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Environmental Management System

Rix's Creek Mine

REHABILITATION STRATEGY

Doc No:	Rehabilitation Strategy
Doc Owner:	Rix's Creek Mine Environmental Superintendent – Bloomfield Collieries Pty Limited
Approval:	Rix's Creek Mine Operations Manager – The Bloomfield Group

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Appendix C Rix's Creek Mine Rehabilitation Risk Assessment

1 Introduction

1.1 Project Background

1.1.1 Overview

Rix's Creek Mine (RCM) is owned and operated by The Bloomfield Group (Bloomfield). RCM comprises the original Rix's Creek Mine, now known as Rix's Creek South (RCS) and the former Integra Open Cut Project Mine now known as Rix's Creek North (RCN). RCN was in care and maintenance when it was purchased by Bloomfield in 2015, and operations resumed in 2016. RCS has been in continuous operation by Bloomfield since project commencement in 1990.

RCS is located approximately 5 to 10 km north-west of Singleton both east and west of the New England Highway (NEH) (**Figure 1**).

This Rehabilitation Strategy has been developed in accordance with Schedule 2, Condition B72 of Project Approval SSD 6300 for Rix's Creek South and in accordance with Schedule 3, Condition 51A of Project Approval 08_0102 for Rix's Creek North. This version of the Rehabilitation Strategy builds on both the August 2015 version and the 2019 version which was updated in response to the Independent Planning Commission (IPCN) "recommendations" for SSD 6300, specifically R8 to R15 which relate to rehabilitation and mine closure.

1.1.2 Approved Development- Rix's Creek South

The RCS Continuation of Mining Project was approved on 12 October 2019 for a period of 21 years under Development Consent SSD 6300. SSD 6300 is supported by the 'Rix's Creek Mine Continuation of Mining Project Environmental Impact Statement' (AECOM, 2015) (EIS) and subsequent document as defined in condition A2(c) of SSD 6300 (EIS documents).

RCS is approved to continue mining operations with Run of Mine (ROM) coal extraction approved up to 3.6 Mtpa per year. Mining methods will continue as a multi-seam bench open cut techniques, utilising excavators, front end loaders and trucks as well as other ancillary equipment. Run of mine (ROM) coal will be processed onsite at the existing CHPP which has capacity to accept the proposed increase in throughput. Product coal will then be transported by rail to the Port of Newcastle. It is estimated that the Mine will yield a total of 32 million saleable tonnes of coal at an overburden ratio of approximately 10.5:1, before coal seams are exhausted under SSD6300.

The components of RCS comprise:

- The ongoing use of, and future additions to, the existing mine fleet;
- Use of the existing mine infrastructure facilities including the CHPP;
- Continuation of operating hours - 24 hours a day 7 days a week;
- Use of existing and new rejects and tailings emplacements;
- Rail transport of product coal to the port of Newcastle;
- Mine closure and rehabilitation; and
- Environmental management.

1.1.3 Approved Development- Rix's Creek North

Operations at RCN commenced in 1991 as the Camberwell Coal Project. Since then, mining has been completed in the North Pit and South Pit. The North Pit has been rehabilitated with the exception of the area required for underground access. The South Pit is progressively being rehabilitated as part of activities within the Western Extension. RCN operated in accordance with PA 08_0102 granted on 26 November 2010 which facilitates the following activities to 31 December 2035:

• The continued development and operation of the Falbrook Pit (North Open Cut).

• Long term use of the CHPP, train loader and associated infrastructure and facilities as they relate to the approved open cut mining activities.

• Management and disposal of tailings from the CHPP.

• Progressive reshaping and rehabilitation of mine related disturbance.

• Implementation and maintenance of environmental management systems.

• Development of the Camberwell Pit (Western Extension) either to the Full Pit Extent or Part Pit Extent, depending on whether the 'Dulwich' property is acquired or not or a suitable arrangement is made with this landholder.

• Final rehabilitation of the RCN project mining areas following the cessation of open cut mining activities and monitoring and maintenance of the rehabilitated areas until they are signed off by the relevant government agency and the relevant Mining Lease can be relinquished.

The approved activities specifically relating to the Camberwell Pit (Western Extension) include:

• The recovery of approximately 30Mt of Run-of-Mine (ROM) coal from within the Camberwell Pit (Western Extension) Mining Area. Mining would be undertaken over a period of some 9 to 12 years with coal extraction undertaken from a series of mining horizons extending from the Lower Lemington to the Hebden sequences, at an annual ROM coal production of up to 4.5 million tonnes per annum (Mtpa);

• Mining of approximately 160ha of land;

• Progressive clearing of vegetation and stripping of soil for direct placement upon completed waste rock emplacement areas or its stockpiling for future rehabilitation activities; and

• Removal of overburden and coal using truck and excavator/shovel methods, 24 hours a day, 7 days a week with an annual rate of overburden removal ranging between 12 and 26Mbcm.

Approved activities in the Falbrook Pit (North Open Cut) include:

• Extraction of coal by open cut mining methods from within a pit shell covering approximately 90ha and from three principal coal seams, namely the Middle / Lower Liddell, the Barrett and the Hebden seams. • Transportation of run-of-mine (ROM) coal to the CHPP via a combination of internal haul routes, with and without intermediate stockpiling.

• Stockpiling of ROM coal at temporary ROM coal stockpile areas located at the top of the active open cut ramp or within the existing RL100 Stockpile Area, with subsequent transportation to the CHPP.

• Highwall / auger mining from the northern highwall for a maximum length of approximately 300m.

• Programmed placement of waste rock materials into an out-of-pit waste rock emplacement, with subsequent placement out-of-pit as well as in-pit.

• Progressive construction of surface water control structures, including sediment containment dams.

• Storage and washing of ROM coal and dispatch of product coal from the CHPP and placement of fine tailings material within the existing tailings dams.

• Progressive reshaping and rehabilitation of all areas of mining-related disturbance.

Operations in the North Open Cut commenced on 5 May 2009. Additional mining in the Falbrook Pit was approved in 2008 under Development Application (DA) 06_0073, and extension of the Camberwell Pit was approved in 2010 under Project Approval (PA) 08_0102, which consolidated all previous approvals.

PA 08_0102 is approved until 31 December 2035 and generally includes the following operations:

• Falbrook Pit (previously known as North Open Cut;

• Camberwell Pit (previously known as South Pit);

• RCN Coal Handling and Processing Plant (CHPP) and stockpiles;

• Rail loop and rail loadout facilities; and

• Associated maintenance and administration buildings.

1.2 Project Area

RCM is located in the Upper Hunter Valley, within the Singleton local government area, approximately 5 to 10 km north-west of Singleton, both east and west of the New England Highway (NEH) (Figure 1).

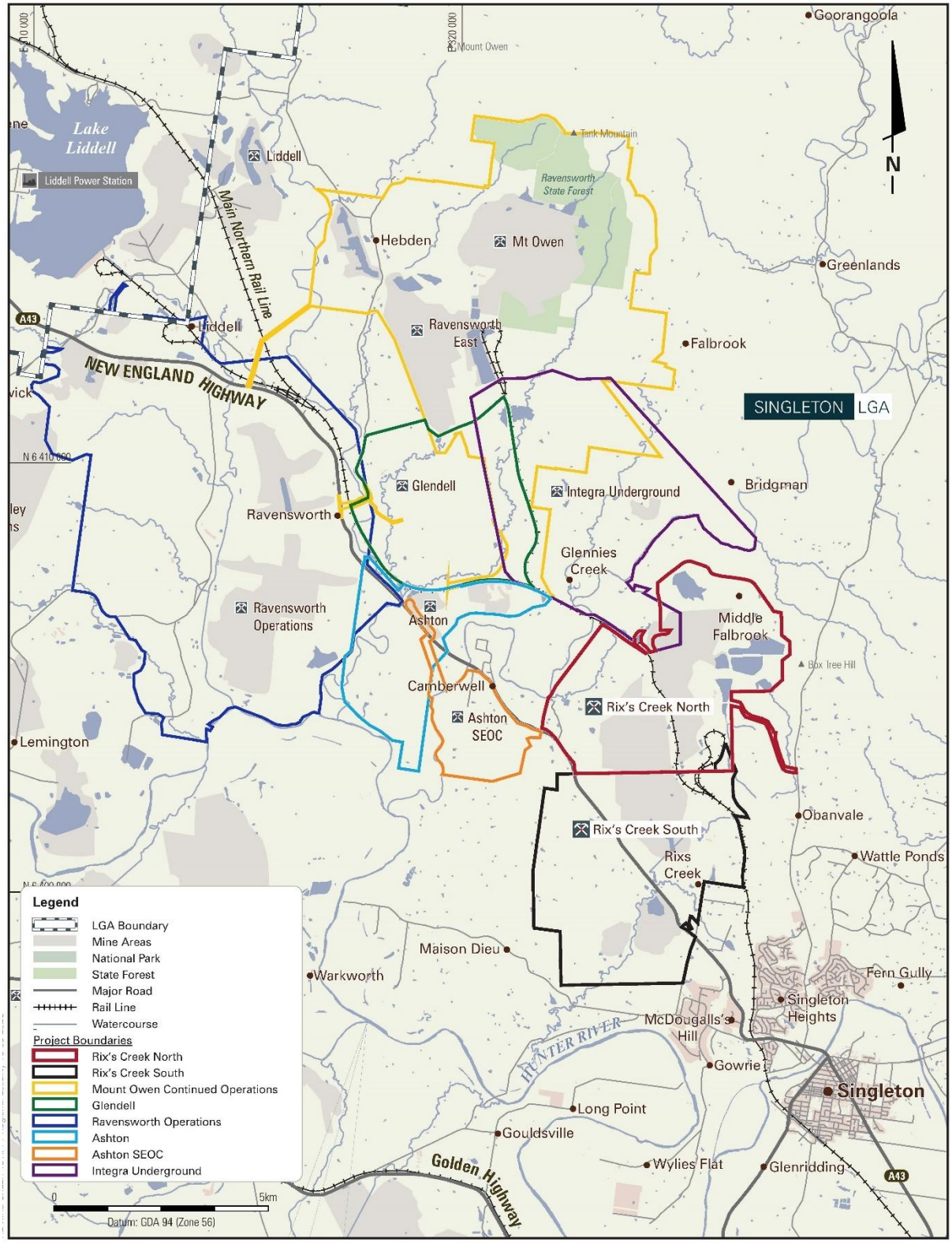


Figure 1
Locality

Source: Appendix 2 SSD 6300

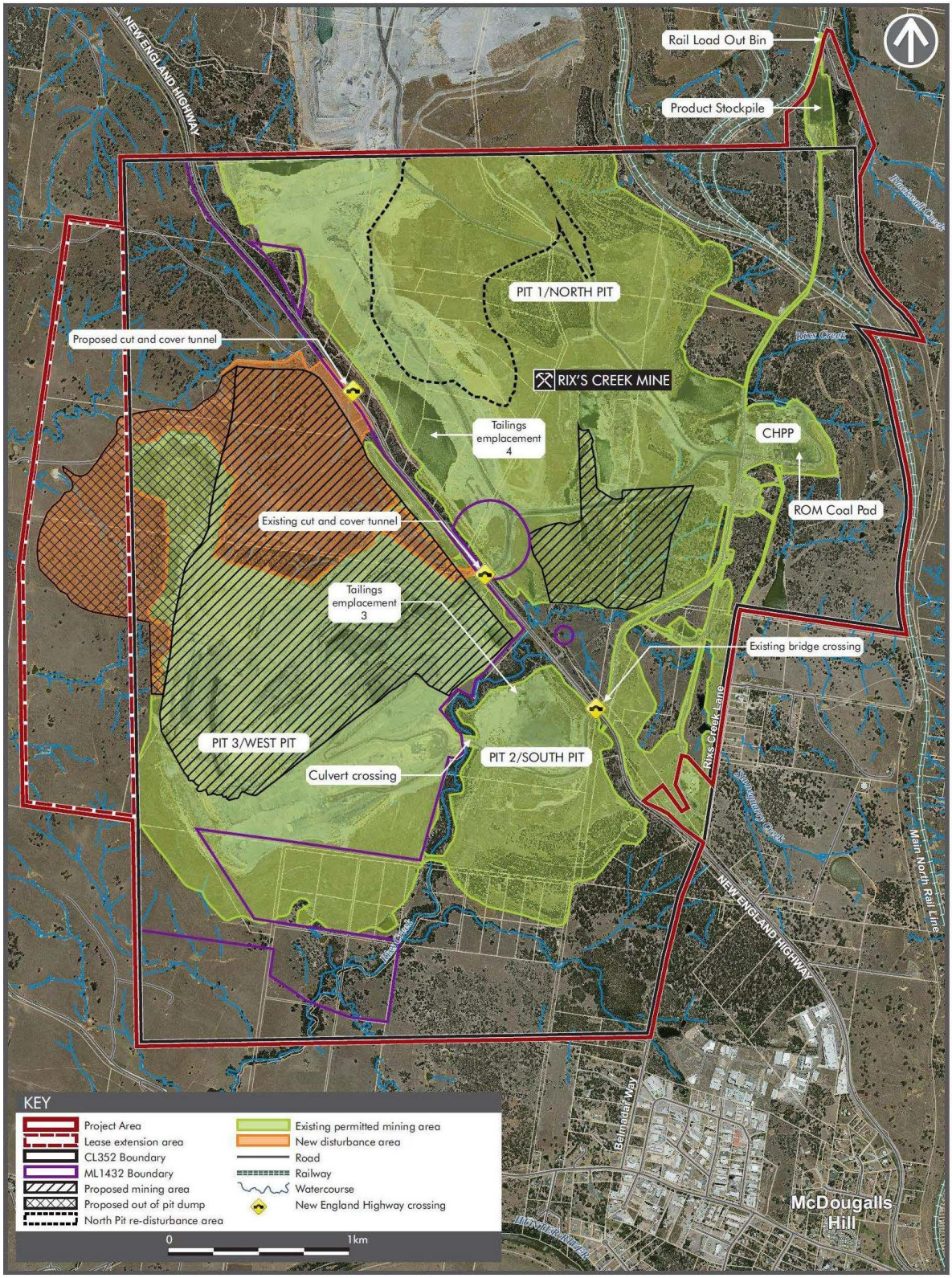
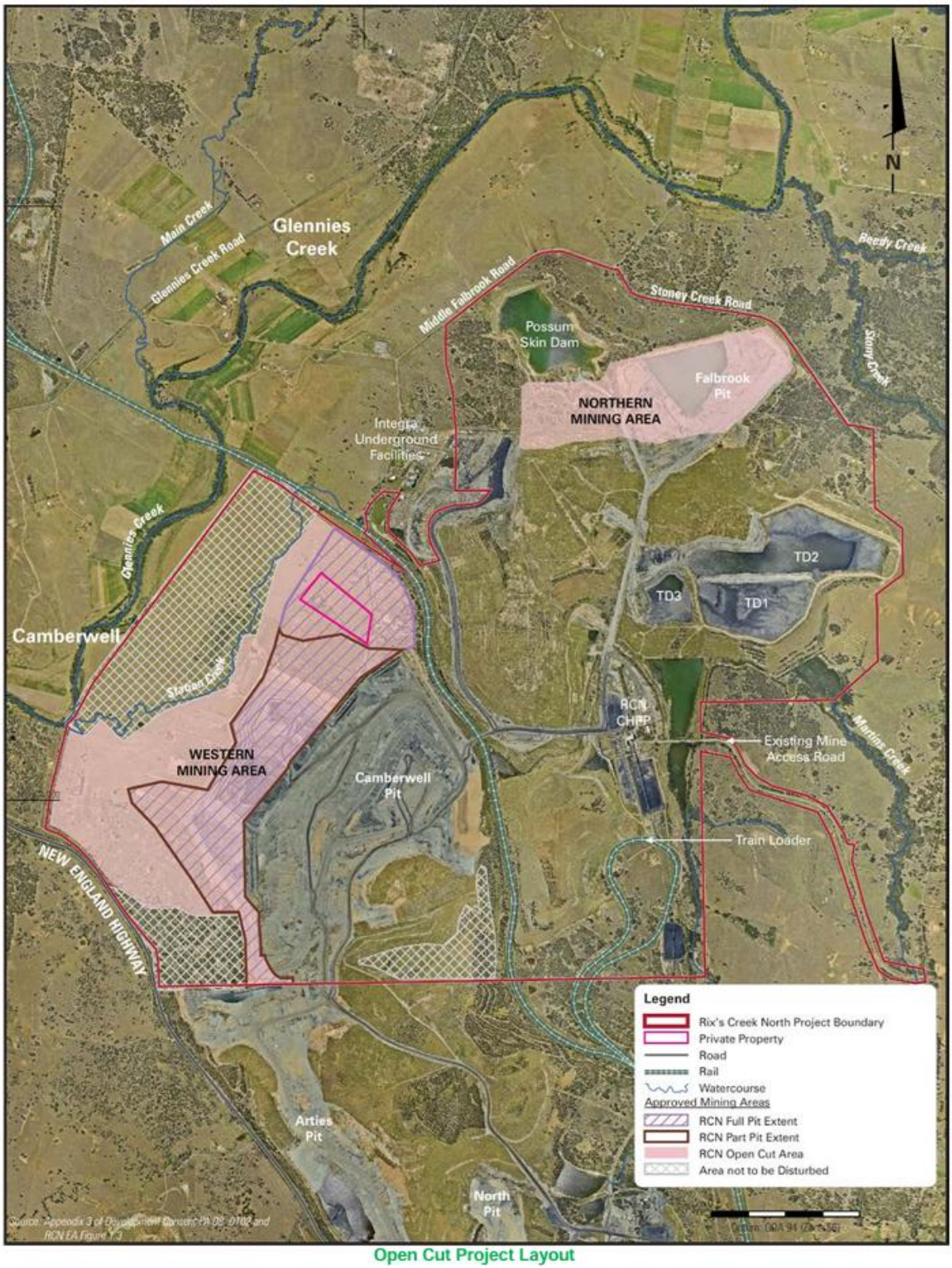


Figure 2A
Approved Rix's Creek South Mine



Open Cut Project Layout

Figure 3B
Approved Rix's Creek North Mine

1.3 Purpose of the Report

The following section provides information on the various regulatory requirements that form the basis for the Rehabilitation Strategy under each applicable Development Consent for each Mine, whilst also referencing the relevant rehabilitation objectives and practices as documented in the Rehabilitation Management Plan required under Schedule 8A of the Mining Act (1992)

Where the Rehabilitation Strategy refers to other RCM management plans or the RMP, should there be any inconsistencies between the plans, all other plans take precedence to this one.

1.3.1 Regulatory Requirements

The operations at RCM are subject to the conditions of development consent SSD 6300 and PA 08_0102. The specific requirements for the Rehabilitation Strategy are presented in **Table 1A (SSD 6300) and Table 1B (PA 08_0102)..**

Other relevant conditions are provided in **Section** Error! Reference source not found. and **Appendix A**.

Table 1A
SSD 6300 Rehabilitation Management Strategy Requirements

Ref	Condition	Section
B72	The Applicant must prepare a Rehabilitation Strategy for the development to the satisfaction of the Planning Secretary. This strategy must:	-
	(a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;	Appendix B
	(b) be prepared in consultation with the Resources Regulator and Council;	Appendix B
	(c) be submitted to the Planning Secretary for approval within six months of commencing development under this consent;	Appendix B
	(d) building on the Rehabilitation Objectives in Table 6, describe the overall rehabilitation outcomes for the site, and address all aspects of rehabilitation including mine closure, final landform (including final voids), post-mining land use/s and water management;	5 5.7.4 5.8 5.4
	(e) align with strategic rehabilitation and mine closure objectives and address the principles of the Strategic Framework for Mine Closure (ANZMEC and MCA, 2000);	**Error! Reference source not found.** **Error! Reference source not found.**
	(f) describe how the rehabilitation measures would be integrated with the measures in the Biodiversity Management Plan referred to in condition B50;	**Error! Reference source not found.**

Ref	Condition	Section
	(g) describe how rehabilitation will be integrated with the mine planning process, including a plan to address premature mine closure;	6 7.2
	(h) identify and describe all rehabilitation domains and define completion criteria for each;	5 **Error! Reference source not found.**
	(i) include indicative mine plans and scheduling for life-of-mine rehabilitation showing each rehabilitation domain;	6
	(j) include details of target vegetation communities and species to be established within the proposed revegetation areas;	**Error! Reference source not found.**
	(k) investigate opportunities to refine and improve the final landform and final void outcomes over time;	**Error! Reference source not found.** 5.8
	(l) include a risks and opportunities assessment and risk register that includes risks associated with unplanned closure or care and maintenance;	**Error! Reference source not found.**
	(m) include a post-mining land use strategy to investigate and facilitate post-mining beneficial land uses for the site (including the final void), that: (i) align with regional and local strategic land use planning objectives and outcomes; (ii) support a sustainable future for the local community; (iii) utilise existing mining infrastructure, where practicable; and (iv) avoid disturbing self-sustaining native ecosystems, where practicable;	 6 5 5.3 5.9
	(n) include a stakeholder engagement plan to guide rehabilitation and mine closure planning processes and outcomes;	3.5
	(o) investigate ways to minimise adverse socio-economic effects associated with rehabilitation and mine closure; and	3.5**Error! Reference source not found.**
	(p) include a program to review and refine the final landform and final void outcomes to meet the relevant Rehabilitation Objectives in Table 6, in consultation with the Resources Regulator and the Council every three years.	7.1.2
B37	The Applicant must implement the Rehabilitation Strategy approved by the Planning Secretary.	

