. The LEP 2010 permits '*extensive agriculture*' within land on Zone E3 on the Site. Provision 7(1) of the Mining SEPP identifies that mining may be carried out with consent on land where agriculture is a permissible land use.

Accordingly, the Minister is not precluded from granting approval under section 89E of the EP&A Act for the amended Project in respect of those parts on land where mining is prohibited under the LEP 2010.

The rehabilitation strategy for the amended Project identifies the establishment of pasture land with tree lots on the lowermost areas graduating to pasture land that would incorporate an open woodland character, interspersed with native vegetation belts providing fauna corridors. This is to extend the vegetated character of the middle to lower slopes in the vicinity into the Site, enhancing the existing ecological and aesthetic qualities of the area in line with the Zone E3 objectives. Following the cessation of mining and rehabilitation of the Site, the character of the Site would be comparable with its existing character, and would include greater areas of vegetation than it does now.

Emphasis would be placed upon progressively creating the final landform and re-establishing soil profiles and vegetation that are essential to achieving the preferred land use(s) during or following mine closure. The rehabilitated land planned for grazing within the Mine Area would be allowed to regenerate for a period of at least three years to ensure its biological efficacy, before cattle are re-introduced permanently onto that land.

The proposed mining activity is a temporary land use that recovers the important and scarce (high fluidity coking coal) resources beneath the Site whilst providing for both long-term agricultural production and an increase in biodiversity values beyond those currently in existence on the Site.

Former Gloucester Shire Council's Contaminated Land Management Policy

The Contaminated Land Management Policy adopted by the former Gloucester Shire Council on 14 December 2005 provides guidance regarding "best practice" for managing land contamination through the planning and development control process.

No contaminated land is known to exist within the Site.

3.2.3.7 Environmental Guidelines

The DGRs require that in assessing the identified key assessment requirements, reference be made to one or more guideline documents. In addition, a number of the government agencies consulted in relation to the amended Project required reference to other environment guideline documents. **Appendix 4** identifies each of the relevant guidelines and identifies the relevant section(s) of the EIS and/or part of the *Specialist Consultant Studies Compendium* where they are considered and/or addressed.

3.2.4 Summary of Environmental Issues and Potential Impacts

3.2.4.1 Introduction

Table 3.4 presents a summary of the environmental issues identified by the various State and local government agencies and the BGSPA for one or both of the EISs for the 2013 and amended Projects, along with the frequency with which each was identified. The frequency of identification provides an initial indication of those environmental aspects perceived to be at greatest risk and hence of greatest priority, with **Table 3.4** being ordered accordingly (from most to least frequently identified). The following subsections provide the reasoning for the numbers displayed in the source and frequency identification columns within **Table 3.4** which forms one part of the method used to determine the relative importance of each environmental issue discussed in detail in Section 4.

Table 3.4
Summary of Identified Environmental Issues

	Source and Frequency of Identification		
Environmental Issue	**Government Consultation**	**Community Consultation**	**Total**
Surface water/erosion & sediment control/Flooding	9	10	19
Groundwater	8	10	18
Soil resources / Management	6	9	15
Air Quality/Greenhouse Gas	4	8	12
Noise/Blasting/Vibration	4	7	11
Visual amenity	4	7	11
Terrestrial Ecology	6	5	11
Traffic and Transport	4	4	8
Rehabilitation & final landform	4	3	7
Aquatic Ecology	2	5	7
Socio-economic impacts	4	2	6
Cultural heritage	5	1	6
Land Use / Planning / permissibility	4	1	5
Acid Rock Drainage	2	-	2

3.2.4.2 Government Consultation

A review of the DGRs (and attached correspondence to DP&I/DPE from the relevant government agencies consulted), along with correspondence provided in response to the 2015/2016 requests for additional government agency requirements, was undertaken to calculate the number of times a specific environmental issue was raised to be discussed and assessed within the EIS. The review process simply counted how many times a particular environmental issue requiring assessment was mentioned per government agency (see **Table 3.1**).

3.2.4.3 Community Consultation

The Applicant has placed considerable emphasis upon undertaking consultation within the Gloucester and district community in a manner that provides both information about its plans for mining and for individuals to raise issues for consideration in the EIS.

The Applicant has maintained a website, www.rockyhillproject.com.au, to provide the widest circulation of information about the 2013 Project and amended Project and to enable any member of the public to provide comments, ask questions or request to be sent updates about the 2013 Project and, more recently, the amended Project. During the period since the website was established in August 2011, approximately 600 persons have recorded enquiries, statements, etc. on the website. It is acknowledged that more than 50% of these enquiries were recorded by persons seeking employment.

The Applicant has also kept the community informed through a number of advertisements in the local paper and through media releases. Since 2012, the Applicant also mailed three separate project updates (newsletters) to every resident in the former Gloucester Shire. These updates were also emailed or posted to a database of people who have registered for project information from within and outside of the region. As at June 2016, there were just over 300 names on a separate database of people who have specifically registered their interest in employment opportunities should the amended Project proceed.

One-to-one correspondence with Gloucester and district residents, i.e. through either mail or email, has enabled the Applicant to discuss individual issues with numerous people and to explain the approach to a wide range of issues relating to the Company's plans. One-to-one written or verbal contact has been maintained with the bulk of the neighbours living on properties around the Site.

The Applicant has participated in the Rocky Hill Exploration Community Consultative Committee (CCC) since February 2007 to enable the Gloucester and district community to learn about the Applicant's activities and planning for its coal exploration and potential development(s). Committee meetings have typically been held four to five times each year. To date, a total of more than 40 meetings have been held which have enabled committee members to convey information to the local community about the status of the Applicant's activities and plans. Minutes of the CCC meetings are placed on the Applicant's website.