Table 2B
PA 08_0102 Management Plan Conditions

Ref	Condition	Section
Sch. 3 Cond. 51A	The Applicant must prepare a Rehabilitation Strategy for all land disturbed by the development to the satisfaction of the Planning Secretary. This strategy must:	
	(a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary;	Appendix B
	(b) be prepared in consultation with the Resources Regulator and Council;	Appendix B
	(c) build upon the Rehabilitation Objectives in Table 15, describe the overall rehabilitation outcomes for the site, and address all aspects of rehabilitation including mine closure, final landform (including final voids), post-mining land use/s and water management;	5 5.7.4 5.8 5.4
	(d) align with strategic rehabilitation and mine closure objectives and address the principles of the Strategic Framework for Mine Closure (ANZMEC and MCA, 2000);	Table 2 Table 3
	(e) describe how the rehabilitation measures would be integrated with the measures in the Biodiversity Management Plan referred to in condition 40;	6.4
	(f) describe how rehabilitation will be integrated with the mine planning process, including a plan to address premature or temporary mine closure;	6 8.4
	(g) include indicative mine plans and scheduling for life-of-mine rehabilitation showing each rehabilitation domain;	6
	(h) include details of target vegetation communities and species to be established within the proposed revegetation areas;	6.4.4
	(i) investigate opportunities to refine and improve the final landform and final void outcomes over time;	6.2 5.8
	(j) include a post-mining land use strategy to investigate and facilitate post-mining beneficial land uses for the site (including the final void), that: (i) align with regional and local strategic land use planning objectives and outcomes; (ii) support a sustainable future for the local community; (iii) utilise existing mining infrastructure, where practicable; (iv) and avoid disturbing self-sustaining native ecosystems, where practicable;	6 5 5.3 5.9
	(k) include a stakeholder engagement plan to guide rehabilitation and mine closure planning processes and outcomes;	3.5
	(l) investigate ways to minimise adverse socio-economic effects associated with rehabilitation and mine closure; and	3.5
	(m) include a program to periodically review and update this strategy at least every three years.	8.3.3
Sch. 3 Cond. 51B	The Rehabilitation Strategy may be combined with Rix's Creek South Rehabilitation Strategy.	This document
Sch. 3 Cond. 51C	The Applicant must submit the Rehabilitation Strategy to the Planning Secretary for approval within 12 months of the approval of MOD 10, or other timeframe agreed by the Planning Secretary.	Noted

Sch. 3 Cond. 51D	The Applicant must implement the Rehabilitation Strategy approved by the Planning Secretary.	Noted

1.3.1.1 Rehabilitation Management Plan

The Rehabilitation Management Plan is the reference document which provides the detail how rehabilitation will be undertaken, monitored and maintained to allow full alignment with the rehabilitation completion criteria that is required to be approved under Schedule 8A of the Mining Regulation. The RMP is a separate document to the Rehabilitation Strategy.

The aim of rehabilitation at the Mine is to reinstate the pre-mining land use of grazing land, with the post mined lands being revegetated with pasture species and areas of trees over grass to provide enhanced habitat for both native animals and domesticated stock. The focus on the earthworks and rehabilitation program is to provide stable landforms, compatible with the surrounding landscape that will allow optimal post mining landuse in terms of current social and economic constraints.

The proposed final landform at the Rix's Creek South Mine will:

- Provide a post mining landscape which will be safe and non-polluting, with a stable drainage network;
- Not impact the area of Land and Soil Capability Class 2 lands (SLR Consulting Australia Pty Ltd, 10 June 2015);
- Provide slopes of less than or equal to 10º (18%) (Land and Soil Capability Class 4 and 5) over the majority of the site;
- Provide slopes between 10-18º (18 to 33%) (Land and Soil Capability Class 6) where identified;
- Have 80.7ha of land below water in the final void (SSD 6300) ; and
- Limit areas of greater than 18° (33%) slopes to the batters of the tunnels under the highway and sections of the batters of the final void (Land and Soil Capability Class 7), prior to the void filling with water.

The proposed final landform at the Rix's Creek North Mine will:

- Provide a post mining landscape which will be safe and non-polluting, with a stable drainage network;
- Not impact the area of Land and Soil Capability Class 2 lands (SLR Consulting Australia Pty Ltd, 10 June 2015);
- Provide slopes of less than or equal to 10º (18%) (Land and Soil Capability Class 4 and 5) over the majority of the site;
- Provide slopes between 10-18º (18 to 33%) (Land and Soil Capability Class 6) where identified;
- Have land below water in the final void ; and
- Limit areas of greater than 18° (33%) slopes to the remaining highwall.

While the above requirements are general in nature, the Rehabilitation Objectives and Completion Criteria will be approved by the Resources Regulator.

1.3.1.2 EIS Documentation

The EIS for Rix's Creek South (SSD 6300) describes the overarching objectives with the following commitments to rehabilitation;

- Rehabilitation works will be closely integrated with mine production and will be undertaken progressively as mining proceeds.
- Disturbed land will be returned to a stable condition with a land capability at least equal to that which existed prior to mining.
- Creation of stable landforms compatible with the surrounding landscape.
- Establishment and maintenance of native vegetation links within the Mine Lease and to adjoining lands.
- Re-establish land with agricultural capability similar to the land prior to mining disturbance
- Re-establishment of grazing lands on the most suitable areas of the site.
- To maintain a natural land form and the visual character of the site consistent with rural areas in the vicinity of the Mine.
- To establish surface water control devices that mimic pre mining hydrology.
- To reinstate the Mine area into a mix of appropriate land uses suitable for the soil and landscape within which the Mine is situated, as well as having consideration of the Mine proximity to Singleton and potential higher uses which may be suitable for the location.

The Rehabilitation and Decommissioning Strategy (GSS Environmental, 2008), submitted as part of the EIS for Rix's Creek North (PA 08_0102) describes the overarching objectives with the following commitments to rehabilitation;

- *"Achievement of acceptable post-disturbance land use suitability- Mining and rehabilitation will aim to create a stable landform with land use capability and. or suitability to that prior to disturbance unless other beneficial land uses and pre-determined and agreed. This will be achieved by setting clear rehabilitation success criteria and outlining the monitoring requirements that assess whether or not these criteria are being accomplished.*
- *Creation of stable post-disturbance landform- Mine wastes, ie the mixture of overburden, interburden and rejects from the CHPP, and disturbed and will be rehabilitated to a condition that is self-sustaining, or where maintenance requirements are consistent with the agreed post-mining landuse(s).*
- *Preservation of downstream water quality – Surface and groundwater that leave the mining leases are not degraded to a significant extent. Current and future water quality will be maintained at levels that are acceptable for users downstream of the site."*

The overarching commitments within both Environmental Impact Statements (EISs) have provided the basis for the development of this Rehabilitation Strategy. Both the EISs and this Rehabilitation Strategy will inform future Rehabilitation Management Plans.

1.4 Report Structure

This report is structured as follows:

Section 1.0 Introduction – outlines the Projects and presents the purpose of the report.

Section 2.0 History of land management at Rix's Creek Mine

Section 3.0 Stakeholder consultation.

Section 4.0 Rehabilitation Objectives

Section 5.0 Proposed future use of disturbed areas

Section 6.0 Phases in the Rehabilitation Strategy

Section 7.0 Rehabilitation monitoring and reporting.

Section 8.0 **Roles and Responsibilities**

Section 9.0 Bibliography.

Section 10.0 Acronyms.

2 History of Land Management at Rix's Creek Mine

2.1 Overview

The original Rix's Creek Mine commenced operations in July 1990 following the granting of development consent on 19 October 1989. Since that time, the site has operated with a fleet of bulldozers, scrapers and more recently front-end loaders, excavators and trucks to remove and manage overburden, topsoil and subsoil material with site currently occupying an area of approximately 1,823 ha and the project expansion for the continuation of mining with a final footprint of 2004.6 ha.

Historically voids from the mining operations have been used to manage tailings. Previous tailing emplacements have been dewatered and dried and the area covered with overburden material and rehabilitated with a pasture base plant community during the life of the Project. The success of previous trials drying tailings from the CHPP allows co-disposal of tailings with coarse reject, thus removing the need for additional tailings emplacements.

All carbonaceous and coarse reject materials are covered by a minimum of two metres of inert overburden material before the spoil area is shaped and rehabilitated. This mitigates any potential risk of spontaneous combustion and the stability of tip faces within the spoil area.

The rehabilitation program at the Mine is supported by over 80 year's company experience in mining and over 25 years in land management. The objective of the program is to reinstate the pre-mining land capability of grazing land, with stable landforms, compatible with the surrounding landscape, and allow for a range of possible post-mining land-uses. **Figure 4A** shows the approved conceptual post mining landform for Rix's Creek South while **Figure 3B** shows the approved conceptual post mining landform for Rix's Creek North.

The key elements of the rehabilitation program have and will continue to include:

- Setting overall rehabilitation aims and objectives;

- Developing appropriate rehabilitation performance indicators and completion criteria;
- Implementing in a timely manner the land rehabilitation program;
- Developing, reviewing and implementing a rehabilitation assessment program;
- Integration of the rehabilitation program into the Mine Environmental Management System (EMS) and Environmental Management Plans (EMP). The EMS and EMP provide a framework for environmental standards and procedures that are followed during construction, operation and decommissioning of its mining operations;
- Conducting a number of audits and inspections throughout the year, including regular internal EMS and compliance audits and other less routine audits. Site based environmental personnel also conduct regular inspections of all work areas. These assessments are reported in the site Annual Review (AR) which compiles monitoring results and discusses trends, system changes and responses to any potential issues identified during monitoring. Targets and future initiatives are also identified;
- Environmental monitoring and reporting are disseminated via the Rix's Coal Mine Community Consultative Committee (CCC), engagement with regulators and the company website – www.bloomcoll.com.au; and
- A request for rehabilitation sign-off to regulators, supported by results of the monitoring and reporting initiative above when considered to meet approved completion criteria.

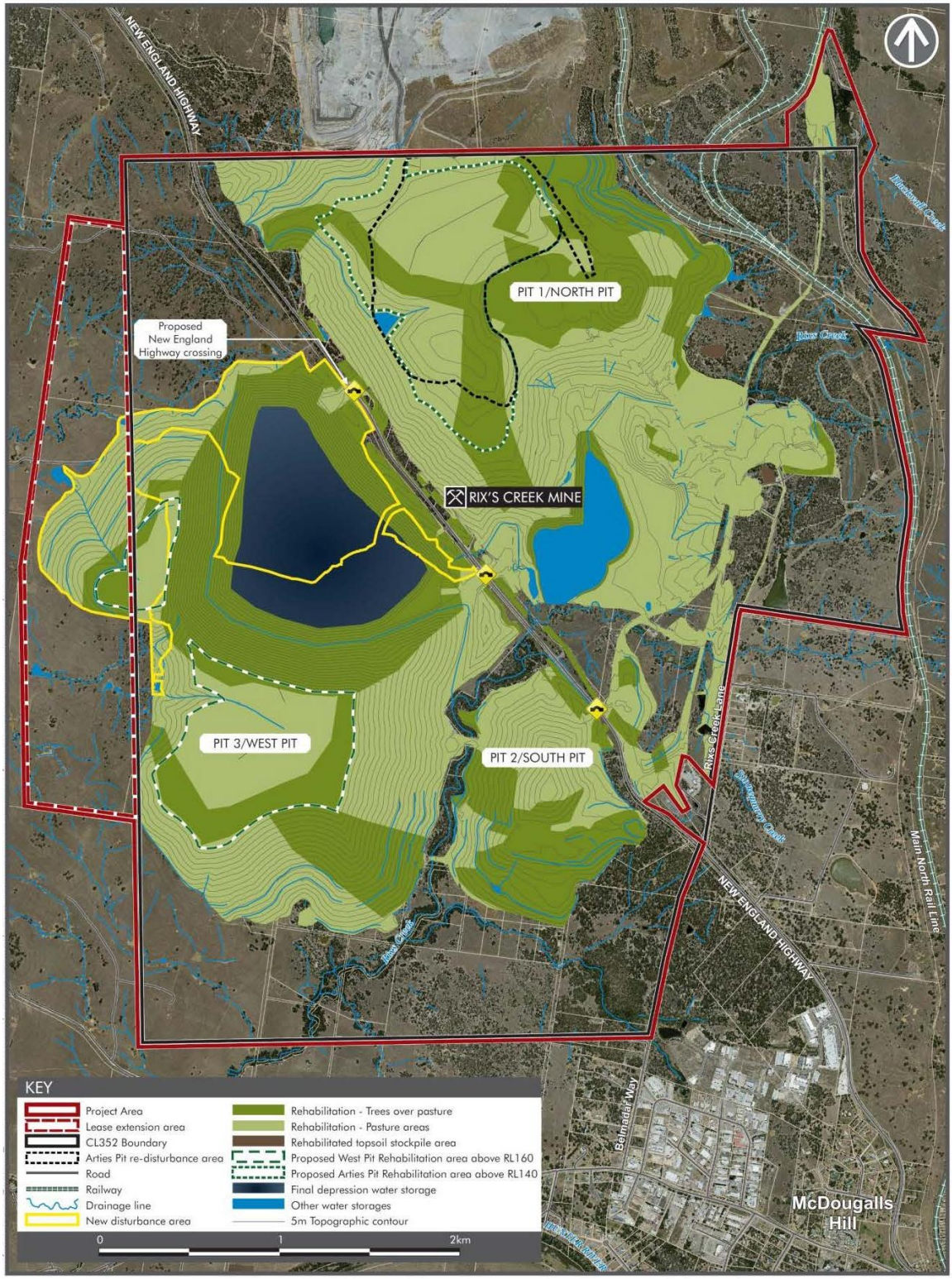


Figure 4A
Conceptual Approved Final Landform SSD 6300 RCS.

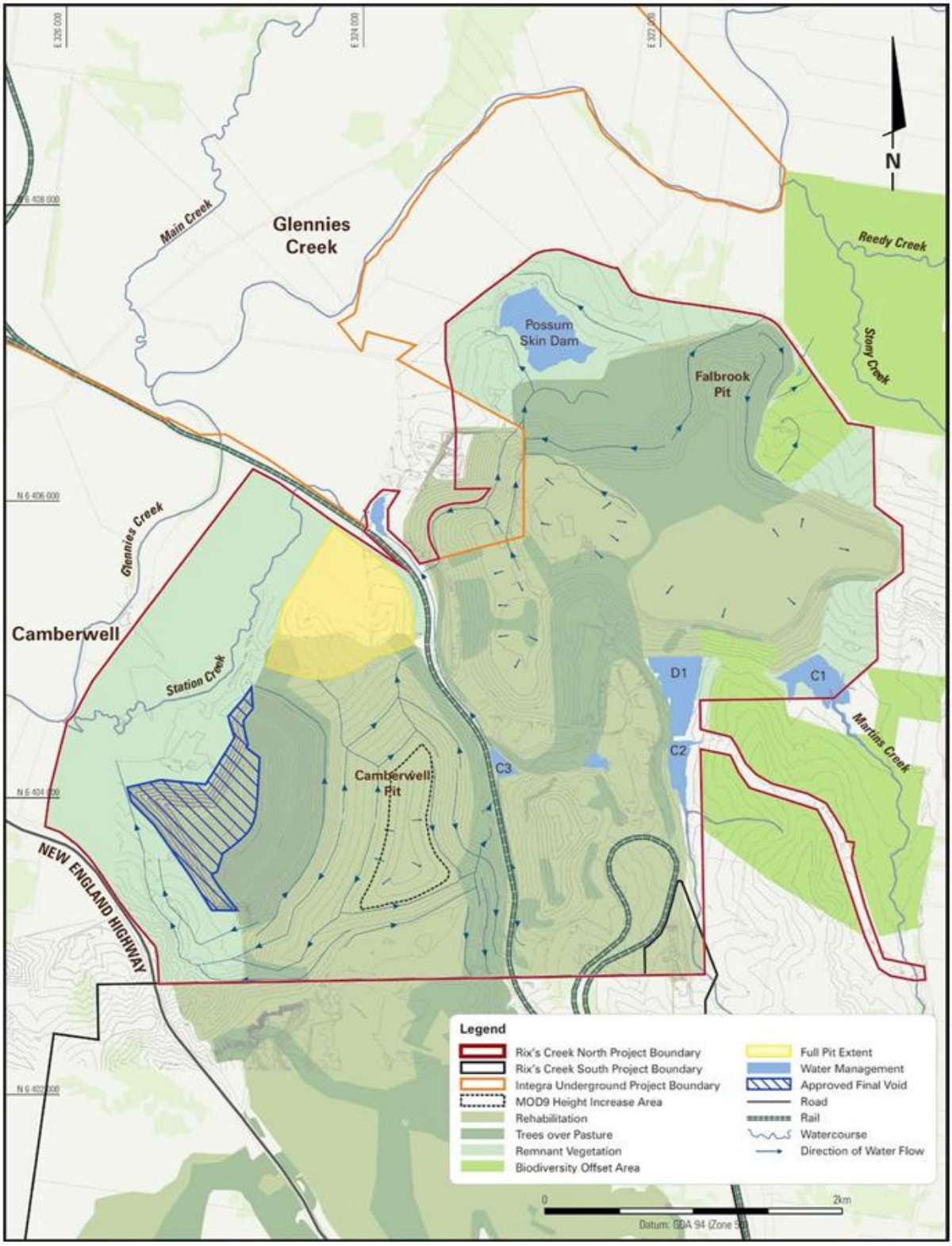


Figure 5B
Conceptual Approved Final Landform PA 08_0102 RCN.

2.2 Lessons Learnt

Table 2 provides a summary of all existing baseline aspects as they relate to mine closure and how the knowledge, skills and lessons learnt from these practices have been incorporated into the rehabilitation and mine closure planning and day to day practices for the site.

Current trials underway at Rix's Creek Mine are the Grazing Land Monitoring Trial and an ACARP trial on how to economically protect high erodible spoil materials in rehabilitation. Both projects will have key outcomes and learnings that will enhance site knowledge and improve rehabilitation and final land use outcomes.

Table 2
Lessons Learnt from Past Practices

Outcome	Lesson Learnt
University of Newcastle Masters Thesis by CP Phillips "Utilisation of Sewage Sludge for Mine Site Rehabilitation – The Rix's Creek Mine Trial – 1992-1993"	
16 plots which received an application of biosolids produced dry biomass yields at least 125% higher than that of the standard plot. The particular significance of this result is that plots of pure overburden that were amended by an application of biosolids were able to sustain high biomass yields.	The most important conclusion of the trial was that biosolids application improved mine site rehabilitation techniques. No problems were encountered with the integration of biosolids into a normal rehabilitation program.
2005 Rix's Creek Beneficial use of Biosolids Trial collaboration with Thiess Services Pty Ltd and Sydney Water Corporation.	
A dewatered biosolids added nutrients and organic matters to topsoil and top soil substitutes which saved cost of using artificial fertilisers. Biosolids were incorporated into the subsoil clay material layer and topsoil layer during the rehabilitation process. Biosolids application rates of 50dt/ha (180mm thick) commensurate with current practice at State Forest NSW.	The application of biosolids improved mine site rehabilitation.
Resources Recovery Management – Rix's Creek Pasture Assessment Trial September 2014 – October 2017	
The purpose of this trial was to assess the quality and quantity of pasture produced on mine rehabilitation sites and determines the suitability of the site for the intended agricultural end use. Improved pasture was sown on four treatments, which included a Control using conventional fertiliser, Biosolids, and two Alternate Waste Treatment (AWT) Compost treatments. An un-grazed Native Pasture area was also sampled to gather comparable baseline data. Random quadrats were assessed along transect lines in each treatment for species diversity, herbage mass and forage quality. Data was collected annually for 4 years, commencing 12 months after sowing. The application of organic soil amendments increased	Due to variation within treatments, the impacts on the soils were difficult to identify. However, the application of Biosolids and AWT Compost did significantly increase soil phosphate, with the AWT Compost 2 treatment demonstrating excessive soil phosphate levels. Soil nitrate levels were also higher in the Biosolids Treatment. In summary, all four treatments demonstrated that the sowing improved pasture species on rehabilitation sites was capable of producing more productive pastures than undisturbed native and naturalised pastures on land of equivalent class and soil type.

Outcome	Lesson Learnt
pasture productivity and the dominance of the tall subtropical grasses (i.e. Rhodes and Panic), compared to the Control. This increased dominance of the Rhodes and Green Panic also reduced pasture diversity, with the Control plot demonstrating the highest diversity of pasture species. Grazing is likely to complement the long term objectives of improving pasture species diversity and forage quality. Weeds were suppressed on all treatments by subtropical grasses, but remained substantially higher in the Control. The weed content appeared inversely proportional to nutrient inputs and the productivity/dominance of subtropical grasses. The most profound effect was the affinity of Green Panic for the Biosolids, which dominated the sward, but was nearly absent in the Compost Treatments. The Biosolids treatment also recorded significantly higher pasture mass, leaf mass, forage quality and potential stocking rates. The reason for this result is not entirely clear, but is partly attributed to the higher nitrogen availability in the biosolids.	
University of Newcastle Masters Thesis by Benedicte Lutken "The utilisation of biosolids to store carbon in mine soils" Rix's Creek Mine Study June 2018.	
This study sampled and analysed soil from two former mine soils along with soil from a reference location to determine if carbon sequestration would improve general soil health. The site rehabilitated in 1992 showed significant improvements over the site rehabilitated in 2013 in healthier pH and decreased bulk density, greater amount of humic acid which indicates increased humic matter, increased carbon content (%), nitrogen content (%) and sulfur content (%). The field experiments furthermore revealed increased soil temperature and increased CO_2-flux in the site rehabilitated in 1992.	With the results of this study, it is concluded that biosolids amendments can improve soil heath and increase carbon sequestration in former mine soils.
2017 Independent Rehabilitation Monitoring	
Ground Cover - Ground cover protection was generally excellent and the benchmark of 70% cover was met at 33 of the 35 rehabilitation monitoring sites, with 27 sites achieving >90% ground cover. Of the two monitoring sites not meeting the benchmark in 2017, one consisted of young rehabilitation (i.e. still in the vegetation establishment phase) while the other showed deficiencies in the soil/growing media which likely hindered the successful establishment of vegetation. *Land Scape Function* - Consistent with previous monitoring years, the 2017 results highlighted good landscape function performance across most of the	This report identified weed incursion as the main issue currently impeding rehabilitation performance across the site, particularly with widespread occurrence and locally severe infestations of Galenia (*Galenia pubescens*), and more localised incursions of Prickly Pear (*Opuntia spp.*), Coolatai grass (*Hyparrhenia hirta*) and *Acacia saligna*. In total, 12 of the 35 monitoring sites supported weed infestation levels exceeding the target benchmark of 15% weed cover and will require control works to be implemented. However and assuming successful management

Outcome	Lesson Learnt
rehabilitation monitoring sites, as follows: The soil stability benchmark was met at 34 of the 35 monitoring sites; The soil infiltration benchmark was met at 33 of the 35 monitoring sites; and The soil nutrient cycling benchmark was met at 32 of the 35 monitoring sites. *Pasture Performance* - Sampling and analysis of grass foliage was undertaken at a subset of monitoring sites across RCS to determine feed quality and enable calculations of indicative carrying capacities. These indicated that in their current condition, the rehabilitated pastures could support satisfactory dry stock stocking rates of between ~1.9 and 8.1 animals per hectare.	and control of the site's weed population, the monitoring results obtained in 2017 showed that rehabilitation condition was very satisfactory across the site and, when compared to previous years monitoring results, generally trajecting towards achieving the ultimate rehabilitation objective of re-establishing safe and stable landforms compatible with the surrounding landscape and with a land capability suitable for grazing (i.e. class IV-V).
ACARP project C200015 Forestry Trial **"Sustainable Management of Plantations for Rehabilitation, Carbon and Wood" NSW Department of Primary Industries October 2017.**	
Following open cut coal mining operations there is a requirement for overburden to be rehabilitated. The typical land use following rehabilitation in the Upper Hunter is usually extensive grazing of pastures by livestock (namely cattle). However, in response to a request from the Upper Hunter Commercial Forests Steering Committee and the Muswellbrook Shire Council, a series of plantation forest trials were established in the late 1990s and early 2000s to investigate the potential commercial viability of growing plantation forests as an alternative to pastures post-mining. Following on from an earlier establishment trial (C10043), the focus of this research project was on the ongoing management of the dryland plantations with the objective of quantifying the benefits of an early non-commercial thinning and pruning regime. This project aims to: • Gather a Valley wide data base on most of the oldest tree plantations; • Apply thinning and pruning regimes to assess the benefit of early application in dryland plantations; • Manage existing stands via thinning to reduce risk of death and to maximise high value wood products and carbon returns; • Provide strongly-based full rotation projections (from year 15 data) on performance of species, land type and the species/land type interaction; and	Of the species trialled in this project, the best all round performer is *Corymbia maculata*. While it has grown well on Buffer sites, an interesting finding has been that most stands of C. maculata have performed as well or better on the Overburden as exemplified by comparative results from the un-thinned Bulga site. While in general thinning has not yet led to an increase in overall stand volume, at the majority of sites it has resulted in an increase in the mean dominant Diameter of Breast Height (DBH) and mean dominant height of trees. Visual assessments indicate that thinning is likely to result in stands of better form, potentially resulting in the growth of higher value timber products.

Outcome	Lesson Learnt
• Quantify the commercial costs and returns from carbon and timber from Corymbia maculate (Spotted gum) plantations established in the Upper Hunter Coalfields; and Compare investment in plantation Forestry with Grazing and Agroforestry options.	
Penny Dunstan Thesis at RCM	
Through art work, connections are enacted and a storied sense of place is drawn from the rocks, trees and grasses. History becomes, marked by the marks of artist/land interdependence and art participates in the co-constitution of place. Wayfinding enmeshes art-making and the walker; lines emerge from satellites, from graphite sticks, from kangaroo tracks, from words, connecting ancient pasts with modern futures; every footfall marking an honouring of new places emerging. In this context, the place of art is to transmute tracks into images and interactions into writings, creating an interactive way of knowing our shadowlands and making our minescapes matter. This exegesis and the artwork it describes propose a way of relating to land, of making minescapes matter. It involves reconsidering the world view where humans are outside of nature, where there is a disconnect between earth-others and humans, that allows us to turn away from areas and to illuminate the shadowlands of our modern lifestyles. It proposes an understanding that we are all part of the interactions with non-human others, and that caring about, and being accountable for, our environmental shadowlands constitute an important ethical stance. In combination with a discussion between earth science, environmental history and human geography, this research produced art works that contribute to the discourse surrounding ways of relating to terraformed environments. Informed through the use of a relational model of understanding the place of humans in the world, this research produces an empowering view of the possibility of bringing post-mining land back into the relationship with people.	This research contributes to a conversation between art and the mining industry, where each informs the other promoting discussion about legacy issues and the multiple possibilities of final landforms.

2.3 Existing Land Use

The Hunter is home to a significant viticulture and equine industry. Along with coal mining these industries provide the greatest contribution to the regional economy. The 'Upper Hunter Strategic Regional Land Use Plan, Upper Hunter' (DPI, 2012) (SRLUP) identifies land and resources that are important to each of these industries. There are no equine critical industry clusters within or

adjoining the Project area, nor is RCM mapped either as Biophysical Strategic Agricultural (BSAL) Land or as supporting any critical industry cluster. This was confirmed with further assessment to confirm that RCS does not contain any land which could be mapped as BSAL under the SRLUP. Additionally recent assessment for a site verification certificate for the Rix's Creek North Continuation Project confirmed that no BSAL was confirmed within the existing nor within the proposed mining areas.

RCS is located in an area with a long history of coal mining activities and is immediately abutted by RCN to the north-east. Existing mining also exists to the west across the Hunter River; and north across GlenniesCreek. Agricultural cropping is prevalent immediately along the Hunter River and Glennies Creek. Between the Hunter River and RCM are grazing properties and a north-south running woodland. The majority of these areas are zoned RU1: Primary Production under the *Singleton Local Environment Plan 2013* (LEP).

To the east of RCS across the New England Highway is an existing rehabilitated mining area on Bloomfield owned land, with grazing and lifestyle properties located further east across the Main Northern Railway Line.

Across rehabilitation mined lands and further Bloomfield owned land, the Maison Dieu Industrial area is located to the south-east of RCS. Lifestyle and grazing properties, generally zoned RU1: Primary Production are located immediately south, over 3 km from active mining at RCS.

2.4 NSW and Local Policies and Plans

2.4.1 Hunter Regional Plan 2041

The Hunter Regional Plan 2041 (HRP) notes that mining, energy and manufacturing sectors all make the Hunter an economic powerhouse and will remain important contributors into the future.

The HRP recognises that the world has begun the transition to cleaner forms of energy, and the NSW Government will work to support coal-dependent communities to diversify for the future with good employment opportunities. In this regard, the ongoing operations proposed by the Project, including the direct and indirect employment and economic benefits, will enable and support the transition to sustainable energy forms over time, with reduced impacts to the local population and economy, and with reduced support required from the NSW Government compared with what would occur with a rapid decline in the mining sector.

The HRP contains nine objectives for the Hunter. The first objective of diversifying the Hunter's mining, energy and industrial capacity relates closely to the Project, and notes that opportunities for the future alternate use of mine land and associated infrastructure such as electricity transmission lines, rail lines and water storages will play a key role in the transition of the local economy as existing mines cease operations. The HRP contains a discussion on strategic land use opportunities which encourages early consideration of alternative land uses during the design stage of new or expanded mines.

The proposed final landform and land uses for RCM is primarily grazing land which will provide additional agricultural capability for the region. By the predominant use of tropical pastures RCM will preserve optionality for alternative final land use options, subject to feasibility assessments and planning approvals at the time. This approach is consistent with the objectives of current strategic

State and local government planning documents for the Upper Hunter which encourage economic diversity and to facilitate post-mining landforms to be utilised for other beneficial uses in the future.

Bloomfield's proposed rehabilitation strategy to reinstate a comparable pre-mining land capability suited to grazing land, along with the RU1 land zoning provides a platform for future grazing or any industries permissible with consent within RU1 after mining ceases after 2040SSC Local Strategic Planning Statement

The 'Singleton Council Local Strategic Planning Statement 2041' (SSC, 2020) (SSC Plan) is a "high-level strategic document … establishes the 20 year vision for how the Singleton LGA will be in the future in terms of its land uses, activities, land forms and built forms." It further "… helps implement directions and actions from the Hunter Regional Plan at the local level …" and is a "… mechanism for showing the region how the Singleton LGA will continue to establish itself in the region".

The following provides sections relevant to the RCM and confirms how this Rehabilitation Strategy is consistent.

It describes the opportunities for growth and innovation including:

"Delivery of leading practice outcomes for post-mined land, which would involve collaborative pre-planning and investigation."

> SSC has been consulted and comments addressed in the preparation for this Rehabilitation Strategy.

The local profile states:

"By far, the largest employer in the Singleton LGA is the mining industry, which employs people from across the Hunter region as well as outside of the region.

In order to minimise impacts on employment rates from downturns in the mining industry; as well as to plan for the eventual winding down of coal mining activities in the LGA, steps need to be taken during the life of this plan to grow other industries in the LGA, so as to better balance the local industry base.

Consideration will also need to be given to the skills base left from mining sector and the importance of the Singleton LGA for providing employment regionally."

> Bloomfield has developed a Social Impact Management Plan (SIMP) in accordance with condition B76 of SSD6300 which addresses these issues.

The Strategic Vision includes;

"Underpinning Singleton's appointment as a leader in sustainable post-mining transition, has been its focus on diverse post-mining development outcomes, protection and enhancement of agricultural productivity, growth of professional support services, and the efficient and effective re-use of rehabilitated mining land."

> Bloomfield's proposed rehabilitation strategy to reinstate a comparable pre-mining land capability suited to grazing land, along with the RU1 land zoning provides a platform for future grazing or any industries permissible with consent within RU1 after mining ceases after 2040.

Figure 4 illustrates the 'Structure Plan' .

> No features directly lie above RCM on its immediate vicinity. The major inter-regional road of the New England Highway is immediately east however will not be directly impacted by RCM.

Action 1.1.2 requires SSC "For housing close to operating mines, rail infrastructure and major industry areas, complete a review of the extent of affectation by adverse environmental impacts and identify any opportunities to avoid or minimise such impacts."

Impacts and appropriate mitigation are defined in SSD6300 to assist SSC.

Action 1.1.3 requires SSC to "Through planning controls, apply impact buffer areas around urban settlement and growth areas for the purposes of restricting the encroachment of industry into such areas and associated impacts on settlement areas, including air quality, noise and vibration."

Impacts and appropriate mitigation are defined in SSD6300 to assist SSC.

Action 2.1.4 requires that SSC "In consideration of the visual amenity impacts associated with land use, complete a land use suitability analysis of land along the major road approaches to Singleton and the surrounding villages."

Impacts and appropriate mitigation are described in the EIS and SSD6300 to assist SSC.

Planning Priority 3.4 describes land rehabilitation outcomes to meet the needs fo current and future generations. It states " In addition to being safe and stable, the community has told us that they would like to see rehabilitated mining land used for productive and beneficial purposes. … There is a need for there to be long-term strategies for post-mined land, which have sufficient flexibility to respond to changing community expectations and deliver land use planning outcomes that are consistent with the broader land use objectives for the Singleton LGA. This may include giving consideration to use of rehabilitated land for higher economic purposes, where it is deemed safe and appropriate to do so and where it is beneficial from a land use planning perspective in consideration potential alternative locations for the use." The Strategic Policy Position states:

- Alternative options to returning post-mined land to its pre-mined state should only be considered where comprehensive, detailed and defensible study information demonstrates that the alternative option is appropriate in light of environmental impacts, contextual considerations and relevant Council plans.
- Where they are not intended to be activated, the relinquishment and surrender of mining explorations permits, mineral development licenses and mining leases will be encouraged.

  Bloomfield's proposed rehabilitation strategy to reinstate a comparable pre-mining land capability suited to grazing land, along with the RU1 land zoning provides a platform for future grazing or any industries permissible with consent within RU1 after mining ceases after 2040.

Action 4.4 .1 requires SSC to "In consultation with government agencies, develop and apply, through appropriate mechanisms, buffer areas around urban settlement and growth areas, establishing limits on how close extractive industries can encroach upon such areas, so as to minimise the potential for land use conflict and maintain balance between the respective land uses."

Impacts and appropriate mitigation are defined in SSD6300 to assist SSC.

Figure 16 shows the proposed concept urban buffers map. None encroach with RCS or RCN.

2.5 Rehabilitation Goals

The following rehabilitation goals underpin this Rehabilitation Strategy:

- Land will be rehabilitated in accordance with relevant requirements of the Department of Regional NSW- Resources Regulator, standards applicable at the time of rehabilitation;
- Rehabilitated land will represent a minimal source of offsite environmental impacts, such as dust emissions, water pollution, impact on visual amenity and weed spread;
- Rehabilitated land will require ongoing management inputs no greater than similar adjacent land;
- A viable drainage network will be reinstated on the site which is hydrologically stable and incorporates erosion controls and sediment collection dams which isolate effectively the rehabilitated area from adjoining area;
- Successful design and rehabilitation of landforms will be carried out to ensure structural stability, revegetation success and containment of wastes; and
- Post-mining land use will be compatible with surrounding land uses and provide optimal environmental, economic and community benefits.

Bloomfield will provide rehabilitated land that meets the objectives under SSD 6300 and PA 08_0102.

3 Stakeholder Consultation

Community engagement and consultation has been ongoing during the development of the land management and rehabilitation program at the Mine. This engagement has included:

- Provision of a community information phone line;
- Maintenance of a website providing up to date information on the operation; www.bloomcoll.com.au ;
- Company Newsletters to Bloomfield employees;
- Newsletters to local businesses and residents;
- Site inspections and open days; and
- Six monthly Community Consultative Committee (CCC) meetings with the committee (as at 2020) consisting of up to seven community representatives, an independent chair and a representative from Singleton Council. Other Government representatives are also invited to participate on the committee. Resources Regulator and NSW Planning, Housing and Infrastructure (DPHI) officers have an open invitation to all meetings. The CCC provides a direct forum for the community to address environmental and operational concerns with site management and regulatory authorities.

3.1 Department of Planning Industry and Environment

Condition B72(c) of SSD 6300 requires Bloomfield to submit the Rehabilitation Strategy to the Secretary of DPHI (Planning Secretary) for approval within six months of commencing development. Development commenced on 24 February 2020.

This Rehabilitation Strategy was required to be prepared by a qualified and experienced person whose appointment has been endorsed by the Planning Secretary. (Sc,2 Cond B72 (a). A copy of this endorsement is included in Appendix B.

This Rehabilitation Strategy includes other regulatory correspondence and consultation as described in **Section 3.3.** The final Rehabilitation Strategy was submitted to DPIE for approval on 21 August 2020.

A copy of regulatory correspondence is provided in **Appendix B**.

3.2 NSW Resources Regulator

The draft Rehabilitation Strategy was originally provided to the Resources Regulator on 17 June 2020 for consultation and comment for SSD 6300. In the response dated 7 August 2020, the Resources Regulator noted that the intent of the Rehabilitation Strategy is to provide a strategic direction for detail which should be included in the RMP.

A copy of the 2020 response from the Resources Regulator is included in **Appendix B.** Table B2 lists the Resource Regulators' issues and where each has been addressed in this Rehabilitation Strategy.

A second draft incorporating the requirements for Rix's Creek North following inclusion of Conditions 50 and 50 A- D was provided to the Resources Regulator on 15 January 2026 for consultation and comment.

A copy of the 2026 response from the Resources Regulator is included in **Appendix B.** Table B3 lists the Resource Regulators' issues and where each has been addressed in this Rehabilitation Strategy.

3.3 Singleton Council

The draft Rehabilitation Strategy was originally provided to Singleton Shire Council (SSC) on 17 June 2020 for consultation and comment. In the response dated 13 August 2020, SSC provided a detailed response requesting additional clarification and detail in relation to performance criteria, mine closure and final void, social and economic impacts, and review process.

A copy of the emails from 2020 requesting comments of the plan is included as evidence in **Appendix B**. Table B1 lists SSC's issues and where each has been addressed in this Rehabilitation Strategy.

A second draft incorporating the requirements for Rix's Creek North following inclusion of Conditions 50 and 50 A- D in PA 08_0102 (MOD 10) was provided to Singleton Council on 15 January 2026 for consultation and comment. At the time of this submission no response has been received from Singleton Council.

3.4 Rehabilitation Management Plan

This Rehabilitation Strategy is the overarching document which provides general strategic direction for rehabilitation at RCM. The Rehabilitation Management Plan (RMP) provides additional, specific detail in relation to rehabilitation over the entire Rix's Creek Mine which includes RCS and RCN. Therefore, where there are any contradictions between this Rehabilitation Strategy and the RMP, the RMP will take precedence.

This Rehabilitation Strategy is a requirement of SSD 6300 for Rix's Creek South while the Mining Operations Plan details rehabilitation requirements and the relationship between rehabilitation outcomes for both Rix's Creek South and Rix's Creek North.

Consultation specifically regarding the development of the previous Mining Operations Plan (MOP) in accordance with SSD 6300 Sch 2 Condition B74 was undertaken with:

- NSW DPIE;
- Department of Regional NSW- Mining, Exploration and Geoscience (MEG) (previously DRG) ;
- NSW DPIE – Water;
- NSW DPIE- Biodiversity Conservation Division; and
- SSC.

This consultation was noted in previously required MOP document titled *"Rix's Creek Mine MOP-Amendment A".*

3.5 Stakeholder Engagement Strategy

Moving forward, and in keeping with industry best practice, the compass of stakeholder engagement will be expanded to address the stakeholder expectations in terms of mine rehabilitation and closure. The scope of the engagement will include all aspects of the engagement spectrum generally in accordance with the *Quality Assurance Standard for Community and Stakeholder Engagement* (International Assocation for Public Participation - Australasia, May 2015).

The categories of public participation goals in this Standard range from low to high influence on outcomes: inform, consult, involve, collaborate or empower. This approach recognises that the stakeholders are being/will be affected by a mine rehabilitation and closure process or outcome, as well as optimising how they may affect the mine rehabilitation and closure process and outcome.

Future engagement will be based on these principles and will include:

- inform - as per newsletters and community information line;
- consult - as per the CCC which is a direct forum for community representatives and clarification of the role of external stakeholders;
- involve - increased recognition that the process of stakeholder engagement needs to be based on two way communication as per information days and survey of employees followed by feedback and discussion forums;
- collaborate - identifying current, potential and future stakeholders via;
    - identifying opportunities for improved management and innovation via the Upper Hunter Mining Dialogue (UHMD);
    - optimising communication in context of "next land use" as the focus of the mine rehabilitation and closure process (e.g. active participation with SSC during updates of the Local Environment Plan); and
    - continued engagement throughout the life of the Mine with neighbouring mining operations (e.g. optimising synergies related to the mine rehabilitation and closure process between neighbouring mines and across mining tenures);
- empower - maintaining a register of stakeholder feedback, so that input can be tracked over time and the company responses are able to be accessed;
- Increased recognition that the mine rehabilitation and closure process aims to minimise any significant and ongoing impacts to the broader environment or socio-economic dynamics (e.g. participation in careers days at local schools, sourcing of apprentices from the local region).

Consultation specific to this rehabilitation Strategy will occur generally in accordance with the above principles and include at least the CCC, relevant near , and regulators as described in **Section 3** prior to each review of this Rehabilitation Strategy as described in **Section 7.2**.

It will also inform any required review to the Risk Assessment required under Schedule 8A of the Mining Regulations (2016).

The SIMP as required in accordance with condition B76 of SSD 6300 also provides detail on stakeholder engagement relevant to this Rehabilitation Strategy. For inclusion in the RCS approvals documents, a range of community consultation and data reviews was conducted to identify perceived local social risks and opportunities from the Project. Section 4.1 describes local risks and opportunities identified by stakeholders including the following relevant to rehabilitation and mine closure:

- Rezoning of land to the north of Singleton to residential land and the amenity impacts the Project may have on this land;
- Final landuse, including possible geotechnical issues impacting the New England Highway;
- Clarification on final void options; and
- Need to develop a more diversified and resilient economy.

Section 5.2 of the SIMP describes regional impacts and opportunities and includes land use conflict and lack of economic diversity. Section 5.3 of the SIMP states that the cessation of mining at RCS after 2040 has the potential to materially affect:

- The local population where people leave to seek other employment;
- Demand for housing where employees leave or other people move to the LGA as a result of future long-term use of the site after mining; and
- Demand for social infrastructure and local business trade where there is a change in the population or demand for consumable goods and services.

In the case of RCM, the presence of other existing and potential mining operations and social trends over the life of the mine are likely to influence the social impacts of the closure of RCM. RCS is at the start of its 21 year mine life and as a result, plans and strategies to manage social impacts during mine closure are at an early stage. Bloomfield will undertake targeted community consultation on specific closure planning to inform the update of the SIMP.

A Stakeholder Engagement Plan is summarised in Section 7 of the SIMP and describes proposed engagement with Council, CCC, personnel and contractors, near neighbours and tenants, and the wider community.

4 Rehabilitation Objectives

Rehabilitation Objectives and Rehabilitation Completion Criteria have been developed for the final land use domains described in **Section 4.2** in accordance with the '*Guideline: Rehabilitation Objectives and Rehabilitation Completion Criteria'* (NSW Resources Regulator, 2023).

Rehabilitation will be undertaken to be consistent with the objectives as set out in Schedule 3 Condition 50 of PA 08_0102 for RCN and SSD 6300 Sch. 2 Condition B69 for RCS. As required under the Mining Act, Rehabilitation Objectives have been developed with the Resources Regulator and were approved on 14 July 2025. A copy of the approved objectives can be referenced in the Rix's Creek mine RMP available at the Bloomfield website at: https://www.bloomcoll.com.au/sustainability/environmental-management/rixs-creek-assessments/mining-lease

4.1 Post Mining Land Use Options

Rix's Creek Mine is required under Schedule 2, Condition 2 of SSD-6300 and PA 08_0102 to carry out the development generally in accordance with the EIS. As outlined further in the RMP, the EIS describes the final land use as cattle grazing with corridors of native vegetation.

A number of post-mining land use options were considered during the development of the EIS including in consultation with regulators, near neighbours and the local community. Investigations were undertaken to determine feasible land uses on rehabilitated land having regard for land slope, class, water requirements and soil types. The potential land uses identified in the review were then evaluated based on a number of selection criteria, including:

- community and stakeholder acceptance;
- health and safety considerations;
- potential environmental impacts;
- regulatory requirements and legal liability; and
- contribution to the local economy and employment.

After consideration of the above selection criteria predominantly cattle grazing was identified to be the most suitable post-mining land use at RCM with grazing also occurring within the vegetation corridors.
It is possible that in the future some of RCM's rehabilitated areas could form part of other future land uses such as renewable or industrial projects which would require future development approvals. The use of tropical pastures predominantly across the site negates any future biodiversity offsets if such a future project is feasible. This type of pasture allows for future flexibility for varied potential future final land uses.

4.2 Final Land Use and Mining Domains

The classification of domains matches the codes listed in the '*Guideline: Mine Rehabilitation Portal*' (NSW Resources Regulator, 2023) (Portal Guideline). **Table 3** identifies the new mining and final land
use domain codes relevant to Rix's Creek Mine. The conceptual final landform design and land use domains are described in further detail in Section 5 of the Rix's Creek Mine RMP.

Table 3 Rehabilitation Reform Guideline Domains and Spatial References (Code)

Mining Domains		Final Land Use Domains	
Code	Domain	Code	Domain
1	Infrastructure Area	B	Agriculture – Grazing
2	Tailings Storage Facility	D	Biodiversity Offset (other)
3	Water Management Area	F	Water Management Areas
4	Overburden Emplacement Area	G	Water Storage (Excluding Final Void)
5	Active Mining Area (Open Cut Area)	I	Infrastructure
7	Beneficiation Facility	J	Final Void
8	Ancillary Infrastructure- Topsoil Stockpile Area		

The domains for Rix's Creek Mine were determined having regard for the local environment. Final land use domains are land management units characterised by a similar post mining land use objective. Mining domains are land management units within the mine site during operational phases, usually with unique operational and functional purpose.