Whilst the Applicant has focussed upon one-to-one consultation, Company representatives attended a meeting hosted by Advance Gloucester on 20 April 2016 to enable approximately 50 Gloucester and district residents to learn about the Applicant's plans for the amended Project and to ask questions. The questions at the meeting focussed upon the following.

- Various operational issues relating to annual production, blasting, hours of operation, use autonomous vehicles, water diversions and final void.
- What project components have been amended.
- Timing for approval or refusal decision and GRL's timetable if approval is given – the community's keen to see a decision – the process has been too long.
- Use of local contractors.
- Potential for mine extensions – like Stratford?
- Support for training facilities at Gloucester High School.

The Applicant has also periodically issued newsletters and press releases about specific subjects of interest to the general community including:

- Community grants;
- Exploration Licence area reductions;
- Agricultural partnerships;
- EIS findings from the 2013 EIS;
- The agreement with Yancoal and its implications/consequences to the Project;
- The Social Impact Assessment; and
- Progress of the amended Project's EIS.

In addition to the Applicant's consultation program, Key Insights (social impact specialist consultants) produced and distributed a 'Community Perception Survey Report' to the Gloucester community (see Volume 5 Part 14 *Specialist Consultants Studies Compendium*) asking respondents to answer an array of questions relating to the 2013 Project. Question 5 of the Community Perception Survey asked each respondent to rate how concerned they were with the potential environmental impacts associated with the Rocky Hill Coal Project. The resulting answers were tallied and weighted (from 'extremely concerned' to 'not at all concerned') with the environmental issues rated from '10', being the most identified concern to '1', being the least identified concern. Environmental issues displaying the same rated score after tallying and weighting were given the same rating.

As part of the social impact assessment of the amended Project, Key Insights undertook additional meetings and interviews with the 2013 consultation participants and reviewed the results of the Community Perception Survey in light of the amendments to the 2013 Project. It is considered by Key Insights that the results of the Community Perception Survey continue to reflect the issues of concern or interest to the Gloucester community.

3.3 ASSESSMENT OF ENVIRONMENTAL RISK AND ISSUE PRIORITISATION

3.3.1 Assessment of Environmental Risk

Risk is the chance of something happening that will have an impact upon the objectives or the task which, in this case, is the construction and operation of the amended Rocky Hill Coal Project with minimal adverse impacts on the surrounding environment. Risk is measured in terms of consequence (severity) and the likelihood (probability) of an event happening. In order to analyse the potential environmental risks, a structured broad-brush risk assessment involving R.W. Corkery & Co. Pty Limited, representatives of the Applicant's management team and key specialist consultants advising the Applicant was undertaken. A workshop was convened in early 2012 to discuss and analyse:

- each of the likely risk sources;
- their potential consequences;
- the likely residences/receivers / surrounding environment;
- potential environmental impacts; and
- how they could be mitigated or managed to reduce the level of impact(s).

The assessment of risk was established through the adoption of a suite of controls and mitigation measures that are standard throughout the coal mining industry or are expected, such as the dust minimisation measures identified by Donnelly *et al* (2011) in the document entitled "NSW Coal Mining Benchmarking Study: International Best Practice Measures to Prevent and/or Minimise Emissions of Particulate Matter from Coal Mining". This level of risk is referred to as the risk with standard control measures. In some cases, it was accepted that the standard controls and mitigation measures would be adequate to achieve an acceptable level of impact without the need for any additional controls or mitigation measures.

Each risk source was allocated a risk ranking based on the potential consequences and likelihood of occurrence and in accordance with Australian Standards HB 203:2006 and AS/NZS 4360:2004.

The allocation of a qualitative consequence ranking was based on the definitions established within the environmental risk matrix developed for the risk assessment workshop. The qualitative likelihood or probability ranking of the impact(s) occurring for each risk source was then ranked. The risk ranking was then established based upon the consideration of both the consequence ranking and likelihood or probability ranking.

Following the amendment of the project, the outcomes of the risk assessment have been reviewed by the Applicant, RWC and relevant specialist consultants. The results of the risk assessment for the amended Project with the adoption of standard control measures are presented in **Appendix 6**.

3.3.2 Prioritisation of Key Environmental Issues

The prioritisation of the key environmental issues, and hence their general order of presentation in this document, has been established through reference to the following.

- The results of the issue identification process recorded in Section 3.2.
- The risk assessment outlined in Section 3.3 and tabulated in **Appendix 6**.
- The benefit of sequentially presenting issues with inter-related subjects.
- The experience of the document's author in preparing in excess of 400 Environmental Impact Statements, principally for mining and quarrying projects.

The key environmental issues are presented in Section 4 in the following order.

- Noise
- Vibration and Blasting
- Air Quality
- Visibility
- Groundwater
- Surface Water
- Soils and Land Capability
- Traffic and Transportation
- Aboriginal Cultural Heritage
- Historic Heritage
- Terrestrial Ecology
- Aquatic Ecology
- Social Impacts
- Economic Impacts

The acid rock drainage assessment is relevant principally to the surface water and groundwater assessment and is discussed in Sections 2.3.3.3 and 2.8.4 of this document.

It is noted that the positioning of the social and economic assessments within the above order is not a direct consequence of the prioritisation assessment. Rather, from the assessment of the risk sources, potential consequences and nature of the existing environment, it was apparent that the majority of other environmental issues identified included actual or perceived social or socio-economic risks and, as such, it was appropriate that these issues be addressed following the discussion of the contributing issues.