The final land use domains for Rix's Creek Mine are presented in **Table 3**. The final land use domains are illustrated in the Final Landform and Rehabilitation Plan shown in **Figure 4**. The Final Landform and Rehabilitation Plan has been prepared generally in accordance with the Conceptual Final Landforms provided in SSD 6300 and PA 08-0102 and shown in Figure 3A and 3B of this strategy.

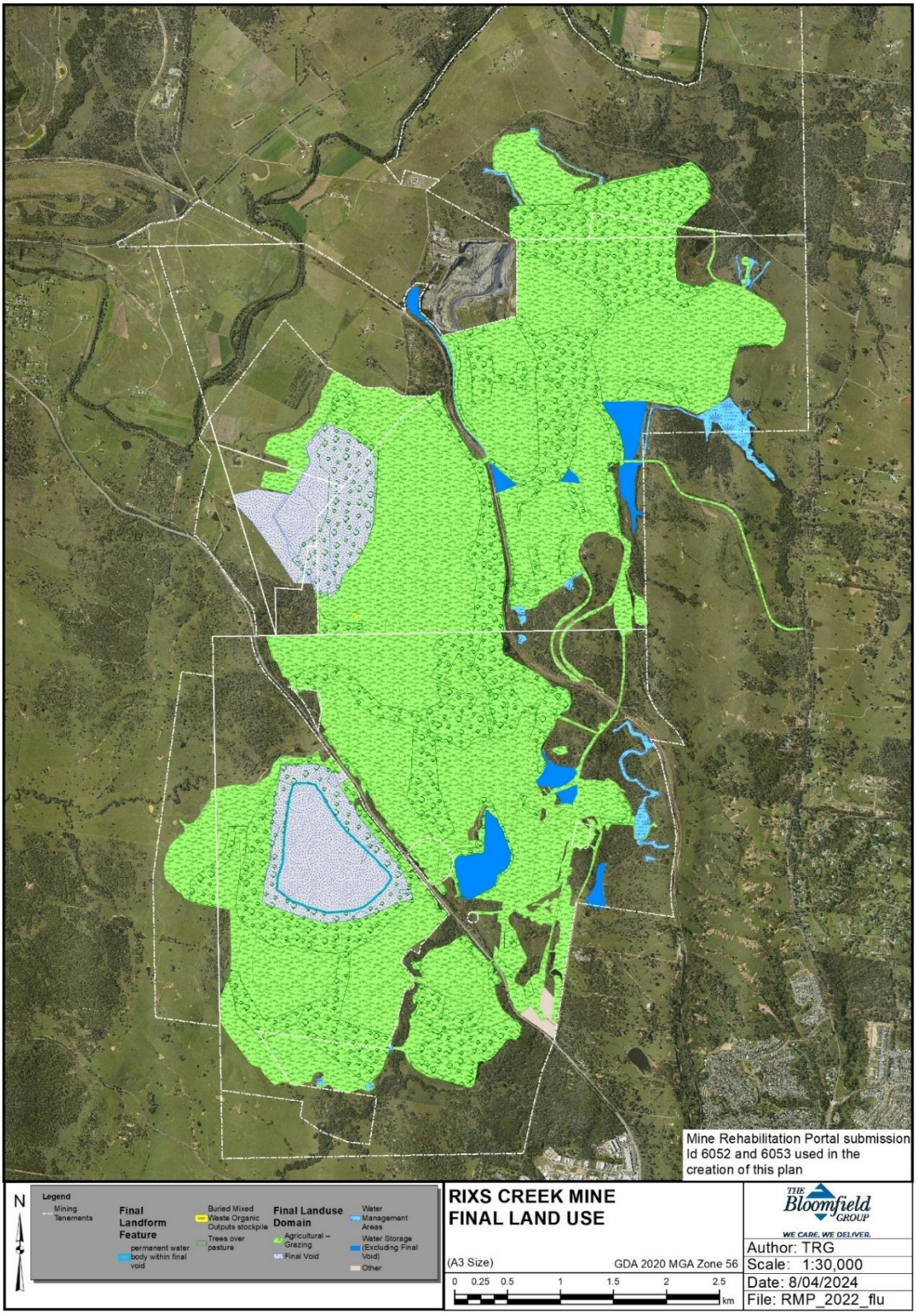


Figure 4
RCM Final Land Use

5 Proposed Future Use of Disturbed Areas

The aim of rehabilitation at the Mine is to reinstate the pre-mining land capability of grazing land, with stable landforms, compatible with the surrounding landscape, and allow for a range of possible post-mining land-uses.

Rehabilitation outcomes are identified and response to potential adverse outcomes are defined in the Trigger Action Response Plan (TARP) appended to the RMP. These were defined from a risk-based approach considering potential consequences and mitigation measures. Section 4 of the RMP provides the approved rehabilitation objectives and draft completion criteria requirements of the Project.

The TARP is included at Section 10of the RMP. The RMP should be consulted for additional detail, however the following provides a summary of key elements and 'green' conditions (i.e. where no response is required and criteria performance indicator met):

- Landform stability – slopes generally < 10 degrees, no signs of movement, no tunnel erosion, drainage in accordance with design criteria in the RMP;
- Water quality – runoff from rehabilitation within EPL criteria and rehabilitation performance criteria within RMPP;
- Spontaneous combustion – no evidence in rehabilitation areas;
- Spoil/soil quality – Properties are not limiting plant establishment;
- Topsoil availability – sufficient volumes identified for rehabilitation over life of mine;
- Vegetation – vegetation groundcover developing diversity and density consistent with final criteria, weed presence within range in analogue sites and does not present a risk to rehabilitation, regional declare non drought as per DPI indicator, trees over pasture vegetation on trajectory developing adequate groundcover of tree and shrub species, pasture vegetation on timely trajectory developing grass and legumes consistent with final criteria;
- Biodiversity – monitoring indicates corridors successfully established and consistent with community required for fauna movement;
- Bushfire – fuel load assessed and managed in accordance with Bushfire Management Plan;
- Tailings – capped areas constructed in accordance with design, free draining with no ponding; and
- Groundwater – water balance and monitoring indicate void water balance correct.

To assist in defining the lands encompassed in the RMP and this Rehabilitation Strategy, the site has been divided into a range of differing domains based on final land use as described in the RMP. In accordance with the NSW *"Form and way: Rehabilitation management plan for large mines",* published by the Department of Primary Industries and Regional Development the primary domains have been defined on the premise of land management units within the Mine site, usually with unique operational and functional purpose and therefore similar geopmorphological characteristics.

Secondary domains are defined as land management units characterised by a similar post mining land use objective.

The final land use domains are shown in **Table 4.**.

Table 4
Final Land Use Domains

Final Land Use Domains
Agricultural – Grazing
Water Management Areas
Water Storage (Excluding Final Void)
Final Void
Infrastructure Area

Further information on these domains and the key issues that pertain to their management is provided in the Rix's Creek mine Rehabilitation Manafgement Plan available at: https://www.bloomcoll.com.au/sustainability/environmental-management/rixs-creek-assessments/mining-lease. A pictorial representation of the final landform and land use is provided on **Figure 4A (SSD 6300) and Figure 3B (PA 08_0102)**,and Figure 4 recognising that the location of the Domains is subject to variation and may change in accordance with the life of the mine, as reflected in the RMP.

5.1 Active Mining Area

Active Mining Areas comprise areas where active mining activities will occur during the life of the approved mining operations. These activities include highwalls, lowwalls, active voids, spoils and ramps. This domain generally cannot be progressively rehabilitated as they are required up to the end of production for accessing coal and related infrastructure services.

Rehabilitation and closure of these areas will provide a final landform which leaves large areas rehabilitated to grassland and trees over grass and water bodies in final voids. As the majority of these areas are zoned RU1 under the LEP, upon the grant of further development consent these areas may be developed to ensure a sustainable future following the cessation of coal mining and agricultural activities (without development consent). Permissible activities with consent are listed at **Section 6**.

5.2 Heritage Areas

5.2.1 Heritage Areas- Rix's Creek South (SSD 6300)

The Heritage Area comprises the Rix's Creek Coke Ovens and associated works, which are heritage-listed items. Also considered is the Heritage value of the Granbalang Trigonometric Station. The

Coke Oven and associated area is fenced, maintained and conserved in accordance with the *Rix's Creek Colliery Coke Ovens Conservation Plan* (CMP) (Rixs Creek Mine, 2007).

In accordance with Condition B59 Bloomfield has developed a Historic Heritage Management Plan (HHMP) (Hansen Bailey and Ozark, 2020) in consultation with relevant regulators. The HHMP describes how historic heritage values at RCS would be managed, with specific detail for the Coke ovens in a detailed appendix. A revised Coke Ovens CMP will be prepared in in accordance with commitments in the HHMP for the Coke ovens.

Mitigation measures for are detailed in Section 6 and 7 of the HHMP and describe long term protection and management measures for key heritage items including:

- Permit to disturb process which identifies any historic heritage sites within proximity of proposed activities;
- Component of site inductions and training which shall cover heritage sites;
- Management of the discovery of new historic heritage objects including skeletal remains; and
- Includes a relevant Conservation Management Plan (CMP) for the Coke Ovens including archival recording, management and public access when mining commences in North Pit; and
- Table 7 summarises all roles and responsibilities of the HHMP.

Table 6 provides detailed coke oven management measures and due dates for key management measures and are currently between 2020 and 2037.

Upon rehabilitation and closure upon cessation of mining adjacent to these areas will lead to the mitigation measures in the HHMP being developed and public access to key areas. This will ensure a sustainable future for key historic heritage items, particularly the Coke Ovens.

5.2.2 Heritage Areas- Rix's Creek North (PA 08_0102)

PA 08_0102 defines an area for further archaeological investigation associated with the approved full pit extension of Rix's Creek North Mine. (see Appendix 7 of PA 08_0102). Within this area two main heritage items are known;

- the Dulwich Property (also known as 'Kangory Homestead'. Listed as an item of local significance in the Singleton LEP (2013).
- known gravesite of James Halliday Glennie (identified as *Dulwich Private Cemetery (Lone Grave)* and classified as significant by the National Trust of Australia (NSW).,

Both the Dulwich homestead and gravesite are approved to be destroyed as part of the approved project subject to the following additional requirements under Sch. 3 Cond. 44 (e) of PA 08_0102):

- further historical investigation of the area outlined in purple on the figure in Appendix 7 of PA 08_0102 to identify the potential archaeological resources within the area;
- archaeological testing of the potential archaeological resources within the area outlined in purple on the figure in Appendix 7 of PA 08_0102;
- further archaeological investigation of any areas where the archaeological testing (referred to above) identifies significant archaeological deposits;.
- archaeological excavation of the known grave on site, identified as the James Halliday Glennie grave site;

- detailed archival recording of the Dulwich property if it is to be mined;
- archival recording of any other heritage items to be destroyed by the project;
- conserving, managing, monitoring, and where appropriate, relocating any non-Aboriginal sites, objects and deposits on the site;
- interpreting the findings of the additional heritage or archaeological investigations carried out on the site; and
- managing the discovery of any new non-Aboriginal objects or skeletal remains identified during the project.

If an agreement cannot be reached with the owner of the Dulwich property, mining of the entirety of the full pit extent will not occur and the gravesite and Dulwich residence may remain post mining. In the event that the Dulwich property will remain, Bloomfield are required to prepare a detailed conservation management plan for the Dulwich property (subject to the agreement of the landowner); (Sch. 3 Cond. 44 (e)).

5.3 Infrastructure Area

All surface infrastructure, where an approved post use (subject to separate environmental impact assessment and approval) cannot be identified, will be removed from the site. The following description of the decommissioning of the infrastructure areas is provided, pending alternate post mining land use for these areas. These descriptions do not account for additional material to remediate the site being sourced from areas outside the present planned operations of the Rix's Creek mine.

It is noted that following completion of the open cut mining proposed by the Project, there will remain a coal resource within the Mine Lease area that could be accessed by underground mining techniques, primarily bord and pillar mining. Any underground mining or mining beyond the life of the Project would be subject to a separate environmental impact assessment and approval process at the time. Condition B69 of SSD 6300 requires that underground mining is subject to a development application at least five years prior to cessation of mining operations, otherwise the highwall is required to be rehabilitated.

Where carbonaceous or unsuitable materials for rehabilitation is identified on hard stand areas, infrastructure areas or haul roads it will be managed in the final stages of capping of the tailings storage facility or covered in the floor of the final void. Any crossings (i.e. culverts) will, where practical, be removed and the pre-existing drainage line reinstated. All roadside markers (tyres and guideposts) and signs are also to be removed from within the area once mine closure activities have been completed.

A light vehicle access road is to be maintained to enable inspections of the site following closure of the Mine.

The proposed and existing cut and cover tunnels under the New England highway will be partially filled, allowing post mining access under the highway for domestic livestock and opportunistic movement of native fauna.

Rehabilitation and closure of these areas will either remove key infrastructure items or with further development consent utilise infrastructure for alternative industrial/commercial uses. As the majority

of these areas are zoned RU1 under the LEP, upon the grant of further development consent these areas may be developed to ensure a sustainable future following the cessation of coal mining activities.

5.3.1 Clean Coal Stockpiles

The carbonaceous material on the base of the ROM and product stockpile areas will be managed as discussed previously. Where possible, the material will be considered for reprocessing before the CHPP is decommissioned. Once this has been completed, inert spoil will be placed over the tailings storage facility impoundment to maintain a cap, with a cap also placed over the former coal stockpile and infrastructure areas.

5.3.2 Coal Handling and Preparation Plants

The entire CHPP and infrastructure area will be bulldozer trimmed to facilitate the appropriate drainage of surface runoff from the site. Appropriate surface water management structures (contour banks, drains and settlement ponds) will also be constructed, where required. The final landform will allow water to flow away from the site via drainage lines.

5.3.3 Clean Coal Reclaim Aerial Stackers, Reclaim Tunnels and Train Loader Facilities

The Rix's Creek Mine rail loading facilities includes conveyors, surge bins, two train-loading bins, access roads, sediment dams, and laydown areas. During the decommissioning phase should contaminated, carbonaceous or material unsuitable for rehabilitation be identified in the areas of the Mine rail loading facility, it will be managed as discussed previously.

5.4 Water Management Areas

This domain includes components of the network of dams, pipes, pumps and drainage lines that compose the Mine water management system that is in place to control the movement of water around the site. These include sedimentation, diversion, mine water and water supply dams but exclude the tailings emplacement areas.

Figure 4A (SSD 6300) and Figure 3B (PA 08_0102) shows the configuration and drainage catchments of the final landform.

The water management system for the site during the life of the Mine requires water to be effectively sourced, captured, diverted, stored, monitored, used and reticulated across the site. This system is based on adherence to well established, best water management practices in the Australian mining industry. These principles are:

- Efficient use of water based on the concepts of 'reduce, re-use and recycle';
- Avoiding or minimising contamination of clean water streams and catchments; and
- Protecting downstream water quality and return of water to the environment and for other beneficial uses such as agriculture.

Water run-off from the rehabilitated landform is to be directed into ephemeral channels that flow into the existing drainage pattern around the Mine. The water run-off in the channels will vary in volume

depending on local weather conditions and storm activity. Temporary sediment controls such as the use of gabions, geotextiles, hay bales, sediment control fencing techniques, and other techniques used during Mine life, may be integrated with vegetation and permanent engineering strategies to achieve stability in relevant areas.

Where appropriate, water storage dams will be incorporated into the landscape with a view to supplying watering points for cattle. These dams will be revegetated with plant species (e.g. grass species and emergent reeds) suitable to ensure stability of the dam wall and batters whilst also providing potential localised habitat for native fauna.

Temporary sediment detention features may be designed into the channels during construction periods. These features will provide protection during construction to the receiving waters in terms of water quality. To achieve rapid stabilisation, particularly in high flow scenarios, quick establishing pasture species will be used. There has been extensive use of pasture species for this purpose on both the Mine and other mines, and techniques are well developed. Reconstructed drainage lines will be revegetated with species prevalent within the existing ephemeral water course. Vegetation established during rehabilitation will ensure long term channel stability.

The drainage pattern of the final landform will be designed to integrate with the surrounding catchments and will be revegetated to achieve long term stability and erosion control and also to harmonise with more general rehabilitation and revegetation strategies. Clean water diversion banks on overburden emplacements will be retained to divert water away from fill areas. Reconstructed drainage channels will be established where required in accordance with lead practice standards at the time of construction. In terms of future use, these areas will be protected from incompatible land use activities such as over grazing which may damage their integrity by strategic fencing and management of cattle grazing pressure.

In accordance with the 'RCM Water Management Plan' (WMP) at Section 2.5, any unlicensed discharges from RCM are undertaken in accordance with conditions of water licences and any EPL discharge conditions. Section 4.1.2 states that RCM does not maintain a licensed discharge point to release excess mine water via the Hunter River Salinity Trading Scheme (HRSTS).

Rehabilitation of water bodies to integrate with the landform, or the continued use of water bodies for agricultural or other purposes (with consent) will ensure a sustainable future following the cessation of coal mining for agricultural/industrial/commercial and/or biodiversity use.

5.5 Tailings Emplacement Area

5.5.1 Tailings Emplacement Areas - Rix's Creek South (SSD 6300).

Tailings disposal throughout the life of the Project will be in the form of a thickened paste disposal method utilising solid bowl centrifuges (SBCs) The tailings cake from SBCs contains negligible free water; it is spreadable and quite easily handled. The dewatered tailings cake is disposed separately or mixed with coarse reject and co-disposed in overburden emplacements using trucks.

Pit 1 tailings emplacement (tailings emplacement #4) is the only active tailings emplacement during the life of the Project. This area will be maintained for the purpose of backup for tailings management, even though co-disposal will be the preferred disposal technique. The tailings emplacement areas will be allowed to dry following last disposal prior to rehabilitation. Post drying the tailings emplacement areas will be revegetated with a species mix aligned to the surrounding plant community i.e. grassland.

Rehabilitation and closure of tailings areas will provide a final landform which leaves large areas rehabilitated to grassland generally in accordance with the approved conceptual final landform. As the majority of these areas are zoned RU1 under the LEP, upon the grant of further development consent these areas may be developed to ensure a sustainable future following the cessation of coal mining and facilitate agricultural activities (without development consent). Permissible activities with consent are listed at **Section 6**.

5.5.2 Tailings Emplacement Areas - Rix's Creek North (PA 08_0102).

Tailings disposal throughout the life of the Project will be either to Tailings Dams 1 & 2 at Rix's Creek North or in the form of a thickened paste disposal method utilising SBCs. This co-disposal method is approved under Modification 10 and requires the upgrade of the CHPP and installation of solid bowl centrifuges. The tailings cake from SBCs contains negligible free water; it is spreadable and quite easily handled. The dewatered tailings cake is disposed separately or mixed with coarse reject and co-disposed of in overburden emplacements using trucks.

Tailings Dams 1 & 2 are the only active tailings emplacement during the life of the Project. This area will be maintained for the purpose of backup for tailings management, even though co-disposal will be the preferred disposal technique once the upgrade to the RCN CHPP is completed. The tailings emplacement areas will be allowed to dry following last disposal prior to rehabilitation. Post drying the tailings emplacement areas will be revegetated with a species mix aligned to the surrounding plant community i.e. grassland.

Rehabilitation and closure of tailings areas will provide a final landform which leaves large areas rehabilitated to grassland generally in accordance with the approved conceptual final landform. As the majority of these areas are zoned RU1 under the LEP, upon the grant of further development consent these areas may be developed to ensure a sustainable future following the cessation of coal mining and facilitate agricultural activities (without development consent). Permissible activities with consent are listed at **Section 6**.

5.6 Overburden Emplacement Areas

Overburden produced from the active mining area will be placed in designated out of pit emplacement areas and/ or placed within mined out sections of the open cut to create a final landform. Spoil dumping locations will be managed to maintain flexibility and productivity of the overburden haulage fleet while giving consideration to environmental conditions. In general, the dumps will be constructed in reasonably flat layers incorporating rehabilitated edges where possible. The disturbed faces of the Overburden Emplacement Areas may be temporarily vegetated via aerial seeding of fast germinating and establishing grasses.

The aim of the overburden emplacement design is to achieve:

- Overburden emplacement capacity balanced with final landform design in order to minimise areas of disturbance and create a stable landform with visual relief where possible;
- Reduced visual impacts of the existing area adjacent to the New England Highway;
- Safety considerations included to mitigate the hazards that the site may pose to unauthorised people who access the area;

- Runoff water quality similar to undisturbed lands and not degrade receiving stream channels;
- A rehabilitated landform that will support vegetation species and composition diversity aligned to plant diversity in adjacent unmined lands;
- Land that will support its designated post-mining uses; and
- A rehabilitated landform that is compatible with the surrounding landscape.

Rehabilitation and closure of these areas will provide a final landform which leaves large areas rehabilitated to grassland and trees over grass and water bodies in final voids generally in accordance with the approved conceptual final landform. As the majority of these areas are zoned RU1 under the LEP, upon the grant of further development consent these areas may be developed to ensure a sustainable future following the cessation of coal mining and facilitate agricultural activities (without development consent). Permissible activities with consent are listed at **Section 6**.

5.7 Rehabilitated Lands

The mined lands are to be rehabilitated back to pasture and areas of trees over grass. The proposed final landform at the Mine will be consistent with the surrounding landscape. The final adopted rehabilitation and management options for this domain will largely depend on the prevailing condition in terms of landscape and optimising landuse in terms of current social and economic constraints.

Rehabilitation and closure of these areas will provide a final landform which leaves large areas rehabilitated to grassland and trees over grass and water bodies in final voids generally in accordance with the approved conceptual final landform. As the majority of these areas are zoned RU1 under the LEP, upon the grant of further development consent these areas may be developed to ensure a sustainable future following the cessation of coal mining and facilitate agricultural activities (without development consent). Permissible activities with consent are listed at **Section 6**.

5.7.1 BSAL Verification Assessment

The Biophysical Strategic Assessment Land (BSAL) Verification Assessment for the Rix's Creek South Mine was undertaken in April 2014 by SLR Consulting (SLR Consulting, July 2014).

The assessment area was defined as the proposed Overburden Emplacement Area totalling approximately 170 ha in area, as well as the required 100m buffer, which resulted in a total 245.4 ha for the Assessment Area. Approximately 53.5 ha were greater than 10% slope and two distinct soil types were found: Subnatric Brown Sodosol (173.9 ha), Eutrophic Brown Chromosol (71.5 ha).

The Subnatric Brown Sodosol failed the fertility criteria within the BSAL protocol and was therefore considered non BSAL. The two detailed sites within the assessment area for the Eutrophic Brown Chromosol were excluded on the basis of being greater than 10% slope and depth to physical barrier < 0.75 m. However, the areas of this soil type within the 0 to 10% slope were considered to contain a deeper profile and therefore would satisfy the 12 criteria within the Interim protocol. These areas were isolated pockets of less than 20ha and therefore cannot be considered BSAL.

It has been concluded that there is no qualifying BSAL within the Assessment Area.

The Rix's Creek North Project Approval (PA 08_0102) was approved in 2010 and precludes the requirement of the BSAL verification assessment.

5.7.2 Agricultural Impact

5.7.2.1 Agricultural Impact Rix's Creek South (SSD 6300)

The Agricultural Impact Assessment (Neil Nelson Agvice Pty Ltd, July 2015) that was completed for the 170 ha of land that comprises the lease extension (Mine Lease Application 487- Now ML1803) concluded the following in relation to the current and potential impact on agricultural production:

- Grazing will be continued on the land until the out of pit dump is formed. Of the 169.8ha lease extension area, 35.1 ha will be disturbed by the project and grazing excluded, while the remaining area will not be disturbed and will remain as native pasture (allowing potential continuance of grazing);
- Grazing will recommence on the sown rehabilitated land once the pastures have shown to be stable and deemed suitable for grazing;
- The economic impact from the loss of production from grazing during the period of disturbance and rehabilitation is relatively small;
- Rehabilitation of the disturbed land will re-instate the land to the same land and soil capability class as prior to disturbance; and
- Pasture will be sown on the rehabilitated land for a post mining land use of grazing. Current research undertaken examining beef cattle production on rehabilitated pastures compared to natural pastures, indicate that equivalent or higher production is possible on the rehabilitated sown pasture.

It has been acknowledged by Bloomfield that the land and soil capability scheme criteria was not designed for post mining landforms, however the aim of rehabilitation is to re-instate the slope criteria from the LSC scheme. Bloomfield is also committed to matching target agricultural productivity with non-mined analogue sites for LSC classes 4, 5 and 6. It is noted that soil depth requirements as stated in the LSC scheme are not possible on the post mining landform.

These conclusions are supported by the current land management practices at the Mine, together with the recent studies into the sustainability and profitability of grazing on mined lands in the Upper Hunter - ACARP Project No. 53259 and the Glencore grazing trials. Land management practices are detailed in the RMP which are regularly reviewed in consultation with relevant regulators to facilitate continuous improvement.

It is acknowledged that the agricultural impacts and associated consent conditions also apply retrospectively to all areas in Coal Lease 352 and Mining Lease 1432 that have not yet undergone final landform construction.

Detail in relation to criteria to determine success and relevant adaptive management measures are detailed in the RMP.

5.7.2.2 Agricultural Impact Rix's Creek North (PA 08_0102)

In 2008 a soil and land resources assessment was undertaken as part of the Integra Coal Open Cut Project and submitted as party of the EIS.

The assessment concluded that the entire post mining landform would be returned to Class 4 land which would be suitable for grazing but not suitable for regular cultivation.

Similar to Rix's Creek South the following will occur at Rix's Creek North;

- Grazing will recommence on the sown rehabilitated land once the pastures have shown to be stable and deemed suitable for grazing;
- The economic impact from the loss of production from grazing during the period of disturbance and rehabilitation is relatively small;
- Rehabilitation of the disturbed land will re-instate the land to the same land and soil capability class as prior to disturbance; and
- Pasture will be sown on the rehabilitated land for a post mining land use of grazing. Current research undertaken examining beef cattle production on rehabilitated pastures compared to natural pastures, indicate that equivalent or higher production is possible on the rehabilitated sown pasture.

Grazing of rehabilitated landforms are actively occurring at Rix's Creek Mine, including the agistment of areas to local farmers which are managed as part of their cattle management strategies.

5.7.3 Land and Soil Capability

Land capability is the physical capacity of the land to sustain a range of land uses and management practices in the long term without degradation to soil, land, air and water resources.

A diagrammatic representation of the project area showing the existing mining operation in context of Land Capability is provided **Figure 5A (RCS) and 5B (RCN)**. These figures are based on the Rural Land Capability Scheme (Emery, 1986), and should not be used to compare the results of any post mining Land and soil capability assessment (Office of Environment & Heritage, 2012) of rehabilitated lands. Based on the pre mining land capability, recorded slopes, soil types and their distribution across the Mine site, an assessment of the capability of the Mine was undertaken in accordance with the Office of Environment & Heritage (OEH) guideline *The Land and Soil Capability Assessment Scheme; Second approximation* (Office of Environment & Heritage, 2012) (referred to as the Land and Soil Capability Class Guideline).

Whilst it is recognised that the growing media will in part comprise shallow soils and the presence of sodic subsoils, the Mine land management program will ensure that there are no rocky outcrops to limit agricultural production. Proactive management of erosion (wind and water) will be carried out and cropping will not be included in the program. These measures together with the use of soil ameliorants including though not limited to biosolids, will enable the land to return to post mining agricultural productivity to match Land and Soil Capability Classes comparable to unmined areas nearby, and LSC slope classes that are similar to pre mining slopes.

5.7.4 Final Landform

The proposed final landform at Rix's Creek will be consistent with the surrounding natural landscape and slope classes as shown in **Figure 3A (RCS) and 3B (RCN)**. It will have:

- A post mining landscape which will be safe and non-polluting, with a stable drainage network;
- An area of Land and Soil Capability Class 2 lands not impacted by the operation;
- The majority of the site with slopes less than or equal to 10º (18%) (Land and Soil Capability Class 4 and 5);

- Slopes between 10-18º (18 to 33%) will fulfill Land and Soil Capability Class 6, of which 80.6ha would be land below water in the final void; and
- Areas of greater than 18° (33%) slopes will include the batters of the tunnels under the highway (Land and Soil Capability Class 7).

The measures of success, monitoring and required adaptive management in relation to achieving the final landform are detailed in the RMP.

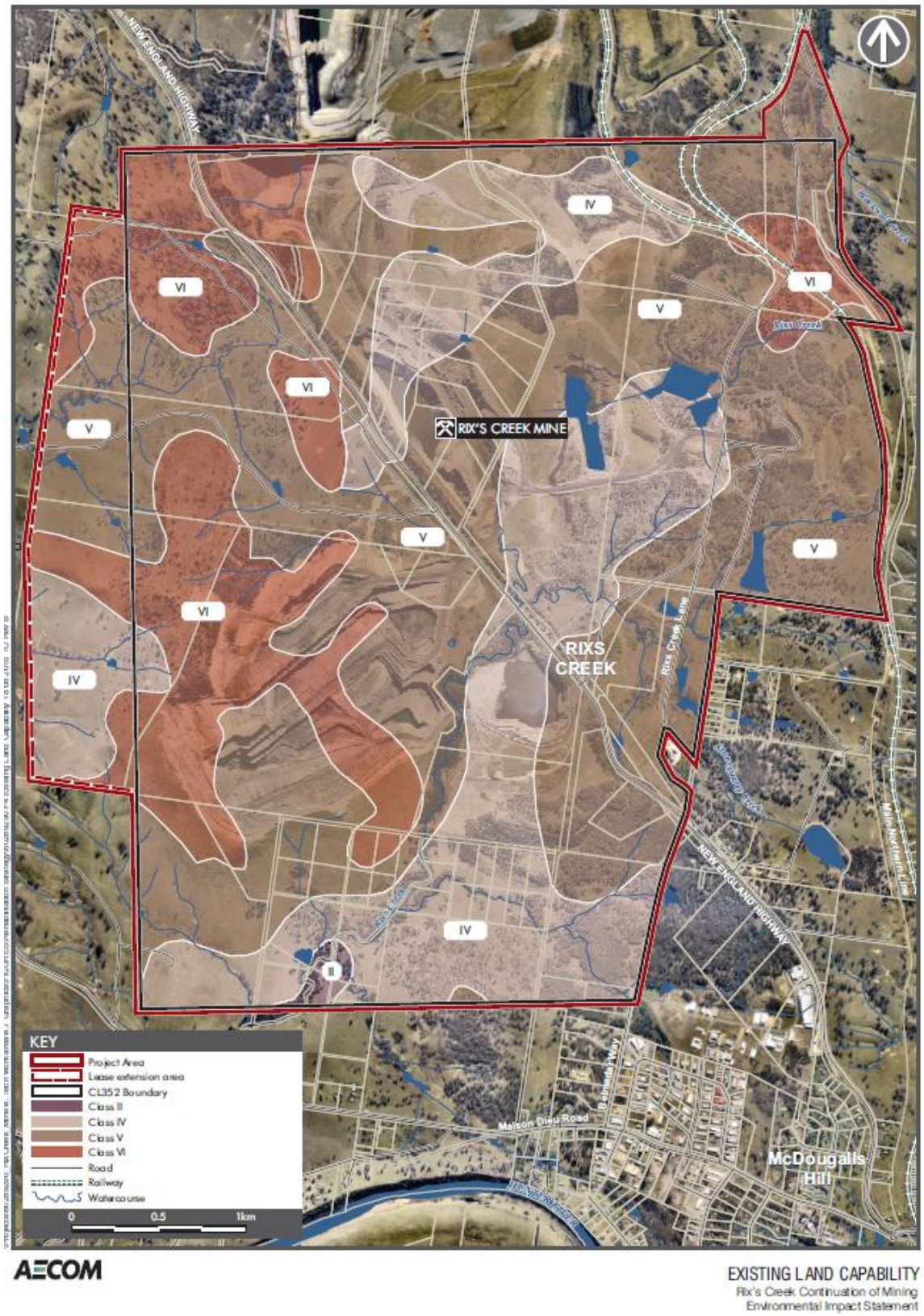


Figure 5A
Existing Land Capability- Rix's Creek South SSD 6300

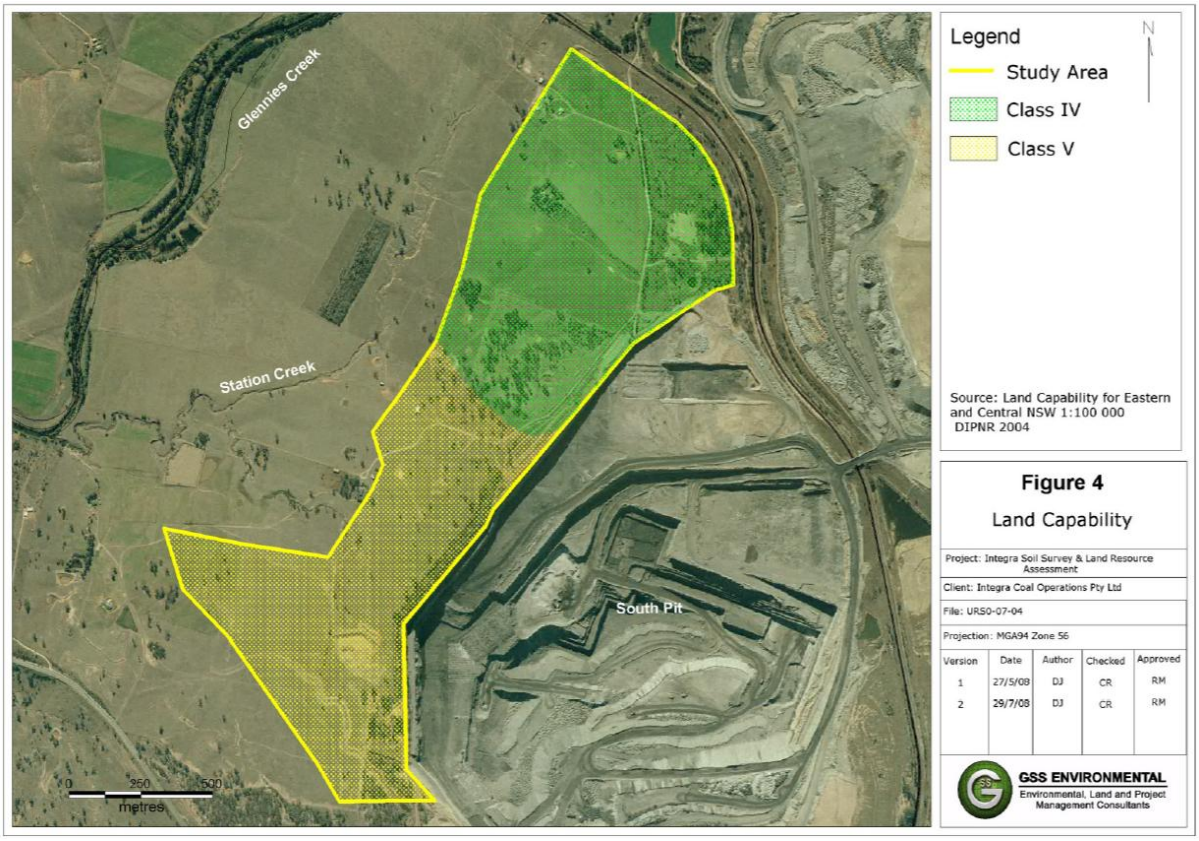


Figure 5B
Existing Land Capability- Rix's Creek North PA 08_0102

5.8 Final Void

5.8.1 Final Void- Rix's Creek South (SSD 6300)

This domain includes the final highwall, void, low wall, spoil and ramps of the void, the location of which is shown on **Figure 4A**. The final void, low walls and ramps cannot be rehabilitated progressively over the Mine life as coal will continue to be accessed from the final void up to the end of production. All areas of the site, with the exception of the final void and its surrounding catchments, will be free draining.

The aim is to maintain the effective catchment contribution and yield to the Hunter River following the cessation of mining. The final void will be designed as a long-term sink to prevent the release of saline water into the surrounding environment, unless a more suitable outcome is agreed.

The following key planning considerations have been incorporated into the design for this domain in context of future potential access (unauthorised and other).

- Create a final void of relatively low safety risk as the depression grades can be climbed safely by foot;
- Minimise out-of-pit dump and dump levels enhancing visual amenity; and

- Create a void depression that is not easily visible or recognisable improving the visual amenity of the Project area.

The low wall slopes and highwall slopes above the post-mining standing water level of the final void landform will be designed with an overall slope of around 18 degrees. The final void landform will be rehabilitated with vegetation species and diversity that are appropriate for the surrounding landform. The highwall will also be rehabilitated using the best reasonable and feasible rehabilitation technologies available at the time and revegetated with species that are appropriate for its steepness, aspect, and water retention capabilities.

Groundwater studies have modelled the rate of filling of the final void both in context of water quantity and quality. The key issues that have been considered in context of the rehabilitation of the voids include:

- Salinity levels in the final void which result from the intrinsically saline groundwater;
- Ecosystem health in the water body of the void;
- Selection of plant communities that can be developed and sustained on the batters of the void, which as the water levels rise will aid in the development of aquatic ecosystems; and
- The proposed final void is designed with 18 degree batters to provide safe access by foot for continued land management and grazing of the area by cattle, in doing so ensuring access and safety for site users and domesticated and native animals, If restricted access to areas of the site is required at the time of closure further landform shaping, fencing or placement of large rocks may be considered and agreed with relevant government authorities.

During the operational phase of the Project, Bloomfield is committed to undertake further investigations into the void rehabilitation options and strategies to ensure the sustainable future of the site, as practical. These may include:

- More detailed hydrological (runoff quality and quantity) and geochemical assessment aimed at more accurately predicting long term void water levels and mechanisms that may be used to enable the void to self-regulate its salinity;
- Active liaison with RR so that the regulator can more comprehensively understand the complex nature of final void issues and provide more strategic advice on its requirements for the rehabilitation outcome for residual voids;
- Review of the potential littoral, limnetic, profundal and benthic zones and associated stratification, mixing (or lack thereof) and environments of the layers which may occur in the water in the final void and the potential issues that may occur should alterations to the predicted environment occur. Issues to consider may include temperature, salinity, depth, light and the deposition and accumulation of sediments and other materials;
- Review of other open bodies of water where the layers of the water don't intermix i.e. the meromictic lakes or where mixing occurs at least once per year i.e. holomictic lakes; and
- An assessment of any potential beneficial use for the water that could be considered following closure of the mine. This assessment will build on the works undertaken by the NSW Minerals Council (NSWMC) via the UHMD "Upper Hunter Valley Voids Project". The NSWMC:
    - conducted a Stakeholder Workshop as a forum to bring industry and community together to begin discussions, visioning and concepts for the future use of closed mine voids in the region; following this

- a literature review was commissioned, which examined national and international examples of pit void end uses; and a
- A study of pit void lakes water quality to improve understanding of potential pit lake end uses for (UHMD) coal mining operations.

The measures of success, monitoring and required adaptive management in relation achieving the final void are detailed in the RMP.

Detail in relation to post-mining standing water level is described in the WMP. Section 4.4.3 states that modelling indicates that the void operates as a groundwater sink since groundwater inflow exceeds outflow and groundwater flux is minor compared to recharge and evaporation components. The groundwater contribution from hard-rock (HSU Zone 1 in Figure 8.29 in the GIA) to the Hunter River Alluvium is predicted to be 244 m^3/d at the end of the recovery simulation. This demonstrates a minimal groundwater contribution to the Hunter River alluvium. Although there is a small groundwater outflow from the pit, the long-term impact to off-site groundwater quality is considered minimal.

The further investigations described above will be undertaken within 10 years of closure and incorporate findings of stakeholder engagement as described in **Section 3.5**.

5.8.2 Final Void- Rix's Creek North (PA 08_0102)

This domain includes the final highwall, void, low wall, spoil and ramps of the void, the location of which is shown on **Figure 4B**. The final void, low walls and ramps cannot be rehabilitated progressively over the Mine life as coal will continue to be accessed from the final void up to the end of production. All areas of the site, with the exception of the final void and its surrounding catchments, will be free draining.

The aim is to maintain the effective catchment contribution and yield to Glennies Creek following the cessation of mining. The final void will be designed as a long-term sink to prevent the release of saline water into the surrounding environment.

5.8.3 Low Walls

The low wall will be battered back from the angle of repose to ensure the long term geotechnical stability of the face, with the determination of geotechnical stability and recommendations as to the final slope undertaken by a qualified geotechnical engineer on the basis of an assessment of the overburden material, the likely degree of settlement, and the degree of weathering expected in the long term. However it is expected that the low wall sides of the final void will be battered back to a maximum of 18° with a goal of 10° being optimal.

• Surface water drainage on and over the low wall will be minimised through the construction of drainage control structures which will aim to divert as much of the catchment as possible away from the final void.

• Erosion of the low wall will be controlled by limiting the length of slope through the use of contour and graded drains, minimising the slope, and by the establishment of suitable vegetation in accordance with the requirements described in Section 3;

• Battering of the low wall against the bottom of the high wall, where possible, to enhance highwall stability. Benching of the spoil material may need to be considered in some areas in order to achieve geotechnical stability and minimise erosion.

All low wall areas will be revegetated in accordance with the requirements of the RMP.

5.8.4 Highwalls

No highwall is proposed for Rix's Creek South under SSD 6300 or the Falbrook Pit area of PA 08_0102 Rix's Creek North with highwalls being backfilled to achieve an 18 degree overall slope and rehabilitated in accordance with Section 5.8.3.

In accordance with PA 08_0102 a highwall is approved to remain at the Camberwell Pit area at Rix's Creek North.

To ensure the safety of the final void, the surrounding final slopes should be left in a condition where the risk of slope failure is minimised. This will be assessed by a suitably qualified geotechnical engineer.

The following will need to be considered when assessing the geotechnical stability of the high wall;

• Long term final void water levels.

• Height and inclination of slope and number and spacing of intermediate benches (as may be required to achieve the final slope).

• Shear strength of the high wall soils and rocks.

• Density and orientation of fractures, faults, bedding planes, and any other discontinuities, and the strength along them.

• The effects of the external factors, such as surface runoff.

Where possible, an appropriate grass and shrub I tree seed mix will be applied to the high wall,if necessary, using specialised techniques such as aerial seeding or hydro seeding. The purpose is to establish a vegetation cover which will provide some stability, but also offer visual impact mitigation.

5.8.5 Void Water Quality

5.8.5.1 Rix's Creek South

The Rix's Creek Continuation of Mining Project Groundwater Impact Assessment (RPS, 2014) (GIA) modelled the potential long-term salinity within the final void.

Inflows to the void comprise:

• Rainfall recharge to the surface of the lake;

• Exchange of groundwater from the backfill to the void Outflows from the void comprise:

• Evaporation from the lake surface;

• Exchange of groundwater to the backfill from the void.

From RPS (2014), evaporation exceeds recharge in the water balance while the inflow to the pit from backfill/hard-rock exceeds outflow. The long-term salinity of the lake formed in the void is 20,750 mg/L, equivalent to an EC of 31,000 µS/cm. Modelling indicates that the void operates as a groundwater sink since groundwater inflow exceeds outflow and groundwater flux is minor compared to recharge and evaporation components. The groundwater contribution from hard-rock (HSU Zone 1 in Figure 8.29 in the GIA) to the Hunter River Alluvium is predicted to be 244 m3/d at the end of

the recovery simulation. This demonstrates a minimal groundwater contribution to the Hunter River alluvium. Although there is a small groundwater outflow from the pit, the long-term impact to off-site groundwater quality is considered minimal.

5.8.5.2 Rix's Creek North

The final void has been designed to be a small as possible, while allowing for the efficient mining of coal from within the approved mining area. It is anticipated that following open cut mining the void will gradually fill with water from within the coal seam aquifers. In addition, all rainfall that falls on the final landform below the natural surface will report to the void. It is estimated that the catchment reporting to the final void will be approximately 144ha.

The water balance prepared by WRM (2008) using data from the Groundwater Assessment completed by Geoterra (2008) indicates that the void will fill to approximately -50 mAHD before reaching a steady state, although the final water level will be dependant on inflows and evaporation.

The expected quality of the water in the final void is summarised in Table 5 below.

Table 5 - Predicted Water Quality in the final void.

Parameter	Quality
pH	8.5
EC (Electrical Conductivity) uS/cm	11,350

Source. WRM (2008)

5.8.6 Public Safety Considerations

At mine closure, one of the main priorities for the final void will be to render it safe in terms of access by humans, livestock and wildlife. In order to achieve this, the following key activities will be considered.

• Instability of the lowwall can induce failures or mass movement. To ensure the stability of the lowwalls they will be battered back.

• In addition, instability of the highwall can also induce failures and mass movement. To ensure the stability of the highwalls that are to be retained post closure, an appropriately qualified Geotechnical Engineer will be consulted on final highwall design.

• Where possible, the exposed coal seams will be covered with inert material to prevent ignition either from spontaneous combustion, bushfires or human interference.

• A physical barrier will be constructed at a safe distance from the perimeter of the void to prevent human access. The highwall areas will be secured by the construction of a trench and a 2m safety berm, as well as a 2.1m security fence along the entire length of the remaining highwall. This is to provide an engineered barrier between the pit and the surrounding area. The trench and berm is to be constructed in such a way that it will physically stop most vehicles.

• Suitable signs, clearly stating the risk to public safety and prohibiting public access will be erected at 50m intervals along the entire length of the fence.

• Surface runoff from land surrounding the void will be diverted so as to prevent any potential development of instability of the void walls.

• Where practicable, grasses and shrubs / trees selected to conform to the agreed post-mining rehabilitation criteria and land use will be planted along the outside edge of the bund wall to lessen any visual impact of the wall.

During the operational phase of the Project, Bloomfield is committed to undertake further investigations into the void rehabilitation options and strategies to ensure the sustainable future of the site, as practical. These may include:

- More detailed hydrological (runoff quality and quantity) and geochemical assessment aimed at more accurately predicting long term void water levels and mechanisms that may be used to enable the void to self-regulate its salinity;
- Active liaison with RR so that the regulator can more comprehensively understand the complex nature of final void issues and provide more strategic advice on its requirements for the rehabilitation outcome for residual voids;
- Review of the potential littoral, limnetic, profundal and benthic zones and associated stratification, mixing (or lack thereof) and environments of the layers which may occur in the water in the final void and the potential issues that may occur should alterations to the predicted environment occur. Issues to consider may include temperature, salinity, depth, light and the deposition and accumulation of sediments and other materials;
- Review of other open bodies of water where the layers of the water don't intermix i.e. the meromictic lakes or where mixing occurs at least once per year i.e. holomictic lakes; and
- An assessment of any potential beneficial use for the water that could be considered following closure of the mine. This assessment will build on the works undertaken by the NSW Minerals Council (NSWMC) via the UHMD "Upper Hunter Valley Voids Project". The NSWMC:
    - conducted a Stakeholder Workshop as a forum to bring industry and community together to begin discussions, visioning and concepts for the future use of closed mine voids in the region; following this
    - a literature review was commissioned, which examined national and international examples of pit void end uses; and a
    - A study of pit void lakes water quality to improve understanding of potential pit lake end uses for (UHMD) coal mining operations.

The measures of success, monitoring and required adaptive management in relation achieving the final void are detailed in the RMP.

The further investigations described above will be undertaken within 5 years of closure and incorporate findings of stakeholder engagement as described in **Section 3.5**.

5.9 Unmined Land

This domain includes all unmined lands owned by the Mine, within the Mining Lease, which are not used for purposes related to mining. Land uses which surround this domain are agricultural to the northwest, west and south-west, mining (Rix's Creek North Mine) to the northeast and smaller agricultural holdings to the south and south-east. To the immediate south-east of the Mine Lease area is the McDougall's Hill Business park which contains a number of light industrial and bulky goods business.

The unmined or buffer lands are a valuable resource, providing:

- Analogue sites for establishing baseline criteria by which the rehabilitation objectives and success can be compared;
- Areas that can be incorporated with the rehabilitated lands to enable beef cattle production; and
- A potential for future development of non-agricultural based activities aligned to optimal post mining landuse.

The buffer lands are to be managed to enhance landuse values during and after the life of the Project **Section** Error! Reference source not found. provides further detail on the integration of buffer land with post mining land use. The management of these lands will include:

- Corridor management in the context of grazing and biodiversity;
- Fencing and access control;
- Weed and vertebrate pest species management and control;
- Track construction and maintenance;
- Strategic grazing and stock control; and
- Bushfire management.

Release of these areas which have been managed by Bloomfield during active mining will leave large areas of natural and regenerating grassland and woodland. As the majority of these areas are zoned RU1 under the LEP, upon the grant of further development consent these areas may be developed to ensure a sustainable future following the cessation of coal mining and facilitate agricultural activities (without development consent). Permissible activities with consent are listed at **Section 6**.

6 Phases in the Rehabilitation Strategy

Rehabilitation will be undertaken in accordance with the Rix's Creek Mine Rehabilitation Management Plan as required under Schedule 8A of the Mining Regulation 2016. Detail on rehabilitation methodology rehabilitation objectives and completion criteria is provided in the RMP which is available on the Bloomfield website at https://www.bloomcoll.com.au/sustainability/environmental-management/rixs-creek-assessments/mining-lease

The Resources Regulator have requested that this document specifically reference the RMP to ensure flexibility in rehabilitation methodologies is maintained to allow full alignment with the rehabilitation completion criteria statement that will need to be approved under Schedule 8A of the Mining Regulation and is a requirement following consultation with the Resources Regulator- see table B3 of appendix B of this document.

Information on the phases of rehabilitation and general methodologies is provided in Section 6.2 of the RMP

7 Rehabilitation Monitoring and Reporting

Rehabilitation monitoring and reporting will be undertaken in accordance with the Rix's Creek mine Rehabilitation Management Plan as required under Schedule 8A of the Mining Regulation 2016. Detail on the inspection and monitoring regimes, land and soil capability, pasture productivity assessments and reporting is provided in the RMP which is available on the Bloomfield website at https://www.bloomcoll.com.au/sustainability/environmental-management/rixs-creek-assessments/mining-lease

The requirement for this document to specifically reference the RMP is to ensure flexibility in monitoring methodologies is maintained to allow full alignment with the rehabilitation completion criteria statement that will need to be approved under Schedule 8A of the Mining Regulation and is a requirement following consultation with the Resources Regulator- see table B3 of appendix B of this document.

7.1 Environmental Management System

The ongoing effectiveness and efficiency of the site Management System is monitored as part of the operation's day-to-day management. Feedback from this and other more formal reviews and/ or following special occurrences, form the basis for System improvement and re-design.

In general, Management Systems are reviewed and up-dated as follows:

Every three years; or

Whenever there is a significant change to relevant legislation; or

If required to do so by the Regulations; or

Whenever there is a significant change to the operations; or

If required (in writing) to do so by the Chief Inspector; or

Whenever control measures are found to be ineffective either through:

Changes to the working environment; or

Changes to operating systems; or

Subsequent risk assessments; or

The findings of an audit; or

Following a fatality or dangerous incident that could reasonably have been expected to result in a fatality; or

Following an assessment of a related safety alert.

7.1.1.1 Continual Improvement

Operational activities will be subject to regular review to ensure conformance with commitments made in the EMS and subordinate plans and strategies.

7.1.1.2 Document Management

Copies of this document will be managed under the Group Document Management System. This document and other relevant documents are kept on site and are available to all employees.

Bloomfield company directors will be responsible for the overall rehabilitation and environmental performance of the Mine. Senior Operational managers have direct responsibility for the rehabilitation process. The Environmental Manager provides direction and advice to ensure site environmental compliance is maintained. The Environmental Superintendent is responsible for the implementation of the works for the Mine. This involves ensuring all aspects of the rehabilitation processes are followed and carried out.

7.1.1.3 Annual Review

Bloomfield prepares an Annual Review (AR) in accordance with the Integrated Mining Policy and Development Consent Conditions. This report is available on the Bloomfield website at https://www.bloomcoll.com.au/

7.1.1.4 Annual Rehabilitation Report and Forward Program

Bloomfield prepares an Annual Rehabilitation Report and Annual Forward Program in accordance with Schedule 8A of the Mining Regulations. These reports are available on the Bloomfield website at https://www.bloomcoll.com.au/

7.1.2 Rehabilitation Objectives review

As required under Condition B72(p) of SSD 6300, every three years Bloomfield will review the final landform and final void outcomes to ensure consistency with the approved Rehabilitation Objectives the RMP.

The review will be undertaken in consultation with the Resources Regulator and SSC. The outcomes of the review will be documented in the Annual Review.

Where changes are required, the outcomes of this review will be incorporated into a revised version of the Rehabilitation /Management Plan and if required changes to the rehabilitation objectives with approval from the Resources Regulator..

7.1.3 Relinquishment Reporting

Prior to submission of a sign-off proposal, the land proposed for signoff will be subjected to a final maintenance inspection. This inspection will cover the whole area proposed for sign-off. The outcome of the inspection will be a documented description and photographic record of the general condition of rehabilitation, highlighting any areas of potential concern. This report will be included in the submission to the Resources Regulator.

Once a rehabilitated area is deemed to be potentially suitable for sign-off, a rehabilitation completion report will be submitted to the Resources Regulator in the form and method required at the time in accordance with the Regulators requirement and guideline. This report may include the following information for the proposed sign-off area:

- Survey Plan clearly showing the area proposed for relinquishment;
- Area size, disturbance and rehabilitation history;
- Monitoring data compared against rehabilitation aim, objectives and completion criteria;
- Final maintenance inspection findings;
- Photographs of the proposed area; and
- Monitoring data that demonstrates that the proposed area has reached the rehabilitation objectives, measures, performance indicators and completion criteria as described in the RMP and in accordance with the approved rehabilitation objectives and completion criteria approved by the Resources Regulator..

7.1.4 Incident Reporting

Condition E7 of SSD 6300 and Sch.5 Cond.8 of PA 08_0102 requires Bloomfield to immediately report any incidents to DPIE and any other relevant agencies. An incident is defined in the Development Consent as:

> "*An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance*."

In accordance with Condition E7 of SSD 6300 and Sch.5 Cond.8 of PA 08_0102, the Incident Report would include:

- Identification of the development (including development application number and name); and

- Location and nature of the incident.

Bloomfield is required to report any non-compliances to DPIE in writing within seven (7) days of becoming aware of the non-compliance under Condition E8 of SSD 6300 and Sch.5 Cond. 9. A non-compliance is defined as:

> "*An occurrence, set of circumstances or development that is a breach of this consent.*"

In accordance with Condition E8 of SSD 6300 and Sch.5 Cond. 9, a non-compliance report includes:

- Identification of the development (including development application number and name);
- Set out the condition of this approval that the development is non-compliant with;
- The way in which it does not comply and the reasons for the non-compliance (if known)
- What actions have been, or will be, undertaken to address the non-compliance.

7.2 Strategy Review and Auditing

Condition E5 of SSD 6300 and Sch. 5 Cond. 5 of PA 08_0102 requires that, within three months of the submission of the following documents, Bloomfield will review, and if necessary, revise the Rehabilitation Strategy to the satisfaction of the Planning Secretary:

- Annual Review in accordance with Conditions E9 of SSD 6300 and Sch.5 Cond.10 of PA 08_0102 ;
- Incident report under Condition E7 of SSD 6300 and Sch.5 Cond.8 of PA 08_0102;
- Audit report under Condition E10 and Sch.5 Cond.11 of PA 08_0102; or
- Modification to the conditions of SSD 6300 or PA 08)0102 (unless the conditions require otherwise).

Condition E6 of SSD 6300 states:

> *"If necessary, to either improve the environmental performance of the development or cater for a modification, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary."*

Schedule 5 Condition 5 of PA 08_0102 states:

"Within 3 months of:

(a) the submission of an incident report under condition 8 below;

(b) the submission of an annual review under condition 10 below;

(c) the submission of an audit report under condition 11 below, or

(d) any modification of the conditions of this consent (unless the conditions require otherwise), the Applicant must review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary. The Applicant must notify the Department in writing of any such review being undertaken. Where this review leads to revisions in any such document, then within 6 weeks of the review the revised document must be submitted for the approval of the Secretary."

Where revisions are required, the revised document will be submitted to the Planning Secretary for approval within six weeks of review.

Under Condition E10 of SSD 6300, and Sched 5 Cond. 11 of PA 08_0102 an independent environmental audit of operations will be conducted within one year of commencing developmentunder the consent or by end of December 2011 respectively and every three years thereafter and the results reported to the Secretary and made available on the website.

Actions and recommendations are communicated to senior management and actioned as necessary. Actions are tracked through the action management database.

The revision to this Rehabilitation Strategy will include stakeholder engagement described in **Section 3**.

Not withstanding the above, this Rehabilitation Strategy will be reviewed at less than 5 yearly intervals.

7.3 Premature Closure

Premature closure could occur through:

- a short-term care and maintenance (C&M) phase lasting one to two years which could be due to price or weather issues for example, but have a foreseeable resolution date;
- longer term C&M lasting more than one to two years, which could be triggered by large scale technical failures or financial bankruptcy of the owner, but there is a foreseeable solution enabling future operations; and
- Unplanned early closure, where future operations are not foreseeable under any plausible circumstances.

These scenarios could also occur at various times throughout the operation of RCM. This makes it impractical to have a detailed plan for all possible scenarios.

7.3.1 C&M Scenarios

However, the following provides an example of a preliminary framework that could be utilised for contingency plans for a C&M scenario:

- open cut:
  - close unnecessary ramps
  - shape benches for drainage control
  - establish monitoring requirements and resources.
- overburden emplacement areas;
  - ensure sumps and sediment management infrastructure are operational;
  - undertake temporary rehabilitation of exposed areas;
- water storages:
  - all dams would remain under this situation, although pump and pipe infrastructure may be altered to meet the requirements of the revised water balance
- tailings storage:
  - Update the site procedures and train the relevant personnel in the details;
- Infrastructure:

- Undertake shutdown procedure including isolating and tagging out equipment;
- secure chemical storages;
- run down stocks, send to other sites or return to suppliers as required;
- remove contaminated wastes;
- review the magazine and blasting agents compound stocks; run down stocks, send to other sites or return to suppliers, as required; and
- Secure any infrastructure that will not be active through the C&M period.

7.3.2 Unplanned Permanent Early Closure

The following provides an example of a preliminary framework that could be utilised for contingency plans for an unplanned early closure.

Note that in this unlikely scenario, a Mine Closure Plan would be prepared in consultation with relevant regulators and that detailed direction would override any information provided herein:

- open cut:
  - close ramps
  - shape benches for drainage control
  - establish monitoring requirements and resources;
  - final void treatment as per relevant regulatory guidelines;
  - final rehabilitation completed as per approved final landform;
- overburden emplacement areas;
  - final rehabilitation completed as per approved final landform;
- water storages:
  - dams would remain or be filled in accordance with approved final landform;
- tailings storage:
  - final rehabilitation completed as per approved final landform;
- infrastructure:
  - Identification of all, and removal and/or reuse of infrastructure as per the approved RMP;
  - Radiation sources disposed of in accordance with relevant legislation;
- personnel:
  - Consultation with workforce and suppliers on cessation of work and development of a relevant plan;
  - Assessment of impacts and measures to address impacts on the local community (as part of the SIMP); and
- regulations:
  - Licensing and approvals relinquished in accordance with legislation; and
  - Relevant plans and strategies updated and/or relinquished.

The reporting as detailed in **Section** 7highlights the fact that such reports contain up-to-date information of the disturbed areas and the progressive rehabilitation status.

8 Roles and Responsibilities

Relevant roles and responsibilities associated with this Rehabilitation Strategy are presented in Table 8.

Table 8
Roles and Responsibilities

Role	Responsibilities	Section
Mine Manager	• Provide adequate resources for the implementation of this Rehabilitation Strategy.	7.1.1.2
Environmental Superintendent (or delegate)	• Implement management and mitigation measures to meet the plan objectives.	7.1
	• Incorporate lessons learnt into RMP reviews and implementation of rehabilitation.	2.2
	• Development of the SIMP will consider relevant social and economic issues from contemporary SSC strategies and plans.	3
	• Ensure rehabilitation goals incorporated and refined in the RMP.	4.0
	• Undertake stakeholder consultation relevant to rehabilitation and closure as described in this Rehabilitation Strategy.	3
	• Review the risk assessment as described in this Rehabilitation Strategy.	A3
	• Continue to refine future use of disturbed areas in the RMP utilising the conceptual principles in this plan.	7
	• Refine the final void in the RMP utilising the conceptual principles in this plan. Further investigations described will be undertaken within 10 years of closure and incorporate stakeholder engagement.	3
	• Refine the management of unmined land in the RMP to integrate with post mining land use strategies (grazing).	5.9
	• In revisions to this Plan, consider if any changes to post-mining landuse options are appropriate in consideration of regulatory policy.	3
	• Continue to be involved in research projects focusing on rehabilitation of open cut mines.	5.7.2.1 6

Role	Responsibilities	Section
	• Refine rehabilitation phases and domains in the RMP.	7
	• Integrate post mining landform to align with that of the adjoining RCS / RCN and consistent with the landscape of the surrounding area.	4
	• Review and develop the performance criteria, measures and indicators in consultation with the RR and include in the RMP.	7
	• Undertaken rehabilitation monitoring and reporting, as refined in the RMP to ensure continual improvement.	3.5
	• Review the final landform and final void outcomes to ensure consistency with the relevant rehabilitation objectives each three years (from 2023) in consultation with the RR in accordance with condition B72(p) of SSD 6300.	7.1.3
	• Conduct relinquishment reporting in accordance with the requirements of the RR and in accordance with the RMP.	7.1.4
	• Report incidents, conduct auditing and reporting in accordance with conditions of SSD6300 and PA 08_0102.	
All employees and contractors	• Comply with the management requirements and commitments contained within this management plan relevant to their roles.	7.1.1.2
	• Report all non-compliances with this plan as per Bloomfield reporting procedures.	7.1.4

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10 Acronyms

Acronym	Description
ACARP	Australian Coal Association Research Program
AR	Annual Review
BCD	DPIE Biodiversity Conservation Division
BCL	Bloomfield Collieries Pty Limited
BSAL	Biophysical Strategic Assessment Land
CCC	Community Consultative Committee
CHPP	Coal Handling Preparation Plant
DGRs	Director–General's Requirements
DPHI	NSW Department of Planning, Housing and Infrastructure
DPI	NSW Department of Primary Industries
EA	Environmental Assessment
EC	Electrical Conductivity
EMP	Environmental Management Plans
EMS	Environmental Management System
EPA	NSW Environmental Protection Agency
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPL	Environmental Protection Licence
ESCP	Erosion and Sediment Control Plan
GIS	Geographical Information System
ha	Hectare
IPCN	Independent Planning Commission of New South Wales
ML	Mining Lease
Mtpa	Million tonnes per annum
NSWMC	New South Wales Minerals Council
OEH	Office of Environment and Heritage
RMP	Rehabilitation Management Plan
ROM	Run of Mine
RR	NSW - Department of Regional NSW- Resources Regulator (previously DRE and DRG)
TEA	Tailings emplacement areas
UHMD	Upper Hunter Mining Dialogue

Acronym	Description
WMP	Water Management Plan

Appendix A – Development Consent Requirements

Table A1
SSD 6300 Consent Conditions

Ref	Legal Requirement	Section
Condition E5	**Revision of Strategies, Plans & Programs** Within 3 months of: (a) the submission of an incident report under condition E7; (b) the submission of an annual review under condition E9; (c) the submission of an Independent Environmental Audit under condition E10, or (d) the modification of the conditions of this consent (unless the conditions require otherwise), The suitability of existing strategies, plans, and programs required under this consent must be reviewed by the Applicant.	**7.2**
Condition E6	**Revision of Strategies, Plans & Programs** If necessary, to either improve the environmental performance of the development or cater for a modification, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within 6 weeks of the review. *Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development*.	**7.2**
Condition E7	**Incident Notification** The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing to compliance@planning.nsw.gov.au and identify the development (including the development application number and name) and set out the location and nature of the incident.	**7.1.4**
Condition E8	**Non-compliance Notification** Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing to compliance@planning.nsw.gov.au and identify the development (including the development application number and name), set out the condition of this approval that the development is non-compliant with, the way in which it does not comply and the reasons for the noncompliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.	**7.1.4**

Ref	Legal Requirement	Section
	Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	
Condition E9	**Annual Review** By the end of March each year, after the commencement of development, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department reviewing the environmental performance of the development to the satisfaction of the Planning Secretary. This review must: (e) describe the development (including any rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year; (f) report on the progress of biodiversity credits retirements and the associated actual versus proposed surface disturbance of each stage; (g) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against the: (i) relevant statutory requirements, limits or performance measures/criteria; (ii) requirements of any plan or program required under this consent; (iii) monitoring results of previous years; and (iv) relevant predictions in the document/s listed in condition A2(c); (h) identify any non-compliance or incident over the previous calendar year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reccurence; (i) evaluate and report on: (i) The effectiveness of the noise and air quality management systems; and (ii) compliance with the performance measures, criteria and operating conditions of this consent; (j) identify any trends in the monitoring data over the life of the development; (k) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and	**7.1.1.3**

Ref	Legal Requirement	Section
	describe what measure will be implemented over the current calendar year to improve the environmental performance of the development.	
Condition E10	**INDEPENDENT ENVIRONMENTAL AUDIT** Within one year of commencing development under this consent, and every 3 years thereafter, unless the Planning Secretary directs otherwise, the Proponent must commission and pay the full cost of an Independent Environmental Audit of the project. This audit must: (l) be led by a suitably qualified, experienced and independent auditor whose appointment has been endorsed by the Secretary; (m) be led and conducted by a suitably qualified, experienced and independent team of experts (including any expert in field/s specified by the Planning Secretary) whose appointment has been endorsed by the Planning Secretary; (n) be carried out in consultation with the relevant agencies and the CCC; (o) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent, water licences and mining leases for the development (including any assessment, strategy, plan or program required under these approvals); (p) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals and this consent; (q) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, strategy, plan or program required under the abovementioned approvals and this consent; and be conducted and reported to the satisfaction of the Secretary.	**7.2**

Table A2
PA 08_0102 Consent Conditions

Ref	Legal Requirement	Section
Schedule 5 Condition 5	**Revision of Strategies, Plans & Programs** Within 3 months of: (a) the submission of an incident report under condition 8 below; (b) the submission of an annual review under condition 10 below; (c) the submission of an audit report under condition 11 below, or	**7.2**

Ref	Legal Requirement	Section
	(d) any modification of the conditions of this consent (unless the conditions require otherwise), the Applicant must review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary. The Applicant must notify the Department in writing of any such review being undertaken. Where this review leads to revisions in any such document, then within 6 weeks of the review the revised document must be submitted for the approval of the Secretary. Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the project.	
Schedule 5 Condition 9	**Incident Notification** The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing to compliance@planning.nsw.gov.au and identify the development (including the development application number and name) and set out the location and nature of the incident.	**7.1.4**
Schedule 5 Condition 8	**Non-compliance Notification** Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing to compliance@planning.nsw.gov.au and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, the way in which it does not comply and the reasons for the noncompliance (if known) and what actions have been, or will be, undertaken to address the non-compliance. Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	**7.1.4**
Schedule 5 Condition 10	**Annual Review** By the end of March each year, or other timing as may be agreed by the Secretary, the Applicant must submit a report to the Department reviewing the environmental performance of the project to the satisfaction of the Secretary. This review must: (a) describe the works (including any rehabilitation) that were carried out during the previous calendar year, and the works that are proposed to be carried out over the current calendar year; (b) include a comprehensive review of the monitoring results and complaints records of the project over the previous calendar year, which includes a comparison of these results against the: •	**7.1.1.3**

Ref	Legal Requirement	Section
	monitoring results of previous years; and • relevant statutory requirements, limits or performance measures/criteria; • relevant predictions in the documents referred to in condition 2 of Schedule 2; (c) identify any non-compliance over the previous calendar year, and describe what actions were (or are being) taken to ensure compliance; (d) identify any trends in the monitoring data over the life of the project; (e) identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies; and (f) describe what measure will be implemented over the current calendar year to improve the environmental performance of the project.	
Condition E10	**INDEPENDENT ENVIRONMENTAL AUDIT** By the end of December 2011, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the project. This audit must: (a) be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary; (b) include consultation with the relevant agencies; (c) assess the environmental performance of the project and whether it is complying with the relevant requirements in this consent and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals); (d) review the adequacy of any approved strategies, plans or programs required under these approvals, with particular reference to management practices to ensure that they align with contemporary best practice industry standards; (e) recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, strategy, plan or program required under the abovementioned approvals; and (f) be conducted and reported to the satisfaction of the Secretary. Note: This audit team must be led by a suitably qualified auditor and include experts in any fields specified by the Secretary.	**7.2**

Appendix B – Regulatory Correspondence

Table B1
Key Singleton Shire Council Comments and Where Addressed (Previous SSD 6300 Consultation)

Issue	Where Addressed
In general, the Rehabilitation Strategy lacks clarity on the relationship between this Strategy and other plans/strategies/outcomes required as conditions of approval. Specifically, further clarity is required on: - The relationship between the Rehabilitation Management Plan and the overarching Rehabilitation Strategy; - The relationship between the Rehabilitation Strategy required under SSD 6300 and those approved under DA08_0102; and - There is a general lack of clarity around the established (or existing approved) final land use, the rehabilitation outcomes (ecological and agricultural) and the yet to be determined post closure land use(s).	3.4
The Rehabilitation Strategy does not provide detail on how these relationships will be achieved. The Strategy lacks discussion on the existing surrounding land uses, or the future proposed land uses of surrounding operations and surrounding landowners, and how the final landform proposed in the Strategy will accommodate and/or synergise with those uses, including co-existence of uses. Specifically, the Strategy does not review the requirements set out in Singleton Council's adopted Local Strategic Planning Statement and the Hunter Regional Plan. This review would go some way towards a discussion on how the land uses for the site (including the final void) align with regional and local strategic land use planning objectives and outcomes and support a sustainable future for the local community. This is a requirement of condition B72.	2.2 and 2.4
The Strategy does not include a program to review and refine the final landform and final void outcomes to meet the relevant Rehabilitation Objectives in Table 6, in consultation with the Resources Regulator and the Council every three years.	7.1.2
Section 3 includes a description of the Stakeholder Engagement Strategy for mine rehabilitation and closure. A list of engagement activities that includes inform, consult, involve, collaborate, empower and recognition are included in this section. However, the section does not include details of what aspects of rehabilitation and mine closure would be addressed under each engagement strategy. This section includes broad principles of engagement, with no detail on what engagement will occur, when it will occur and with whom. It is also unclear the circumstances that would lead to engagement taking place, and whether engagement activities would change as a result of review/changes to mine planning/results of management action.	3.5
Section 4.2 summarises the mine closure risk assessment. It is not clear whether this risk assessment incorporates rehabilitation activities (both during and post mining), unplanned closure and care and maintenance risks. It is not clear whether the risk assessment has been (or will be) reviewed following feedback from the engagement activities listed in section 3. It is also not clear how the risks identified in the assessment will be managed and whether they reflect concerns raised through consultation and engagement.	**Error! Reference source not found.**

Issue	Where Addressed
Condition 72(o) requires the Strategy to investigate ways to minimise adverse socio-economic effects. Section 4.5 provides limited information on the social and economic impacts and opportunities relevant to the Rehabilitation Strategy and mine closure and does not include ways to minimise socio-economic effects of closure.	**Error! Reference source not found.**
Section 5.2 identifies Heritage Areas as a specific domain for the purposes of rehabilitation and mine closure. This section replicates condition B59 of SSD 6300 and provides little detail as to how heritage will be managed during rehabilitation and mine closure activities. There are no details regarding the post mining outcomes for heritage located on site.	5.2
Section 5.7.2 discusses the agricultural effects of the mining operation and the post mining land use of grazing. Reference is made to land capability assessments relevant to the mining environment. It is not clear how the proposed land capabilities for the post mining landform will be achieved, the criteria that would be used to determine success and what adaptive management measures would be taken should monitoring identify objectives are not being met. Reference is also made to *proven current land management practices*, it is not clear what these practices are or the criteria that has been used to determine success.	5.7.2
Section 5.7.4 discusses the key elements of the final landform. This section does not include how these elements will be achieved, the measures of success and the adaptive management actions that would be taken should monitoring demonstrate a trajectory away from success.	5.7.4
Section 5.8 includes planning considerations that have been incorporated into the design of the final void. These include a void with low safety risk, minimal out of pit dumping and creating a void that is not visible. It is not clear how these factors will be met. The post-mining standing water level is not provided, making it difficult to determine whether the planning considerations are achievable. Reference is made to a *final design alternative*; it is not clear what this means. The company is committed to undertaking additional investigation into final void rehabilitation options. It is not clear how the outcomes of these investigations will be incorporated into the Rehabilitation Strategy and communicated as per the engagement strategy. There is no timeline provided in the Strategy for the completion of these investigations.	5.8
Section 5.8 includes the statement *the design contained in the Rehabilitation Strategy does not account for additional material to remediate the final pit void that may be sourced from areas outside the present planning operations of the Mine*. Further clarification regarding the intent of this statement should be included in the Strategy.	5.8
Section 5.9 provides information on the potential future uses of unmined land, or buffer land. Further clarification regarding the integration of buffer land with post mining land uses, surrounding land uses and future potential land uses should be included in the Strategy.	5.9 and 2.3

Issue	Where Addressed
Section 6 lists initial post mining land uses including agriculture, open space, native vegetation, recreation, residential, industrial, aquaculture and commercial. Very little detail is provided on the permissibility, suitability, sustainability or viability of these options, including where on the mine or buffer land these land uses could occur. It is also not clear how these options align to regional and local strategic land use planning outcomes.	6
Section 6 includes reference to the conceptual phases of sustainable ecosystem development. An important element missing from these phases is the final land use. Without a defined final land use that marries to the landform, Phase 2 will not succeed. The Strategy should include the landform establishment elements required to meet the post mining land use options identified, and if the landform cannot meet these options, what other alternatives are there that provide a sustainable future for the local community that minimise adverse socio-economic effects associated with rehabilitation and mine closure.	6
Table 8 includes the current rehabilitation progress for each rehabilitation domain, suggesting that a number of domains are at rehabilitation completion stage. This appears to contradict the Strategy in section 5. Where domains are in final rehabilitation phases, a final land use option should be defined, mapped and assessed for sustainability. The Strategy does not include this level of analysis.	6
Section 7 includes the performance criteria, measures and indicators for rehabilitation and mine closure. This section should include the adaptive management responses that would be implemented in the event these measures and criteria are not met. The section also identifies that rehabilitation aims and objectives are set with agreement from various stakeholders. These stakeholders are not defined. The rehabilitation aims and objectives are also, in Figure 9, based on proposed post-mining land use and regulatory requirements. This is not the case as the aims and objectives are based on the Phases of Rehabilitation described in section 6 and Figure 5. Council agrees that the aims and objectives should be based on a defined post mining land use.	**Error! Reference source not found.**
Figure 9 includes a reference to rehabilitation maintenance and continual improvement loop until sign off is achievable. The Strategy should include how this continual improvement loop will occur and the triggers for its implementation. Further details regarding how sign off would be achieved from stakeholders other than the regulatory should also be included in the Strategy.	6
Table 9 provides a comprehensive analysis of the objectives, indicators, measures and criteria. However, the relationship between objective, indicator, measure and criteria is not clear. For example, under Phase 2, the objective is for rehabilitated land to be compatible with the surrounding natural landscape. There are no performance indicators, measures or criteria to determine how this objective will be met. In addition, Phase 2 references a stable drainage network, however, does not include any water quality criteria. It's not clear whether Table 9 includes the final void, and Table 9 does not include any water quality objectives, indicators, measures or criteria.	6

Issue	Where Addressed
Section 8.4 should include an adaptive management strategy and response, including how stakeholders will be consulted on outcomes and changes to the Strategy as a result of an annual review, incident report, audit report or consent modification.	7.2
Section 8.5 includes consideration of premature closure or care and maintenance. The Strategy states that it is impractical to have a detailed plan for premature closure or care and maintenance. Planning for closure should take place at all stages of mine life, including operations and further detail should be included in the Strategy to determine how closure planning will occur under these scenarios. The Strategy should include a *description of how the rehabilitation will be integrated with the mine planning process, including a plan to address premature mine closure* [condition 72(g)]. At a minimum the need to review any rehabilitation and closure plan should take place annually to ensure adequate resources are available to support minimal impacts to the environment and community, in the event these scenarios occur.	7.3
Additionally, further clarification is required on the adaptive management strategies that will be implemented if, during operations and/or review of the Strategy, the Rehabilitation Objectives in Table 6 of the approval are not being met.	

Table B2
Key Resources Regulator Comments and Where Addressed (Previous SSD 6300 Consultation)

Issue	Where Addressed
• Noting that the intent of the Rehabilitation Strategy is to set the strategic direction and outcomes for rehabilitation of the mine, it is the Regulator's view that Section 6.0 (Phases in the Rehabilitation Strategy) and Section 8.0 (Rehabilitation Monitoring & Reporting) are too prescriptive and duplicative of the requirements for the content of a Mining Operations Plan (MOP) required under the conditions of the mining lease. Approval of the Rehabilitation Strategy may cause unnecessary regulatory burden where subsequent modifications to both the Rehabilitation Strategy and MOP may be required to accommodate for changes to rehabilitation procedures or the adoption of new and innovative practices. As such, it is the Regulator's preference that this detail is captured as per requirements under the *Mining Act 1992* (e.g. currently the MOP process).	0
• In relation to Section 7.0 of the Rehabilitation Strategy (Performance Criteria, Measures and Indicators), the Regulator will require further refinement of the completion criteria under the requirements of the *Mining Act 1992* (currently the MOP process) to ensure that they are more specific and measurable. However, the completion criteria as developed through the MOP process will need to reflect and not be inconsistent with the rehabilitation objectives and the conceptual approved final landform (Figure 3) as outlined in the Rehabilitation Strategy document.	**Error! Reference source not found.**
• In relation to Figures 6 to 8, which provide an indicative 5 yearly progressive rehabilitation schedule from 2025 to 2035, the Regulator's expectation will be that	6

Issue	Where Addressed
rehabilitation is undertaken as soon as reasonably practical after the disturbance occurs.	

Table B3
Key Resources Regulator Comments and Where Addressed (PA 08_0102 (MOD 10) Consultation)

Issue	Where Addressed
• To avoid duplication with the Rehabilitation Management Plan under schedule 8A, it is the Regulator's preference that sections 4, 6, 7 and 8 should be simplified and Table 9 be removed, referring to the Rehabilitation Management Plan for detail. Noting that the Rehabilitation Strategy is approved by the Planning Secretary, the Regulator wants to ensure flexibility in monitoring methodologies is maintained to allow full alignment with the rehabilitation completion criteria statement that will need to be approved under Schedule 8A of the Mining Regulation.	Previous section 4,removed. Sections 6,7 & 8 simplified and references the RMP specifically. Table 9 removed.
• There are several outdated references throughout the document to Mining Operations Plan (MOP), agency names and guidelines. Update these references to align with the current regulatory framework for mine rehabilitation and closure.	Updated throughout document. Additional references added to section 10.

Planning, Industry & Environment

Mr Chris Knight
Environment Manager
The Bloomfield Group
PO Box 4
East Maitland NSW 2323

17/02/2020

Dear Mr Knight

Rix's Creek South Continuation Project (SSD 6300)
Endorsement of Experts – Rehabilitation Strategy

I refer to your request for the Secretary's endorsement of suitably qualified persons to prepare a Rehabilitation Strategy for the Rix's Creek South Continuation Project (SSD 6300).

The Department has reviewed the nominations and information you have provided and is satisfied that this expert is suitably qualified and experienced. Consequently, I can advise that the Secretary endorses the appointment of Mr Clayton Richards of MineSoils to prepare the Rehabilitation Strategy, assisted by Ms Dianne Munro of Hansen Bailey.

If you wish to discuss the matter further, please contact Melanie Hollis on 8217 2043.

Yours sincerely

Matthew Sprott
A/Director
Resource Assessments (Coal & Quarries)

As nominee of the Planning Secretary

Department of Planning, Housing & Infrastructure

Our ref: MP08_0102-PA-27

Chris Knight
Group Manager Environment
Four Mile Creek Road
Asthonfield, NSW, 2323

18/06/2025

Subject: Rix's Creek North Open Cut – SQE Rehabilitation Strategy Endorsement

Dear Mr. Knight

I refer to your request dated 10 June 2025 seeking the Planning Secretary's endorsement of Chris Knight as a suitably qualified and experienced person to prepare the Rehabilitation Strategy in accordance with Schedule 3, Condition 51A of the Project Approval for Rix's Creek North Open Cut (MP08_0102).

The Department has reviewed the nomination and information you have provided and is satisfied that Chris Knight is suitably qualified and experienced. Accordingly, I can advise that the Planning Secretary endorses the appointment of Chris Knight to prepare the Rehabilitation Strategy for Rix's Creek North Open Cut.

If you wish to discuss the matter further, please Wayne Jones on (02) 6575 3406.

Yours sincerely

Stephen O'Donoghue
Director
Resource Assessments

As nominee of the Planning Secretary

NSW GOVERNMENT

Resources Regulator

FORM:EAMS generic v1.3

Our ref: MAAG0007433
LETT0004785

BLOOMFIELD COLLIERIES PTY LTD
P.O. BOX 4
EAST MAITLAND NSW 2323
Attn: Chris Knight

Dear Chris Knight

RE: Rix's Creek South Rehabilitation Strategy

In accordance with Condition B72 of SSD-6300-PA-18 (Rix's Creek Coal Mine Extension), the Bloomfield Group has submitted the Rehabilitation Strategy for consultation with the Resources Regulator (Regulator). Based on its review of the Rehabilitation Strategy, the Regulator provides the advice as outlined below.

- Noting that the intent of the Rehabilitation Strategy is to set the strategic direction and outcomes for rehabilitation of the mine, it is the Regulator's view that Section 6.0 (Phases in the Rehabilitation Strategy) and Section 8.0 (Rehabilitation Monitoring & Reporting) are too prescriptive and duplicative of the requirements for the content of a Mining Operations Plan (MOP) required under the conditions of the mining lease. Approval of the Rehabilitation Strategy may cause unnecessary regulatory burden where subsequent modifications to both the Rehabilitation Strategy and MOP may be required to accommodate for changes to rehabilitation procedures or the adoption of new and innovative practices. As such, it is the Regulator's preference that this detail is captured as per requirements under the *Mining Act 1992* (e.g. currently the MOP process).
- In relation to Section 7.0 of the Rehabilitation Strategy (Performance Criteria, Measures and Indicators), the Regulator will require further refinement of the completion criteria under the requirements of the *Mining Act 1992* (currently the MOP process) to ensure that they are more specific and measurable. However, the completion criteria as developed through the MOP process will need to reflect and not be inconsistent with the rehabilitation objectives and the conceptual approved final landform (Figure 3) as outlined in the Rehabilitation Strategy document.
- In relation to Figures 6 to 8, which provide an indicative 5 yearly progressive rehabilitation schedule from 2025 to 2035, the Regulator's expectation will be that rehabilitation is undertaken as soon as reasonably practical after after the disturbance occurs.

In addition to the above, it should be noted that under the conditions of the mining authority granted under the *Mining Act 1992*, the Regulator requires an authority holder to adopt a risk-based approach to achieving the required rehabilitation outcomes. The applicability of the controls to achieve effective and sustainable rehabilitation is to be determined based on site specific risk assessments conducted by the authority holder. An authority holder may also be directed by the Regulator to implement further risk control measures that may be required to achieve effective rehabilitation outcomes.

If you require additional information, please contact the Resources Regulator on 1300 814 609 (Option 2, then 5), or via email at nswresourcesregulator@service-now.com.

Yours sincerely,

Resources Regulator
516 High Street MAITLAND NSW 2320 Australia | PO Box 344 HRMC NSW 2310 Australia
Tel: 1300 814 609

2

Matthew Newton
Principal Inspector Environment & Rehab
Mining Act Inspectorate
Resources Regulator

7 August 2020

SINGLETON COUNCIL

13 August 2020

Chris Knight
Environment Manager
The Bloomfield Group
P O Box 4
EAST MAITLAND NSW 2323

Dear Chris

RE: Request for comment: Rehabilitation Strategy

I refer to your request via the Major Projects Planning Portal to Singleton Council requesting comment from Council on the Rehabilitation Strategy for the Rix's Creek South Mine. This letter forms Council's comments in relation to that request.

The Rehabilitation Strategy (**Strategy**) prepared by Rix's Creek details the proposed rehabilitation strategy that would be applied to meet compliance with the requirements of SSD6300, and specifically conditions B69, B70, B71, B72 and B73.

Condition B72 specifically requires the preparation of a Rehabilitation Strategy that includes, amongst other things:

- A description of the overall rehabilitation outcomes for the site, addressing all aspects of rehabilitation including mine closure, final landform (including final voids), post-mining land use/s and water management;
- A description of how the rehabilitation will be integrated with the mine planning process, including a plan to address premature mine closure
- An investigation of opportunities to refine and improve the final landform and final void outcomes over time;
- A risks and opportunities assessment and risk register that includes risks associated with unplanned closure or care and maintenance;
- Including a post mining land use strategy to investigate and facilitate beneficial land uses for the site (including the final void) that:
    - Align with regional and local strategic land use planning objectives and outcomes;
    - Support a sustainable future for the local community;
    - Utilise existing mining infrastructure, where practicable; and
    - Avoids disturbance of self-sustaining native ecosystems, where practicable
- Includes a stakeholder engagement plan to guide rehabilitation and mine closure planning processes and outcomes;
- Investigates ways to minimise adverse socio-economic effects associated with rehabilitation and mine closure; and
- Includes a program to review and refine the final landform and final void outcomes to meet the relevant Rehabilitation Objectives in Table 6, in consultation with the Resources Regulator and the Council every three years.

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Table 6 of the approved development includes a list of Rehabilitation Objectives, which must be met at mine closure. These include objectives related to rehabilitation areas used as native ecosystem re-establishment, agricultural land, final landform, final voids, highwall access to underground coal resources, surface infrastructure, water quality and community.

General Comments

In general, the Rehabilitation Strategy lacks clarity on the relationship between this Strategy and other plans/strategies/outcomes required as conditions of approval. Specifically, further clarity is required on:

- The relationship between the Rehabilitation Management Plan and the overarching Rehabilitation Strategy;
- The relationship between the Rehabilitation Strategy required under SSD 6300 and those approved under DA08_0102; and
- There is a general lack of clarity around the established (or existing approved) final land use, the rehabilitation outcomes (ecological and agricultural) and the yet to be determined post closure land use(s).

The Rehabilitation Strategy does not provide detail on how these relationships will be achieved. The Strategy lacks discussion on the existing surrounding land uses, or the future proposed land uses of surrounding operations and surrounding landowners, and how the final landform proposed in the Strategy will accommodate and/or synergise with those uses, including co-existence of uses. Specifically, the Strategy does not review the requirements set out in Singleton Council's adopted Local Strategic Planning Statement and the Hunter Regional Plan. This review would go some way towards a discussion on how the land uses for the site (including the final void) align with regional and local strategic land use planning objectives and outcomes and support a sustainable future for the local community. This is a requirement of condition B72.

The Strategy does not include a program to review and refine the final landform and final void outcomes to meet the relevant Rehabilitation Objectives in Table 6, in consultation with the Resources Regulator and the Council every three years.

Specific Comments

Section 3 includes a description of the Stakeholder Engagement Strategy for mine rehabilitation and closure. A list of engagement activities that includes inform, consult, involve, collaborate, empower and recognition are included in this section. However, the section does not include details of what aspects of rehabilitation and mine closure would be addressed under each engagement strategy. This section includes broad principles of engagement, with no detail on what engagement will occur, when it will occur and with whom. It is also unclear the circumstances that would lead to engagement taking place, and whether engagement activities would change as a result of review/changes to mine planning/results of management action.

Section 4.2 summarises the mine closure risk assessment. It is not clear whether this risk assessment incorporates rehabilitation activities (both during and post mining), unplanned closure and care and maintenance risks. It is not clear whether the risk assessment has been (or will be) reviewed following feedback from the engagement activities listed in section 3. It is also not clear how the risks identified in the assessment will be managed and whether they reflect concerns raised through consultation and engagement.

Condition 72(o) requires the Strategy to investigate ways to minimise adverse socio-economic effects. Section 4.5 provides limited information on the social and economic impacts and opportunities relevant to the Rehabilitation Strategy and mine closure and does not include ways to minimise socio-economic effects of closure.

Section 5.2 identifies Heritage Areas as a specific domain for the purposes of rehabilitation and mine closure. This section replicates condition B59 of SSD 6300 and provides little detail as to how heritage will be managed during rehabilitation and mine closure activities. There are no details regarding the post mining outcomes for heritage located on site.

Section 5.7.2 discusses the agricultural effects of the mining operation and the post mining land use of grazing. Reference is made to land capability assessments relevant to the mining environment. It is not clear how the proposed land capabilities for the post mining landform will be achieved, the criteria that would be used to determine success and what adaptive management measures would be taken should monitoring identify objectives are not being met. Reference is also made to *proven current land management practices*, it is not clear what these practices are or the criteria that has been used to determine success.

Section 5.7.4 discusses the key elements of the final landform. This section does not include how these elements will be achieved, the measures of success and the adaptive management actions that would be taken should monitoring demonstrate a trajectory away from success.

Section 5.8 includes planning considerations that have been incorporated into the design of the final void. These include a void with low safety risk, minimal out of pit dumping and creating a void that is not visible. It is not clear how these factors will be met. The post-mining standing water level is not provided, making it difficult to determine whether the planning considerations are achievable. Reference is made to a *final design alternative*; it is not clear what this means. The company is committed to undertaking additional investigation into final void rehabilitation options. It is not clear how the outcomes of these investigations will be incorporated into the Rehabilitation Strategy and communicated as per the engagement strategy. There is no timeline provided in the Strategy for the completion of these investigations.

Section 5.8 includes the statement *the design contained in the Rehabilitation Strategy does not account for additional material to remediate the final pit void that may be sourced from areas outside the present planning operations of the Mine*. Further clarification regarding the intent of this statement should be included in the Strategy.

Section 5.9 provides information on the potential future uses of unmined land, or buffer land. Further clarification regarding the integration of buffer land with post mining land uses, surrounding land uses and future potential land uses should be included in the Strategy.

Section 6 lists initial post mining land uses including agriculture, open space, native vegetation, recreation, residential, industrial, aquaculture and commercial. Very little detail is provided on the permissibility, suitability, sustainability or viability of these options, including where on the mine or buffer land these land uses could occur. It is also not clear how these options align to regional and local strategic land use planning outcomes.

Section 6 includes reference to the conceptual phases of sustainable ecosystem development. An important element missing from these phases is the final land use. Without a defined final land use that marries to the landform, Phase 2 will not succeed. The Strategy should include the landform establishment elements required to meet the post mining land use options identified, and if the landform cannot meet these options, what other alternatives are there that provide a sustainable future for the local community that minimise adverse socio-economic effects associated with rehabilitation and mine closure.

Table 8 includes the current rehabilitation progress for each rehabilitation domain, suggesting that a number of domains are at rehabilitation completion stage. This appears to contradict the Strategy in section 5. Where domains are in final rehabilitation phases, a final land use option should be defined, mapped and assessed for sustainability. The Strategy does not include this level of analysis.

Section 7 includes the performance criteria, measures and indicators for rehabilitation and mine closure. This section should include the adaptive management responses that would be implemented in the event these measures and criteria are not met. The section also identifies that rehabilitation aims and objectives are set with agreement from various stakeholders. These stakeholders are not defined. The rehabilitation aims and objectives are also, in Figure 9, based on proposed post-mining land use and regulatory requirements. This is not the case as the aims and objectives are based on the Phases of Rehabilitation described in section 6 and Figure 5. Council agrees that the aims and objectives should be based on a defined post mining land use.

Figure 9 includes a reference to rehabilitation maintenance and continual improvement loop until sign off is achievable. The Strategy should include how this continual improvement loop will occur and the triggers for its implementation. Further details regarding how sign off would be achieved from stakeholders other than the regulatory should also be included in the Strategy.

Table 9 provides a comprehensive analysis of the objectives, indicators, measures and criteria. However, the relationship between objective, indicator, measure and criteria is not clear. For example, under Phase 2, the objective is for rehabilitated land to be compatible with the surrounding natural landscape. There are no performance indicators, measures or criteria to determine how this objective will be met. In addition, Phase 2 references a stable drainage network, however, does not include any water

quality criteria. It's not clear whether Table 9 includes the final void, and Table 9 does not include any water quality objectives, indicators, measures or criteria.

Section 8.4 should include an adaptive management strategy and response, including how stakeholders will be consulted on outcomes and changes to the Strategy as a result of an annual review, incident report, audit report or consent modification.

Section 8.5 includes consideration of premature closure or care and maintenance. The Strategy states that it is impractical to have a detailed plan for premature closure or care and maintenance. Planning for closure should take place at all stages of mine life, including operations and further detail should be included in the Strategy to determine how closure planning will occur under these scenarios. The Strategy should include a *description of how the rehabilitation will be integrated with the mine planning process, including a plan to address premature mine closure* [condition 72(g)]. At a minimum the need to review any rehabilitation and closure plan should take place annually to ensure adequate resources are available to support minimal impacts to the environment and community, in the event these scenarios occur.

Additionally, further clarification is required on the adaptive management strategies that will be implemented if, during operations and/or review of the Strategy, the Rehabilitation Objectives in Table 6 of the approval are not being met.

Closing Comments

Overall, whilst the Strategy aligns with satisfying the conditions of approval, and provides a foundation for the rehabilitation of the project post-closure, the lack of clarity around the post-closure land uses, adaptive management and relationship between various documents, makes it difficult to establish whether the criteria set out in Table 6 of the approval can be met.

I would like to thank the Project for the opportunity to provide comment on the Rehabilitation Strategy. Should you have any questions or comments, please contact Mary-Anne Crawford, Manager Development and Environmental Services on 02 6578 7290.

Yours faithfully



Mary-Anne Crawford
Manager Development and Environmental Services

NSW Resources
Resources Regulator

Tuesday, 27 January 2026

Christopher Knight
Rix Creek

Via: Major Projects Portal

Dear Christopher,

I refer to the Rixs Creek North Open Cut - Rehabilitation Strategy submitted to the Resources Regulator on 15 of January 2026 (MP08-0102PA35). Based on the review, the Regulator has the following comments that will need to be addressed in finalising the document:

- To avoid duplication with the Rehabilitation Management Plan under schedule 8A, it is the Regulator's preference that sections 4, 6, 7 and 8 should be simplified and Table 9 be removed, referring to the Rehabilitation Management Plan for detail. Noting that the Rehabilitation Strategy is approved by the Planning Secretary, the Regulator wants to ensure flexibility in monitoring methodologies is maintained to allow full alignment with the rehabilitation completion criteria statement that will need to be approved under Schedule 8A of the Mining Regulation.
- There are several outdated references throughout the document to Mining Operations Plan (MOP), agency names and guidelines. Update these references to align with the current regulatory framework for mine rehabilitation and closure.

LIMITATIONS
It should be noted that the Resources Regulator does not provide any endorsement of the proposed rehabilitation methodologies presented in the plans provided. Under the conditions of a mining authorisation granted under the *Mining Act 1992*, the Resources Regulator requires the holder to adopt a risk-based approach to achieving the required rehabilitation outcomes.

Ref. *MAAG0018351*
516 High Street
Maitland NSW 2320

D26/8875

resourcesregulator.nsw.gov.au

The applicability of the controls to achieve effective and sustainable rehabilitation is to be determined based on site-specific risk assessments conducted by the authorisation holder. An authorisation holder may also be directed by the Resources Regulator to implement further risk control measures required to achieve effective rehabilitation outcomes during the life of the mine.

REGULATORY REQUIREMENTS IF APPROVED

The proponent will be required to comply with rehabilitation requirements under the mining authorisations prior to the commencement of the works associated with the proposal.

BACKGROUND

The Mining Act Inspectorate within the Resources Regulator undertake risk-based compliance and enforcement activities in relation to obligations under the *Mining Act 1992*. This includes undertaking assessment and compliance activities in relation to mine rehabilitation activities and determination of security deposits.

CONTACT

Should you require any further information or clarification, please contact the Regulator on 1300 814 609 (Press Option 2 Press Option 5) or email nswresourcesregulator@service-now.com.

Yours sincerely,



Matthew Newton

Principal Inspector Environment and Rehabilitation Operations

Resources Regulator

Planning, Industry & Environment

Christopher Knight
Environment Manager
Four Mile Creek Road
Ashtonfield NSW 2323

16/11/2020

Dear Christopher

Rix's Creek (SSD-6300-PA-18)
Rehabilitation Strategy- Request for Additional Information

I refer to the Rehabilitation Strategy submitted to the Department as required under the conditions of Conditions of Consent for the Rix's Creek. After careful consideration, the Department is requesting that you provide additional information.

You are requested to submit the following additional information as per the table of comments attached.

You are requested to provide the information, or notification that the information will not be provided, to the Department by Friday 04 December 2020. If you are unable to provide the requested information within this timeframe, you are required to provide, and commit to, a timeframe detailing the provision of this information.

If you have any questions, please contact Charissa Pillay, who can be contacted on / at Charissa.Pillay@planning.nsw.gov.au.

Yours sincerely

Matthew Sprott
Director
Resource Assessments (Coal & Quarries)

Rix's Creek SSD-6300-PA-18
Post Approval Review

Planning, Industry & Environment

Document: Rehabilitation Strategy
Revision: Version 1.1 June 2020
Reviewed: Charissa Pillay on "October 2020"

Rehabilitation Strategy, Condition B72, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
B72(d). *building on the Rehabilitation Objectives in Table 6 ..and water management*	No	Section 5 on Water Management does not include information how water discharge will be managed, or criteria used.	Address the Rehabilitation Objective Table 6 "Water Quality"	Updated Section 5.4
B72(d) Rehabilitation Objective in Table 6	No	The Strategy is to be prepared building on the Rehabilitation Objectives in Table 6.	Describe the overall rehabilitation outcomes for the site and address all aspects of rehabilitation. Section 5 to be updated showing how each of these objectives are achieved	5
B72 (O)	`Partial	The socio-economic impacts and opportunities associated with rehabilitation and mine closure are to be investigated and minimised	Revise the Strategy to include a summary on socio-economic impacts and opportunities associated with rehabilitation and mine closure in section 4.5	3.5
B72 (the document)	Partial	Figure 9, section 3, throughout the document does not address the condition.	Include a summary of the stakeholder engagement strategy in the plan and reference the SIMP	3.5
B72 (e) Align with strategic rehabilitation and mine closure objectives and address the principles	No	Table 2 and Table 3 refers to section 4.5 and section 5.8. These sections are not aligned with strategic rehabilitation and mine closure objectives or address the principles of *Strategic Framework for Mine closure (ANZMEC and MCA, 2000)*	include an effective stakeholder consultation and targeted communication strategy	3.5
B72(f) section 6.4	Partial	Section 6.4 refers to the Biodiversity Management Plan but does not address the condition.	Include a description how rehabilitation will be integrated with the measures in the Biodiversity Management Plan in Section 6.4	6.4

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B72(g)	Partial	Section 8.5 discusses more on care and maintenance not a premature closure plan	Update the plan to include a structured premature mine closure plan not a care and maintenance plan	8.5
B72(h) identify and describe all rehabilitation domains and **define completion criteria for each**	Partial	Section 5.2 is the condition (h) reproduced. Section 5.5 has only been identified and described.	Update section 5 to include completion criteria for all domains a summarise how historic heritage values (e.g Coke Ovens) at RCS would be managed and reference in other plans.	5.2
B72(i)	Partial	Table 8: Heritage Domain indicates that a mine plan and schedule rehabilitation is not applicable. .	Revise plan to include heritage rehabilitation (or preservation) will be included into the mine plan Update the plan to demonstrate indicative timeframes for when rehabilitation will begin	5.2
B72(m)	Partial	Section 5 discusses the domains but no discussion on the local community impacts.	Include details how rehabilitation and mine closure will support a sustainable future for the local community at each domain	5.1 - 5.9
B72(n) include **a stakeholder engagement plan** to guide rehabilitation and mine closure planning processes and outcomes	Partial	Section 3 provides info on a strategy and not a plan to be implemented.	Revise the Strategy to include a plan Include a plan of the stakeholder engagement strategy that will be acceptable (community) and achievable.	3.5
B72(0)	Partial	Section 4.5 discusses that the socio-economic impact will be considered during the process.	Include investigative ways to identify and minimise socio-economic effects associated with	3.5 and 4.5

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			rehabilitation and mine closure in Section 4.5.	
B72(p)	Partial	Section 8.3.3 states a commitment to review and consult with the Resource Regulator and Council every three years	Include a program how the commitment will be implemented, and objectives met.	8.3.3
General Comment			**Action Required**	**Company Response**
Other Agency Comments			**Action Required**	**Company Response**
IPC				
R8: Partially addressed in section 3.1 and section 6.7			closed	
R11 (d) *consider sudden unplanned closure and temporary closure (care and maintenance)*			closed	
R11 (e) *include a detailed commitment register*			closed	
R11(F) *Identify and consult with stakeholders to explore closure risks and opportunities further*			closed	
Singleton Council				
Section 3: *includes a description of the Stakeholder Engagement Strategy for mine rehabilitation and closure. A list of engagement activities that includes inform, consult, involve, collaborate, empower and recognition are included in this section. However, the section does not include details of what aspects of rehabilitation and mine closure would be addressed under each engagement strategy. This section includes broad principles of engagement, with no detail on what engagement will occur, when it will occur and with whom. It is also unclear the circumstances that would lead to engagement taking place, and whether engagement activities would change as a result of review/changes to mine planning/results of management action.*			Update the strategy to include specific details of engagement and management action	closed
Section 4.2: *summarises the mine closure risk assessment. It is not clear whether this risk assessment incorporates rehabilitation activities (both during and post mining), unplanned closure and care and maintenance risks. It is not clear whether the risk assessment has been (or will be) reviewed following feedback from the engagement activities listed in section 3. It is also not clear how the risks identified in the*			Revise risk assessment accordingly	closed

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assessment will be managed and whether they reflect concerns raised through consultation and engagement.		
Condition 72(o) requires the Strategy to investigate ways to minimise adverse socio-economic effects. Section 4.5 provides limited information on the social and economic impacts and opportunities relevant to the Rehabilitation Strategy and mine closure and does not include ways to minimise socio-economic effects of closure.	Update the plan to address the socio-economic effects and opportunities relevant to rehabilitation and mine closure	closed
Section 5.2 identifies Heritage Areas as a specific domain for the purposes of rehabilitation and mine closure. This section replicates condition B59 of SSD 6300 and provides little detail as to how heritage will be managed during rehabilitation and mine closure activities. There are no details regarding the post mining outcomes for heritage located on site.	Revise plan to detail how heritage will be managed during rehabilitation and mine closure activities.	closed
Section 5.7.4 discusses the key elements of the final landform. This section does not include how these elements will be achieved, the measures of success and the adaptive management actions that would be taken should monitoring demonstrate a trajectory away from success.	Include a summary of the MOP	5.7.4
Section 5.8 includes planning considerations that have been incorporated into the design of the final void. These include a void with low safety risk, minimal out of pit dumping and creating a void that is not visible. It is not clear how these factors will be met. The post-mining standing water level is not provided, making it difficult to determine whether the planning considerations are achievable. Reference is made to a final design alternative; it is not clear what this means. The company is committed to undertaking additional investigation into final void rehabilitation options. It is not clear how the outcomes of these investigations will be incorporated into the Rehabilitation Strategy and communicated as per the engagement strategy. There is no timeline provided in the Strategy for the completion of these investigations	Include a summary of the water level described in the WMP and reference	5.8
Section 5.8 includes the statement the design contained in the Rehabilitation Strategy does not account for additional material to remediate the final pit void that may be sourced from areas outside the present planning operations of the Mine. Further clarification regarding the intent of this statement should be included in the Strategy.	closed	
Section 5.9 provides information on the potential future uses of unmined land, or buffer land. Further clarification regarding the integration of buffer land with post mining land uses, surrounding land uses and future potential land uses should be included in the Strategy. Section 5.9 provides information on the potential future uses of unmined land, or buffer land. Further clarification regarding the integration of buffer	Revise strategy to include the integration of buffer land with post miming land uses and future potential land uses	5.9

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land with post mining land uses, surrounding land uses and future potential land uses should be included in the Strategy.		
Section 6 lists initial post mining land uses including agriculture, open space, native vegetation, recreation, residential, industrial, aquaculture and commercial. Very little detail is provided on the permissibility, suitability, sustainability or viability of these options, including where on the mine or buffer land these land uses could occur. It is also not clear how these options align to regional and local strategic land use planning outcomes.	closed	
Section 6 includes reference to the conceptual phases of sustainable ecosystem development. An important element missing from these phases is the final land use. Without a defined final land use that marries to the landform, Phase 2 will not succeed. The Strategy should include the landform establishment elements required to meet the post mining land use options identified, and if the landform cannot meet these options, what other alternatives are there that provide a sustainable future for the local community that minimise adverse socio-economic effects associated with rehabilitation and mine closure	What alternatives will be investigated to *provide a sustainable future for the local community that minimise adverse socio-economic effects associated with rehabilitation and mine closure*	6.6
Table 8 includes the current rehabilitation progress for each rehabilitation domain, suggesting that a number of domains are at rehabilitation completion stage. This appears to contradict the Strategy in section 5. Where domains are in final rehabilitation phases, a final land use option should be defined, mapped and assessed for sustainability. The Strategy does not include this level of analysis	Closed	
Section 7 includes the performance criteria, measures and indicators for rehabilitation and mine closure. This section should include the adaptive management responses that would be implemented in the event these measures and criteria are not met. The section also identifies that rehabilitation aims and objectives are set with agreement from various stakeholders. These stakeholders are not defined. The rehabilitation aims and objectives are also, in Figure 9, based on proposed post-mining land use and regulatory requirements. This is not the case as the aims and objectives are based on the Phases of Rehabilitation described in section 6 and Figure 5. Council agrees that the aims and objectives should be based on a defined post mining land use.	Closed	
Section 8.5 includes consideration of premature closure or care and maintenance. The Strategy states that it is impractical to have a detailed plan for premature closure or care and maintenance. Planning for closure should take place at all stages of mine life, including operations and further detail should be included in the Strategy to determine how closure planning will occur under these scenarios. The Strategy should include a description of how the rehabilitation will be integrated with the mine planning process, including a plan to	Include a description a premature closure plan that includes assessment of impacts and measures to address impacts on the local community	8.5

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address premature mine closure [condition 72(g)]. At a minimum the need to review any rehabilitation and closure plan should take place annually to ensure adequate resources are available to support minimal impacts to the environment and community, in the event these scenarios occur.		

Planning, Industry & Environment

Mr Christopher Knight
Environment Manager
Four Mile Creek Road
Ashtonfield, NSW, 2323

29/01/2021

Dear Mr Knight

Rix's Creek Coal Extension (SSD- 6300-PA-18)
Rehabilitation Strategy

I refer to the Rehabilitation Strategy which was submitted in accordance with Condition B72 of Schedule 2 of the Condition of Consent for the Rix's Creek Coal Extension (SSD- 6300-PA-18).

The Department has carefully reviewed the document and is satisfied that it generally meets the condition.

Accordingly, the Planning Secretary has approved the Rehabilitation Strategy (Revision 2.2 January 2021). Please ensure that the approved plan is placed on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Charissa Pillay on 02 99955944.

Yours sincerely

Matthew Sprott
Director
Resource Assessments (Coal & Quarries)
As nominee of the Planning Secretary

Department of Planning, Housing & Infrastructure

Our ref: MP08_0102-PA-27

Chris Knight
Group Manager Environment
Four Mile Creek Road
Asthonfield, NSW, 2323

18/06/2025

Subject: Rix's Creek North Open Cut – SQE Rehabilitation Strategy Endorsement

Dear Mr. Knight

I refer to your request dated 10 June 2025 seeking the Planning Secretary's endorsement of Chris Knight as a suitably qualified and experienced person to prepare the Rehabilitation Strategy in accordance with Schedule 3, Condition 51A of the Project Approval for Rix's Creek North Open Cut (MP08_0102).

The Department has reviewed the nomination and information you have provided and is satisfied that Chris Knight is suitably qualified and experienced. Accordingly, I can advise that the Planning Secretary endorses the appointment of Chris Knight to prepare the Rehabilitation Strategy for Rix's Creek North Open Cut.

If you wish to discuss the matter further, please Wayne Jones on (02) 6575 3406.

Yours sincerely

Stephen O'Donoghue
Director
Resource Assessments

As nominee of the Planning Secretary

Department of Planning, Housing and Infrastructure

Reference: MP08_0102-PA-35

Chris Knight
Group Manager Environment
Bloomfield Group
Sent via Major Projects Portal

01/09/2026

Subject: Rix's Creek North Open Cut - Rehabilitation Strategy request for information

Dear Mr Knight,

I refer to your Rehabilitation Strategy, submitted as required by Schedule 3, Condition 51A of the Project Approval (the approval) for Rix's Creek North Open Cut (MP08_0102).

The Department has reviewed the Rehabilitation Strategy and considers more information is required to satisfy the condition of approval. Under the provisions of Schedule 2, Condition 5 of the approval, please submit an amended Rehabilitation Strategy as a response to this request for information (RFI-1416244989) addressing the below points by no later than 5:00pm on 25 September 2026 (or as otherwise agreed by the Planning Secretary):

- Section 5.8.2.3 of the Rehabilitation Strategy refers to the final void EC as being around 11,350 µS/cm;
- Section 4.4.3.1 of Water Management Plan (Rev 2.10 dated 15 July 2026) Void Model Results notes the long-term salinity of the lake formed in the void is 20,750 mg/L, equivalent to an EC of 31,000 µS/cm;
- Please confirm which of the two documents above is most up to date and include the relevant information in a revised version (if required) of the Rehabilitation Strategy.

Should you wish to discuss the matter further, please contact Wayne Jones on (02) 6575 3406.

Yours sincerely,

Katie Weekes
Team Leader - Post Approvals
Resource Assessments

As nominee of the Planning Secretary

4 Parramatta Square, 12 Darcy Street, Parramatta NSW 2150
Locked Bag 5022, Parramatta NSW 2124
www.dphi.nsw.gov.au

Department of Planning, Housing and Infrastructure

Our ref: MP08_0102-PA-35

Chris Knight
Group Manager Environment
Bloomfields Collieries Pty Limited

17/11/2026

Subject: Rix's Creek North Open Cut – Rehabilitation Strategy

Dear Mr. Knight

I refer to your submission, requesting review and approval of the Rehabilitation Strategy in accordance with Schedule 3, Condition 51A of the Project Approval for Rix's Creek North Open Cut (MP08_0102). I also acknowledge your response to the Department's review comments and request for additional information.

I note the Rehabilitation Strategy has been be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary and contains the information required by the conditions of approval.

Accordingly, as nominee of the Planning Secretary, I approve the Rehabilitation Strategy (Revision 2.3, dated 23 September 2026).

You are reminded that if there are any inconsistencies between the Rehabilitation Strategy and the conditions of approval, the conditions prevail.

Please ensure you make the document publicly available on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Wayne Jones on (02) 6575 3406.

Yours sincerely

Stephen O'Donoghue
Director
Resource Assessments

As nominee of the Planning Secretary

Appendix C – Rehabilitation Risk Assessment (as required under Schedule 8A of the Mining Regulation (2016).

For the current version of the Rehabilitation Risk Assessment for Rix's Creek Mine please go to Appendix 1 of the Rehabilitation Management Plan located at:
https://www.bloomcoll.com.au/sustainability/environmental-management/rixs-creek-assessments/mining-lease